United States
Environmental Protection
Agency

Pesticides And
Toxic Substances
(TS778)

EPA 560/2-91-001
July 1991

EPA

Preliminary Evaluations Of Initial TSCA Section 8(e) Substantial Risk Notices

January 1989 - September 1990

NOTICE TO ADMINISTRATOR OF SUBSTANTIAL RISKS. Any person who manufactures, [imports,] processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information.

-- Section 8(e), Toxic Substances Control Act (1976)

EPA 560/2-91-001
JULY 1991

PRELIMINARY EVALUATIONS OF INITIAL TSCA SECTION 8(e) SUBSTANTIAL RISK NOTICES

JANUARY 1, 1989 TO SEPTEMBER 30, 1990

Office of Toxic Substances
Office of Pesticides and Toxic Substances
Washington, D.C. 20460

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
WASHINGTON, D.C. 20460

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This volume has been reviewed by the Office of Pesticides and Toxic Substances (OPTS), U.S. Environmental Protection Agency (EPA), and approved for publication. The "status reports" contained in this volume present EPA's preliminary evaluations of the submitted information and do not represent final Agency policy/intent with respect to the subject chemical substances. The mention of company names, trade names, or commercial products does not constitute an EPA endorsement or recommendation either for or against use.

Foreword

This volume contains, in ascending submission number order, "status reports" (i.e., preliminary evaluations) prepared by staff of the Office of Toxic Substances (OTS) in the Office of Pesticides and Toxic Substances (OPTS) for initial submissions received by EPA from chemical manufacturers, importers, processors, distributors and others between January 1, 1989, and September 30, 1990, under Section 8(e), the substantial risk information reporting provision of the Toxic Substances Control Act (TSCA; 90 Stat. 2029, 15 U.S.C. 2607(e)). It should be noted that the status reports contained in this compendium reflect only part of the initial phase of the OTS evaluation process for such information.

This volume is being distributed publicly through the Environmental Assistance Division (EAD) in OTS/OPTS. Any person who wishes to obtain a copy of this volume of TSCA Section 8(e) status reports should write to:

Environmental Assistance Division (TS-799)
Office of Toxic Substances/OPTS
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

EPA plans to print a limited number of copies of this volume. After the Agency's supply is exhausted, copies can be purchased through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. Copies of the six (6) previously published TSCA Section 8(e) status report volumes (PB# 80-221609, PB# 81-145732, PB# 83-187815, PB# 87-129409, PB# 87-176004 and PB# 89-182687) are currently available through NTIS.

The Agency welcomes the submission of additional information for, or comments on, the evaluations presented in this volume. The submission of unpublished information relating to biological or environmental effects, production/importation volumes, use(s), and worker, consumer and environmental exposure to the subject chemical substances and mixtures would be especially valuable to EPA. Such information will be considered at subsequent steps in the overall OTS chemical assessment processes. All submissions of additional information for, or comments pertaining to, the evaluations that are contained in this volume should be directed to:

Mr. Frank D. Kover (TS-778)
Chief, Chemical Screening Branch
Existing Chemical Assessment Division
Office of Toxic Substances/OPTS
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

Non-confidential Section 8(e) submissions and EPA status reports can be viewed and copied in the OTS public files located at EPA Headquarters, Room G-004 Northeast Mall, 401 "M" Street S.W., Washington, D.C. Non-confidential TSCA Section 8(e) submissions and status reports can be ordered by writing to EPA's Freedom of Information Office at the following address:

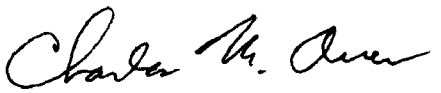
Freedom of Information Office (A-101)
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

This and previous status report volumes have been published for two reasons. First, volumes of status reports will make Section 8(e) data even more accessible. Second, such volumes may, by providing specific examples of submitted information and EPA's evaluation of that information, help subject persons understand better the types of information that should be submitted under Section 8(e) of TSCA.

It is important to note that EPA's overall implementation of TSCA Section 8(e) has resulted in heightened chemical industry awareness of potential risks posed by chemical substances. This heightened corporate awareness has led, in many cases, to voluntary pollution prevention/risk reduction activities designed primarily to protect human health or the environment. For example, many companies have reported that in direct response to submitted TSCA Section 8(e) data, the following types of health and environmental protection measures were initiated on a voluntary basis:

- formal notification of others (e.g., workers, customers) about reported data by way of letters and/or modifications to product labels and Material Safety Data Sheets;
- changes made in manufacturing, processing and handling procedures to reduce or eliminate chemical exposure;
- use or production of chemicals halted temporarily or discontinued altogether; and
- additional toxicologic and monitoring studies undertaken to improve understanding of chemical toxicity or exposure.

The chemical industry's increased awareness of potential risks is evidenced further by the Agency's receipt to date of approximately 800 voluntary "For Your Information" (FYI) submissions containing valuable toxicologic, exposure and voluntary pollution prevention/ risk reduction information.



Charles M. Auer, Director
Existing Chemical Assessment Division/OTS

Acknowledgment

In preparing the status reports contained in this compendium, EPA's Office of Toxic Substances (OTS) frequently found it necessary to seek additional information about, or clarification of, submitted data. OTS appreciates the efforts and cooperation of the companies and organizations (listed on this and the following page) that have submitted the information reflected in this volume:

3M Company
Air Products and Chemicals, Inc.
Akzo Chemicals Inc.
Albright & Wilson Company, LTD.
Allied-Signal Inc.
Aluminum Company of America (ALCOA)
American Cyanamid Company
American Telephone and Telegraph Company (AT&T)
Antimony Oxide Industry Association
Amoco Chemical Company
Amoco Oil Company
Arco Chemical Company
Atochem North America, Inc.
Baker Performance Chemicals, Inc.
BASF Corporation
B. F. Goodrich Company
Chemical Manufacturers Association
ChemRex Inc.
Chevron Chemical Company
Chevron International Oil Company, Inc.
CIBA-GEIGY Corporation
Crompton & Knowles Corporation, U.S.A.
Dixie Chemical Company
Dow Chemical Company
Dow Corning Corporation
Eastman Kodak Company
E. I. DuPont de Nemours & Company, Inc.
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EM Industries, Inc.
Enimont America Inc.
ETAD - U.S. Operating Committee
Exxon Chemical Americas
FMC Corporation
GAF Chemicals Corporation
General Electric Company
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Goodyear Tire & Rubber Company
Great Lakes Chemical Corporation
Halocarbon Products Corporation
Hercules Incorporated
Hi-Tek Polymers, Inc.
Hoechst Celanese Corporation
Huls America Inc.

ICI Americas Inc.
Industrial Health Foundation, Inc.
International Isocyanate Institute, Inc.
Mead Corporation
Methyl Bromide Idustry Panel
Methyl Tertiary Butyl Ether Task Force
Mitsubishi Gas Chemical America, Inc.
Mitsubishi Yuka America, Inc.
Mitsui Petrochemicals (America), LTD.
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Mobil Research and Development Corporation
Monsanto Company
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NOR-AM Chemical Company
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Olin Corporation
Pfister Chemical, Inc.
PPG Industries, Inc.
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R. T. Vanderbilt Company, Inc.
Shell Oil Company
Texaco Inc.
Union Carbide Chemicals and Plastics Company Inc.
Upjohn Company
Vista Chemical Company
Witco Corporation

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Introduction

Section 8(e) of the Toxic Substances Control Act (TSCA; the Act) states that "any person who manufactures, [imports,] processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."

In view of the fact that Section 8(e) was self-implementing (i.e., required no implementing rules), chemical manufacturers, importers, processors and distributors became subject to the Section 8(e) reporting provision as of January 1, 1977, the effective date of TSCA. In order to clarify the types of information to be submitted and the procedures for doing so, the Agency (following receipt and review of public comments) published its TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978). For easy referral when using this volume, the TSCA Section 8(e) policy statement appears as Appendix A in the back of this volume.

EPA's March 16, 1978 TSCA Section 8(e) policy statement expresses the Agency's policy that the information subject to Section 8(e) reporting is information that "reasonably supports" a conclusion that a chemical substance or mixture presents a "substantial risk" of injury to health or the environment.[1] Such information need not, and typically does not, indicate conclusively that such a risk exists. The determination to report "substantial risk" information to EPA should not include an evaluation of either the economic or social benefits of the use of the subject chemical substance or mixture. Therefore, the term "substantial risk" is not synonymous with the term "unreasonable risk" found in other sections of TSCA. Although EPA's receipt of information under Section 8(e) does not necessarily trigger immediate regulatory action, the information that is submitted pursuant to Section 8(e) does receive priority review and evaluation by EPA in order to determine an appropriate course of Agency action.

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[1] "Substantial risk" information must be reported to EPA unless the subject person has actual knowledge that EPA has been adequately informed already about the information. Part VII of the March 16, 1978 TSCA Section 8(e) policy statement as well as the TSCA Section 8(e) "reporting guide" (discussed later in this Introduction to this status report volume) address the types of, and circumstances under which, information need not be reported to EPA under Section 8(e) of TSCA.

Thus far, EPA and the chemical industry have devoted significant efforts in fulfilling their respective responsibilities under Section 8(e) of TSCA. Since January 1, 1977, over 1250 initial TSCA Section 8(e) submissions covering a broad range of toxicity and exposure-related information on a wide variety of chemicals have been received and given priority evaluation and follow-up attention by the staff of the Office of Toxic Substances (OTS) in EPA's Office of Pesticides and Toxic Substances (OPTS). In general, each initial TSCA Section 8(e) submission is promptly reviewed and evaluated by OTS scientific staff to determine both the degree of concern that should be attached to the submitted information and the initial course of any warranted OTS follow-up action(s). A "status report" is prepared which contains a brief description of the submitted information, the results of the OTS preliminary evaluation, a statement with respect to the production and use of the subject chemical(s), and the recommendations for appropriate follow-up actions. Upon approval of the status report, recommended follow-up actions are initiated. A letter containing the status report and any EPA requests for additional information is sent to the submitting company. In addition, copies of all status reports are transmitted to the OPTS public files, other designated EPA Program Offices and Federal Agencies, and to the Environmental Assistance Division/OTS (formerly the OTS TSCA Assistance Office) for further distribution. Other OTS follow-up actions include consideration of further, more in-depth assessment of the reported chemical hazard or risk. It should be noted also that OTS staff immediately reviews, evaluates, and initiates appropriate follow-up actions for information contained in "follow-up" and "supplemental" Section 8(e) submissions. By definition, a follow-up submission contains information submitted directly in response to a specific EPA request, whereas a supplemental submission is one that contains information not specifically requested by EPA.

A Document Control Number is used by EPA to identify Section 8(e) submissions; this number takes the following form: 8EHQ-0000-0000. Starting at the left, the first four symbols identify the information as a Section 8(e) submission received by EPA Headquarters; the next four digits identify the month and year (e.g., -0591-) of the Agency's receipt of the information; the final four digits identify the submission's chronological number. In addition to the basic numerical sequence, additional characters may be added to the right of the Document Control Number to convey other information. These additional characters and their specific meanings are as follows:

S: indicates the submission was sanitized to delete information claimed by the submitting organization to be TSCA Confidential Business Information (TSCA CBI);

P: indicates the notice contained an individual's name or other identifier (e.g., Social Security Number) the release of which may violate the Privacy Act (such documents are sanitized to remove an individual's name or other identifiers); and

*: indicates that, based on a preliminary evaluation, either 1) the submission was considered by EPA to be unwarranted for reporting under Section 8(e), or 2) it was unclear to the Agency that the submission was warranted and further clarifying information was requested from the submitting organization.

When reviewing the status reports contained in this volume, the reader should realize that the main purpose of the OTS preliminary evaluation is to determine quickly the significance of submitted information in terms of a need for possible follow-up action by the Agency. This determination involves a critical analysis of the submitted data to assess the extent that the reported hazard or risk is supported by the provided information. The scope of this initial evaluation, however, is generally limited to the submitted documents and to any closely related information known by the OTS reviewer. Neither a literature search to identify other reported effects nor an in-depth analysis of possible sources of exposure to subject chemicals is part of the evaluation process. Therefore, a status report should be viewed only as a preliminary evaluation of the submitted information and not as a comprehensive assessment of the chemical substance or mixture for which a TSCA Section 8(e) notice has been filed.

It is important to note that as of October 1, 1990, OTS staff began to prepare and issue "summaries" rather than "status reports" for incoming initial Section 8(e) submissions. These summaries contain a detailed accounting of toxicological data and other information (e.g., voluntary action information, exposure data) presented in the initial submission. The summaries do not reflect, however, the Agency's preliminary evaluation or disposition of the reported information. Copies of Section 8(e) submission summaries can be obtained in the same manner used to obtain copies of Section 8(e) status reports.

It should be noted also that in June 1991, EPA published a TSCA Section 8(e) "reporting guide" designed for use in conjunction with EPA's March 16, 1978 Section 8(e) policy statement. Most of the guide is presented in a question and answer (Q&A) format reflecting primarily the questions most frequently asked about Section 8(e). In addition, the "reporting guide" contains EPA's comments about the Section 8(e)-applicability/reportability of data from a number of generic toxicological "case studies" submitted to EPA by the Chemical Manufacturers Assocation (CMA). The "guide" also contains a cumulative index of the vast majority of those status reports that reflect specific and/or general TSCA Section 8(e) reporting guidance, as well as an index of all status reports prepared by EPA to date arranged by submitted information type. Any person who wishes to obtain a copy of this TSCA Section 8(e) "reporting guide" should write to the Environmental Assistance Division (EAD/OTS) at the address provided on the first page (iii) of the "Foreword" to this volume.

Finally, it is important to point out that on February 1, 1991 (see 56 FR 4128), EPA announced a one-time, voluntary TSCA Section 8(e) "Compliance Audit Program" (CAP). The TSCA Section 8(e) CAP, which incorporated stipulated monetary penalties and an overall monetary penalty ceiling, was designed primarily to 1) achieve EPA's goal of obtaining outstanding TSCA Section 8(e) information, and 2) provide maximum encouragement to companies to voluntarily audit their files for TSCA Section 8(e)-reportable information.

On April 26, 1991 (see 56 FR 19514), EPA announced the following Section 8(e) CAP modifications: 1) extensions of the registration and termination dates, 2) addition of an opportunity to petition EPA on a case-by-case basis for an extension of the CAP termination date, 3) modification of the CAP "Agreement" provision involving an admission of a Section 8(e) violation, and 4) an announcement of the Agency's intention to prepare and disseminate a Section 8(e) "reporting guide."

Additional and final modifications to the TSCA Section 8(e) CAP were announced by EPA on June 20, 1991 (see 56 FR 28458). These modifications included 1) an extension of the CAP registration deadline; 2) announcement of the availability of the Section 8(e) reporting guide; 3) addition of a "listing" provision and reduced stipulated penalties for certain types of Section 8(e)-reportable information already in EPA's possession as the result of either i) formal submission under a mandatory reporting provision of TSCA or other statute administered by EPA, or ii) submission to EPA and filing within the EPA's Office of Toxic Substances' formal "For Your Information" (FYI) submission filing system; and 4) suspension of Parts V(b)(1) and V(c) of EPA's March 16, 1978 TSCA Section 8(e) policy statement for the purposes of judging the reportability of information concerning "widespread and previously unsuspected distribution in environmental media" and "emergency incidents of environmental contamination" under the CAP and Section 8(e) in general. Specifically, with regard to Parts V(b)(1) and V(c) of the TSCA Section 8(e) policy statement, the June 20, 1991 Federal Register announcement informed the regulated community that until such time as EPA can provide more specific guidance on the types of environmental monitoring, environmental release and environmental contamination information should be submitted under Section 8(e), subject persons should focus on statutory language of Section 8(e) itself in determining the reportability of such information for the purposes of the Section 8(e) CAP as well as ongoing compliance with Section 8(e).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR - 8 1989 **APPROVED:** 3/13/89

SUBJECT: Status Report[1] **8EHQ-0189-0779**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Eastman Kodak Company provided the final report from an acute oral toxicity study of N-formyl-N'-p-aminophenylhydrazide (CAS No. 63402-26-6) in rats. Eastman Kodak's cover letter presents the following summary information regarding the conduct and preliminary results of this study:

> "In an acute oral toxicity study [involving single doses of 10, 20, 39 or 5000 mg/kg], estimated oral LD50 values of 21 mg/kg and 14 mg/kg were obtained in male and female rats, respectively. All animals receiving doses of 39 mg/kg or more died before scheduled study termination. A dose of 20 mg/kg was also lethal to all females and to 2/5 males.
>
> "Microscopic kidney lesions seen in one or more animals at the 39 and 20 mg/kg dose levels included diffuse necrosis of the proximal convoluted tubule epithelium with granular and epithelial cast formation in the proximal and distal renal tubules, and mineralized casts in the proximal convoluted tubules. The only treatment-related change in the 10 mg/kg dose group consisted of

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> enlarged, pale kidneys in one female. Microscopic examination revealed epithelial regeneration in the proximal convoluted tubules. All animals at this dose level survived the 14-day observation period. . . . ."

Eastman Kodak also provided the final results of an acute dermal toxicity study of the subject chemical in guinea pigs. The cover letter provides the following summary information regarding the conduct and results of this study:

> "When applied to the skin [of guinea pigs at a single dose of 0.5 g], the test article was, at most, a slight skin irritant. Based on survival and weight gain, there was no evidence of percutaneous absorption."

Eastman Kodak also submitted a copy of the subject chemical's Material Safety Data Sheet (MSDS) that had been revised to reflect the toxicologic findings reported in this Section 8(e) notice.

Finally, Eastman Kodak reported that the company is "not aware of any health problems associated with . . . [the subject chemical's] manufacture or use . . ."

SUBMISSION EVALUATION

While the reported results of the acute dermal toxicity study in guinea pigs indicate that the subject chemical is only slightly irritating to the skin, the LD50 values (21 mg/kg in male rats and 14 mg/kg in female rats) estimated from the acute oral toxicity study indicate that the chemical is "extremely toxic" according to some acute toxicity classification systems. All of the rats that received 39 mg/kg or more died before scheduled study termination, while the 20 mg/kg dose level was lethal to all of the females and 2/5 males. As described in the submitted acute rat oral toxicity study final report, microscopic kidney lesions were observed at the 20 mg/kg and 39 mg/kg dose levels. These kidney lesions were reported to include diffuse necrosis of the proximal convoluted tubule epithelium with granular and epithelial cast formation in the proximal and distal convoluted tubules, and mineralized casts in the proximal convoluted tubules. One female rat at the lowest dose level tested (i.e., 10 mg/kg) exhibited enlarged, pale kidneys characterized further histologically by epithelial regeneration in the proximal convoluted tubules. In addition to the observed renal effects, histopathologic examination of some of the tissues from some of the rats receiving 20 mg/kg or 39 mg/kg reportedly revealed a number of effects, including but not limited to: hemorrhage in the glandular and non-glandular gastric mucosa; focal necrosis of the hepatocytes; and hyperplasia and congestion or hemorrhage of the zona fasciculata of the adrenal glands; the testes showed interstitial hemorrhage and spermatid degeneration; the splenic lesions included atrophy and congestion of the red pulp and atrophy of the white pulp. Finally, hemorrhage was observed in the wall of the urinary bladder of one male rat in the 39 mg/kg dose group.

The adverse effects described previously are consistent to some degree with those seen as the result of exposure to hydrazine and phenylhydrazine. The primary effects of phenylhydrazine in man and animals are contact dermatitis, hemolytic anemia and liver/kidney injury. Hydrazine itself is a strong skin and mucous membrane irritant, convulsant, liver toxin and a moderate hemolytic agent. Hydrazine can be absorbed via the lungs, gastrointestinal tract, parenteral injection sites and intact skin. Airborne exposure to hydrazine can result in eye and respiratory tract irritation with lung congestion, bronchitis and pulmonary edema in some animals. While adverse nervous system effects ending with convulsions can occur via any route of hydrazine exposure, such neurotoxic effects were not plainly evident in Eastman Kodak's acute rat oral toxicity study of N-formyl-N'-p-aminophenylhydrazide.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for CAS No. 63402-26-6, which is listed in the Agency's initial TSCA Chemical Substance Inventory, showed that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All of the information reported for the initial TSCA Inventory, including the production range information, is subject to the limitations that are contained in the Agency's TSCA Inventory Reporting Regulations (40 CFR 710).

In its submission, Eastman Kodak provided the following information regarding the company's use of and the potential for exposure to the subject chemical:

> "This chemical is a low volume, site-limited intermediate used to manufacture a photographic chemical. None of the intermediate appears in the final product. . . . . The [subject intermediate chemical] was originally evaluated as health hazards unknown - avoid all contact. The intermediate is generally handled in a semi-liquid or wet cake form. Based on the acute toxicity testing, employees will be required to wear company-supplied clothing and gloves. In addition, employees will be required to wear respiratory protection when a potential for inhalation exposure exists."

COMMENTS/RECOMMENDATIONS

In addition to modifying the MSDS and general handling procedures for N-formyl-N'-p-aminophenylhydrazide, Eastman Kodak stated that the company is currently considering the need to conduct additional toxicologic studies of the subject chemical substance.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity or exposure information, Eastman Kodak will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which Eastman Kodak is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of N-formyl-N'-p-aminophenylhydrazide.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: APR 18 1989 **APPROVED:** 4/21/89

SUBJECT: Status Report[1] **8EHQ-0389-0780**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Originally, the subject of this TSCA Section 8(e) submission was reported by the Union Carbide Corporation to be Organofunctional Silane A-189, "a commercial product containing about 88% gamma-mercaptopropyltrimethoxysilane (CAS No. 4420-74-0) and 11% gamma-chloropropyltrimethoxysilane (CAS No. 2530-87-2)." Union Carbide reported later, however, that the subject chemical is actually Organofunctional Silane A-1100 (gamma-aminopropyltriethoxysilane; CAS No. 919-30-2).

SUBMISSION DESCRIPTION

The Union Carbide Corporation submitted summarized information about the conduct and preliminary results of acute animal studies of Silane A-1100. According to Union Carbide, these acute studies have shown the nephrotoxic potential of Silane A-1100 "when given perorally to rats and by sustained occluded cutaneous application to rabbits." The company's cover letter presents the following information about the acute oral study of Silane A-1100 in rats:

> "Silane A-1100 was given undiluted by gavage to groups of 5 male and 5 female Sprague-Dawley rats at the doses shown in the . . . [following Table]. Mortalities were as follows over a 14-day observation period:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Dose (ml/kg)	Mortalities [(No. Dying/No. Dosed)] Male	Female	Time to Death (Days)
4.00	4/5	ND*	1-2
2.00	1/5	5/5	2-4
1.41	ND*	1/5	1
1.00	0/5	0/5	-

ND* Not dosed

Union Carbide stated that the preceding dose-mortality data allowed calculation of undiluted Silane A-1100 acute peroral LD50s of 2.83 ml/kg in the male rats and 1.57 ml/kg in the female rats. Further, Union Carbide reported the following information regarding clinical signs and the results of gross and histopathological examinations:

> "Signs of toxicity, seen principally at doses of 1.41 ml/kg and above, included sluggishness, diarrhea, red perinasal and periocular encrustation, and red-brown stains in the perineal area. [The] survivors recovered from these effects at 2-9 days, and gained weight over the 2-week post-dosing observation period.
>
> "Gross pathology seen in animals that died included dark or bright red lungs, dark red glandular portion of the stomach, and distended liquid-filled intestine. [The] survivors showed no gross pathology at necropsy, carried out immediately after sacrifice at the end of the [14-day] observation period.
>
> "Light microscopical examination was undertaken on [the] kidneys from 7 rats dosed perorally with Silane A-1100 (2 males at 4.0 ml/kg; 2 males and 3 females at 2.0 ml/kg) and urinary bladders from all animals except one male of the 4.0 ml/kg group. Kidneys from males of the 4.0 ml/kg group and females of the 2.0 ml/kg group showed acute cortical tubular necrosis, with mineralization of the tubular epithelium in several animals. One male rat (survivor) showed no significant renal histopathology. Only one rat ([a male;] 4.0 ml/kg) showed a urinary bladder lesion, which took the form of focal epithelial necrosis."

Union Carbide submitted the following summary information regarding the company's acute dermal toxicity study of Silane A-1100 in rabbits:

> "Undiluted Silane A-1100 was applied to the shaven trunk skin of groups of 5 male and 5 female New Zealand White rabbits at the doses shown in the . . . [following Table]. Material was held in contact with the skin for 24 hr by means of an occlusive dressing. Following removal of the dressing, animals were observed for signs

of local and/or systemic toxic or pharmacologic effects over a 2-week period. Mortalities were as follows over the observation period:

Dose (ml/kg)	Mortalities [(No. Dying/No. Dosed)] Male	Female	Time to Death (Days)
8.0	5/5	5/5	1-2
4.0	2/5	2/5	2-3
2.0	0/5	0/5	-
1.0	0/5	0/5	-

According to Union Carbide, the preceding dose-mortality data allowed calculation of acute percutaneous LD50s of 4.29 ml/kg for both the male and female rabbits. In addition, Union Carbide provided the following information regarding clinical signs and the results of gross and histopathological examinations of the rabbits:

> "Signs of toxicity, seen principally at applied doses of 2 ml/kg and above, included sluggishness and prostration, and the presence of blood (confirmed by Hemastix^{R}) in the urogenital area and floor of the cage. [The] survivors recovered from these effects by 2 to 4 days after dosing. On removal of the occlusive dressing, local skin lesions included erythema, edema, necrosis, and ecchymoses, persisting for 7 to 14 days. After 7 days, there was the development of fissures, desquamation and scab formation. Survivors lost weight over the first post-application week, with partial (4 ml/kg) or full (1 and 2 ml/kg) recovery of weight during the second week.
>
> "Necropsy of animals that died revealed lungs that were mottled dark red or pink, red liquid or clots in the urinary bladder, and tan-colored kidneys. Histological examination . . . was conducted on [the] kidneys from a few animals at all doses, with the following results. In [the] rabbits that died at 8.0 and 4.0 ml/kg, there was marked acute tubular nephrosis, characterized by swelling and necrosis of cortical proximal convoluted tubules with sloughing of cells and evidence of tubular proteinosis. In one male [rabbit] sacrificed at 2.0 ml/kg, there were acute tubular changes similar to those seen at 8.0 and 4.0 ml/kg. At 1.0 ml/kg (males and females) and 2.0 and 4.0 ml/kg (females), the survivors had little acute nephrotic change, although the 4.0 ml/kg survivor [(the sex was not specified)] did show regenerative changes."

Union Carbide also presented the following conclusions that the company has drawn from these and other studies conducted to date with Organofunctional Silane A-1100:

"Silane A-1100 can produce nephrotoxic effects, seen as renal cortical tubular necrosis at lethal doses absorbed perorally (rat) or percutaneously (rabbit), indicating that renal failure and its attendant biochemical aberrations may be the cause of death. At sublethal doses, either no kidney injury, or injuring with healing, occurs. Acute exposure to vapor from Silane A-1100 did not produce any signs of systemic toxicity or gross pathology suggestive of nephrotoxicity. In these latter studies, 5 male and 5 female rats were exposed for 6 hr. to a vapor-saturated atmosphere generated statically at 25°C.

"The LD50 data and degrees of primary irritancy accord with previously conducted 'range-finding' studies (without histology) on Silane A-1100 over a period of 34 years. A further relevant study, which is nearing completion, has involved the recurrent application to rabbits of Silane A-1100 at doses of 17 and 84 mg/kg/day for 6 hr/day for 9 days. This procedure produced local skin inflammation, which was marginal at 17 mg/kg/day and moderate to severe at 84 mg/kg/day. There were no clinical, biochemical, or morphological indications of systemic toxicity (including kidney injury). Also, Organofunctional Silane A-1100 has been shown not to be genotoxic in the following studies:

(1) An Ames bacterial mutagenicity assay using five strains of Salmonella typhimurium.

(2) An in vitro forward gene mutation test (HGPRT-locus) in Chinese Hamster ovary cells.

(3) An in vitro cytogenetics (clastogenicity) study in Chinese Hamster ovary cells.

(4) An in vivo micronucleus study in mice. ....

"The acute renal cortical tubular necrosis described above for Organofunctional Silane A-1100 has not been observed to date with other trialkoxysilanes, and therefore . . . it would not be appropriate to ascribe these unusual effects to an entire chemical class."

Union Carbide stated that the final reports from the acute rabbit dermal and rat oral toxicity studies, as well as the ongoing 9-day repeated dermal contact study in rabbits, will be sent to EPA as soon as those reports are completed.

SUBMISSION EVALUATION

Over the past several years, EPA has evaluated a number of studies of the toxicity of silane compounds. For the most part, these previous studies have focussed primarily on toxicities resulting

from inhalation exposure. In general, the studies have highlighted respiratory effects, specifically petechial hemorrhages, focal reddening of the lungs and failure of the lungs to collapse upon opening the thoracic cavity (i.e., a condition described as "fixed lungs"). In the current submission, however, the kidney has also projected as a target organ.

According to the present submission, the gross observations for rats given undiluted Silane A-1100 at oral dose levels of 1.41 mg/kg and above included dark or bright red lungs, dark red glandular portions of the stomach and distended liquid-filled intestines. Histopathologic examination of the kidneys from 7 rats revealed acute cortical tubular necrosis, with mineralization of the tubular epithelium of the kidneys in several of the animals; only one animal showed no significant renal histopathology. In addition, one animal exhibited a urinary bladder lesion (which was in the form of focal epithelial necrosis). The oral LD50s were found to be 2.83 ml/kg (males) and 1.57 ml/kg (females).

In the dermal toxicity study of undiluted Silane A-1100, 24-hour contact with rabbit skin resulted in erythema, edema and ecchymoses that persisted for 7 to 14 days. After 7 days, there were dermal fissures, desquamation and scab formation. The dermal LD50 was found to be 4.29 ml/kg. The gross effects noted in the animals that died included dark, mottled dark red or pink lungs, red liquid or clots in the urinary bladder and tan colored kidneys. The animals that died at the 4.0 ml/kg and 8.0 ml/kg dose levels showed acute tubular nephrosis characterized by swelling and necrosis of the cortical proximal convoluted tubules with sloughing of cells and tubular proteinosis. It should be noted also that Union Carbides's statement that rabbits in the 1.0 ml/kg and 2.0 ml/kg groups "had little acute nephrotic change" implies that adverse kidney effects of an unstated magnitude may have been seen at the lower doses.

While the Agency agrees that the observed nephrotoxic effects may be chemical-specific and not characteristic of the entire class of trialkoxysilanes, in the absence of more definitive information, a concern for nephrotoxicity should be included with the already present concern for respiratory toxicity when assessing the potential toxicity of these types of chemicals.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for CAS No. 919-30-2, which is listed in EPA's initial TSCA Chemical Substance Inventory, showed that between 10 thousand and 101 thousand pounds were reported as being manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

Union Carbide did not submit any information on current production or specific use(s) of Silane A-1100 nor was such information found in the secondary scientific literature sources that were consulted by the Agency.

COMMENTS/RECOMMENDATIONS

Union Carbide reported that the Organofunctional Silane A-1100 Material Safety Data Sheet is being updated to reflect the reported toxicologic findings. Union Carbide also stated that the reported information is being communicated to the company's Silane A-1100 customers and those employees involved in the production/handling of Silane A-1100. Union Carbide reported further that "additional acute studies are being conducted to more precisely define the nephrotoxic potential of Silane A-1100." Finally, Union Carbide stated that the company is conducting acute toxicologic studies using a "valid sample of Organofunctional Silane A-189."

It should be noted that EPA has received a number of Section 8(e) and "For Your Information" (FYI) notices containing information on organosilane chemicals, including Silane A-1100. In addition, the Chemical Screening Branch has prepared a Chemical Hazard Information Profile (CHIP) that covers a number of chemicals within this class. Finally, the Risk Analysis Branch (RAB/ECAD/OTS) is now evaluating available toxicologic/exposure data on organosilanes.

a) The Chemical Screening Branch will ask Union Carbide to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from each study (including the acute vapor inhalation and genotoxicity studies) cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Union Carbide will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which Union Carbide is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or exposure to Silane A-1100. Further, Union Carbide will be asked to keep the Agency apprised about the results of the company's toxicologic studies using "valid" samples of Organofunctional Silane A-189.

b) As was the case with the initial Section 8(e) notice, the Chemical Screening Branch will immediately provide copies of all reported information to the Risk Analysis Branch for inclusion in their ongoing organosilanes review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be sent to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR - 9 1989 **APPROVED:** 3/13/89

SUBJECT: Status Report[1] **8EHQ-0189-0781 S**

FROM: David R. Williams for
James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Hi-Tek Polymers, Inc. has claimed certain information in its TSCA Section 8(e) notice to be Confidential Business Information (CBI). Staff of the Information Management Division (IMD/OTS) will review all incoming correspondence related to this TSCA CBI claim.

SUBMISSION DESCRIPTION

Hi-Tek Polymers, Inc. submitted preliminary findings from a 1-week rat oral feeding study of the ethylidenebis-4,1-phenylene ester of cyanic acid. The company's cover letter presents the following summary information regarding the conduct and preliminary results of this acute toxicity study:

> "This study was conducted to establish dose levels for a 4-week oral toxicity test. The chemical, [which was] coded as HTP-103 for this study, was fed [by gavage] daily [to male and female rats] for seven days at doses of 0, 10, 50, 250 and 1000 mg/kg/day. At the 1000 mg/kg dose level, all [of] the rats (5 male and 5 female) died within two days. At the 250 mg/kg dose level, one of 10 rats [(a female)] died [on] the sixth day. Most of the

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> rats that died prematurely had depressed foci on the stomach and two had a ruptured duodenum. Salivation and brown staining around the mouth was found among all groups receiving HTP-103. Organ weight analysis of male rats receiving 250 mg/kg showed an increase in liver and spleen weights. . . . ."

Hi-Tek reported that previously conducted acute rabbit studies using a "less pure form" of the subject chemical showed that the chemical was "practically non-toxic" following dermal application and "essentially non-irritating" to the skin and eyes. Hi-Tek reported also that "acute studies conducted on similar compounds showed no evidence of toxicity." In addition, Hi-Tek reported that the methylenebis(2,6-dimethyl-4,1-phenylene) ester of cyanic acid (CAS No. 101657-77-6) "underwent the same range finding test at the same time as HTP-103 and was found to be non-toxic at the 1000 mg/kg/day dose level."

SUBMISSION EVALUATION

According to the submitted information, the ethylidenebis-4,1-phenylene ester of cyanic acid was administered in an aqueous solution to groups of Sprague-Dawley rats (5/sex/group) by gavage at dose levels of 10, 50, 250 or 1000 mg/kg/day for 7 consecutive days. The control animals received distilled water.

All rats at the highest dose (1000 mg/kg/day) exhibited salivation, hunched posture, piloerection, pale extremities, hypothermia and labored breathing on days 1-2. The high dose animals were either killed in extremis on day 1 or day 2 or were found dead on day 2. The necropsy findings for 3/5 males and 3/5 females were dark red stomach and ruptured duodenum.

One female rat in the 250 mg/kg/day dose group displayed signs of toxicity similar to those seen in the 1000 mg/kg/day dose group animals (i.e., labored breathing, pale extremities, hypothermia). This particular animal was killed in extremis on day 6. [The] other rats in the 250 mg/kg/day dose group survived the 7-day study period and exhibited only salivation and brown staining around the mouth; their body weights and food consumption, however, were reported to be slightly reduced. Organ weight analyses for rats in the 250 mg/kg/day dose group showed a statistically significant increase in liver weight in males and in both liver and spleen weights in females when compared to the control animals. Although depressed foci in the stomach were noted in one female in the 250 mg/kg/day dose group, no other gross morphological abnormalities were detected in the other animals in this dose group.

The 7-day administration of the two lowest doses (i.e., 10 and 50 mg/kg/day) did not appear to result in any significant toxicities.

Overall, the provided data indicate that prolonged exposure to the ethylidenebis-4,1-phenylene ester of cyanic acid may cause toxicity to the stomach, intestines, liver and spleen.

CURRENT PRODUCTION AND USE

In its Section 8(e) submission, Hi-Tek stated non-confidentially that the ethylidenebis-4,1-phenylene ester of cyanic acid is an experimental research and development (R&D) product that is not on the Agency's TSCA Chemical Substance Inventory. Hi-Tek stated also non-confidentially that "commercial manufacture [of the chemical] has not commenced." In addition, Hi-Tek submitted the following non-confidential information regarding the use of and the potential for exposure to the ethylidenebis-4,1-phenylene ester of cyanic acid:

> "This [chemical] substance is being evaluated for use as a polymerizable monomer component in thermoset fiber reinforced structures. These [reinforced structures] are manufactured under controlled conditions which make direct contact or ingestion very unlikely. No consumer use of the unpolymerized substance is anticipated. The Material Safety Data Sheet [(MSDS)] for this substance has been revised to reflect these [reported] results and is being distributed to people currently evaluating this product. . . . ."

Hi-Tek included a copy of the updated MSDS in its TSCA Section 8(e) notice. It should be noted, however, that the "**INGESTION**" section of the submitted MSDS states simply that "a feeding study indicates [that the] LD50 may be <1000 mg/kg for rats."

It should be noted also that the other chemical substance (i.e., the methylenebis(2,6-dimethyl-4,1-phenylene) ester of cyanic acid; CAS No. 101657-77-6) cited in Hi-Tek's TSCA Section 8(e) submission was not located on the currently available non-confidential printed or computerized versions of the Agency's TSCA Chemical Substance Inventory.

COMMENTS/RECOMMENDATIONS

In its TSCA Section 8(e) submission, Hi-Tek stated that a number of other studies have been initiated or are planned to further define the potential toxicity of the ethylidenebis-4,1-phenylene ester of cyanic acid. These initiated/planned studies include a 4-week oral toxicity study, acute oral and inhalation toxicity studies, a skin sensitization study, genotoxicity studies and aquatic toxicity studies.

a) The Chemical Screening Branch will ask Hi-Tek to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses conducted, etc.) from each study cited in the company's Section 8(e) submission, including the 1-week oral toxicity study of the methylenebis(2,6-dimethyl-4,1-phenylene) ester of cyanic acid (CAS No. 101657-77-6).

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity or exposure data, Hi-Tek will be requested to describe the nature and results, if/when available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Hi-Tek is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the ethylidenebis-4,1-phenylene ester of cyanic acid and the methylenebis(2,6-dimethyl-4,1-phenylene) ester of cyanic acid.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the cited cyanic acid derivatives.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 20 1989 **APPROVED:** JBK 3/21/89

SUBJECT: Status Report[1] **8EHQ-0289-0782 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The Dow Chemical Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). The Information Management Division (IMD/OTS) will review all incoming correspondence related to the company's CBI claims. In the "sanitized" version of its TSCA Section 8(e) notice, Dow reported non-confidentially that the subject chemical substance is a "substituted aromatic sulfonamide."

SUBMISSION DESCRIPTION

The Dow Chemical Company provided the following summary information regarding the conduct and preliminary results of a dietary probe study of the substituted aromatic sulfonamide in Beagle dogs:

> "This dietary probe study was conducted to assess the palatability of the test material when administered to commercially supplied laboratory bred Beagle dogs. The study consisted of two experiments, Phase A and Phase B. In Phase A, groups of 2 female dogs were administered the test material at targeted dose levels of 0, 250, 500 or 1000 mg/kg body weight (BW)/day. After 14 days on test, one dog given 0, 250 or 1000 mg/kgBW/day was humanely

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

euthanatized and examined for gross pathologic effects. The remaining female dogs that survived 14 days of exposure (one each at dose levels of 0, 250 or 500 mg/kgBW/day) were maintained on control canine chow for 2 weeks and then humanely euthanatized prior to gross pathologic examination. In Phase B, groups of male, as well as female dogs, were administered the test material at targeted dose levels of 0, 25, 100 or 250 mg/kgBW/day (2 [dogs]/sex/dose level). Following 14 days of dietary exposure, all [of the] surviving animals were humanely euthanatized and a gross necropsy was performed. [The] parameters measured in both [the Phase A and Phase B] experiments included: physical examination, body weights, feed consumption, gross pathology, and histopathologic examination of selected tissues.

"Dietary administration of the test material [to Beagle dogs] at targeted dose levels of 100, 250, 500 or 1000 mg/kgBW/day produced treatment-related effects in the eye and kidney. [The] ocular effects consisted of retinal degeneration, retinal necrosis, and retinal detachment secondary to degeneration. Peripheral nerve tissue, optic nerve/chiasma, and sciatic nerve were unaffected by treatment. [The] renal effects were localized to the distal convoluted tubules and collecting ducts and consisted of degeneration of these structures at dose levels of 100 mg/kgBW/day and above, and focal necrosis of these structures at dose levels of 250 mg/kgBW/day and above. Significant decreases in body weight and feed consumption suggested an unpalatability of diets at dose levels $\geq$ 100 mg/kgBW/day; however, the extent of target organ effects noted at these doses may have also affected the animals' dietary intake. Increases in mortality also occurred in [the] female dogs given dose levels of 250, 500 or 1000 mg/kgBW/day (one animal fed each of these dose levels died prior to scheduled necropsy).

"No ocular or renal lesions, or effects on any other study parameters, were noted among male or female dogs administered the bottom dose level of 25 mg/kgBW/day, establishing this dose as the No-Observed-Effect level."

SUBMISSION EVALUATION

The dietary administration of this substituted aromatic sulfonamide to Beagle dogs for 14 days at dose levels of 100, 250, 500 or 1000 mg/kg/day resulted in adverse ocular and kidney effects. Although Dow stated that retinal degeneration, retinal necrosis and retinal detachment were observed, the company did not report in how many of the dogs per dose group these effects were found. The renal effects were reported to be localized in the distal convoluted tubules and collecting ducts; the effects consisted of degeneration of these structures at 100 mg/kg/day and above. At dose levels of 250 mg/kg/day and above, there was focal necrosis of these renal

structures. As with the ocular effects, the frequency of the renal effects was not reported. In the female dogs receiving the test material at doses of 250 mg/kg/day and higher, there were increases in mortality (i.e., 1 animal/dose level died prior to the scheduled necropsy). According to the provided summary information, there were no adverse ocular or renal effects or "effects on any other study parameters" observed at 25 mg/kg/day, the lowest dose level that was tested.

It is important to point out that sulfonamides, when administered as drugs, exist in the blood in three forms: free, conjugated and protein-bound; the free form is the active form. According to the general scientific literature, sulfonamides are noted for their ability to cause phototoxic dermal reactions involving swelling, redness, blistering and possibly hyperpigmentation (which is associated with long-term morphologic changes in the melanosomes). Ocular effects such as periorbital edema, keratoconjunctivitis or corneal or lens opacities are also attributed to the administration of sulfonamides. Photoallergenicity is also a consequence as are blood dyscrasias (e.g., agranulocytosis, aplastic anemia, purpura (small hemorrhages) and methemoglobinemia). In the kidney, when there are high concentrations of sulfonamides in the tubular urine, the solubilities of the sulfonamides can be exceeded and crystals will form. These crystals may be eliminated from the kidney or deposited in the collecting system leading to formation of larger crystals or stones. These stones can mechanically obstruct the kidney tubules resulting in an increase in intratubular pressure followed by diminished glomerular filtration rate and renal blood flow; the diminished filtration rate and blood flow can result in tissue ischemia and subsequent loss of renal tissue. Finally, it should be noted that sulfonamides are also known for their ability to potentiate hepatotoxicity.

A full copy of the final report of Dow's 14-day study (including the actual experimental protocol, results of gross/histopathologic examinations, etc.) is expected to provide a more definitive profile of the toxic effects of the subject substituted aromatic sulfonamide when administered to dogs.

CURRENT PRODUCTION AND USE

In view of Dow's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report.

According to the sanitized version of Dow's TSCA Section 8(e) submission, this substituted aromatic sulfonamide "is at the research stage and is being evaluated for use as a pesticide."

COMMENTS/RECOMMENDATIONS

Dow reported that in accordance with longstanding company practice, all relevant Dow employees are being notified about the submitted toxicologic findings.

a) The Chemical Screening Branch will ask Dow to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the company's 14-day dietary probe study of this substituted aromatic sulfonamide in Beagle dogs.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Dow will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Dow is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this substituted aromatic sulfonamide.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 21 1989 **APPROVED:** 3/21/89

SUBJECT: Status Report[1] **8EHQ-0289-0783 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company claimed its name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). The Information Management Division (IMD/OTS) will review all incoming correspondence related to these CBI claims. In the "sanitized" version of the Section 8(e) notice, the company stated non-confidentially that the subject chemical is a "heterocyclic pyrazolyl amide."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a teratology study of the subject heterocyclic pyrazolyl amide in rats:

> "Preliminary results obtained from a pilot rat teratology study indicates that [this heterocyclic pyrazolyl amide] produces significant maternal and developmental toxicity when administered [by gavage] to pregnant rats at 400 mg/kg/day. Slight maternal toxicity and equivocal embryotoxicity were noted at 125 mg/kg/day. In this study, [the subject chemical] was administered to 3 groups of mated female rats [(25 rats/group)] at dose levels of 0, 125, and 400 mg/kg/day during gestation days 6 through 18. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed and examined for external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"One rat at 125 mg/kg/day and 3 rats at 400 mg/kg/day died prior to the scheduled sacrifice. Clinical signs of toxicity (primarily urogenital staining) were noted at 400 mg/kg/day and, to a much lesser degree, at 125 mg/kg/day. Body weight effects were most apparent during gestation days 6-9. Mean weight gains for this interval were 7, 0, and -18 grams, respectively, in the 0, 125 and 400 mg/kg/day groups. Weight gain in the treated groups appeared to recover during the remainder of the gestation period. [The] food consumption was decreased in a similar manner. Post-implantation loss was increased at 400 mg/kg/day and possibly at 125 mg/kg/day but mean fetal weights were apparently unaffected. No external malformations were noted at 125 mg/kg/day but 5 fetuses from 3 litters at 400 mg/kg/day exhibited umbilical hernias and facial defects (cleft palate, cleft lip, etc.). Three of the fetuses with external malformations (2 with umbilical hernias and 1 with facial defects) came from the same dam. This dam produced 10 live fetuses (with a mean weight of 2.2 g) and 7 resorptions.

"The no-effect level of 125 mg/kg was determined from the data for external malformations. For post-implantation loss, a no-effect level of approximately 38 mg/kg was plotted from the available data."

In its Section 8(e) submission, the company reported further that a previously conducted teratology study "did not show evidence of treatment related effects." A submitted summary presents the following information with regard to the conduct and results of this previous study:

"[The heterocyclic pyrazolyl amide] was administered by gavage to 6 groups of mated female rats [(8 rats/group)] at dose levels of 0, 50, 125, 250, 500 and 1000 mg/kg/day during gestation days 6-15. [The] surviving dams were sacrificed on gestation day 20 [and the] fetuses were removed, weighed, sexed and examined for possible external malformations.

"One of 8 females from both the 500 and 1000 mg/kg/day groups died during the study. Weight loss or reduced weight gain was noted at $\geq$250 mg/kg/day, primarily during the first 3 days of dosing. Post-implantation loss and fetal body weights did not appear to be affected at any [dose] level. The only malformations observed were a single fetus with a kinky tail at 50 mg/kg/day and one fetus with omphalocele (an umbilical cord defect) at 125 mg/kg/day. Because tail defects and omphalocele are sometimes observed in control animals, and because no malformations were observed in the higher dose groups, the defects seen in this study do not appear to be treatment related."

SUBMISSION EVALUATION

This Section 8(e) notice provides evidence regarding the potential developmental and maternal toxicity of this heterocyclic pyrazolyl amide. The pilot teratology study showed maternal toxicity (e.g., maternal death, urogenital staining, reduced body weight gain) following exposure to 125 mg/kg/day and 400 mg/kg/day; the degree of toxicity was dose-dependent. Fetal toxicity was also evident at 125 mg/kg/day and 400 mg/kg/day. The administration of 400 mg/kg/day resulted in a significant increase in post-implantation loss (i.e., total and early resorptions), a significant decrease in litter size, an increase pre-implantation loss, and an increase in the number of fetuses with malformations (umbilical hernias and cleft palate or lip); exposure to 125 mg/kg/day resulted in an increase in post-implantation loss and a decrease in litter size. Considering that 125 mg/kg/day was the lowest dose tested in the pilot teratology study and an increase in post-implantation loss was observed at this dose level, the study findings do not allow the establishment of a "no-observable-adverse-effect-level" (NOAEL) for the developmental toxicity of the heterocyclic pyrazolyl amide.

CURRENT PRODUCTION AND USE

In view of the submitting company's TSCA CBI claims, no information with regard to the TSCA Chemical Substance Inventory status of this heterocyclic pyrazolyl amide will appear in this status report.

The submitting company reported non-confidentially that the subject chemical "is currently being manufactured exclusively for [research and development (R&D)] purposes."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the pilot and range-finding teratology studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitting company will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to this heterocyclic pyrazolyl amide. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject heterocyclic pyrazolyl amide.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this heterocyclic pyrazolyl amide.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 22 1989 **APPROVED:** 3/23/89

SUBJECT: Status Report[1] **8EHQ-0289-0784**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Dow Chemical Company provided summary information about Dow's development and validation of "methods for monitoring workplace air for methylene bisphenyl isocyanate (MDI)." According to Dow, these monitoring studies were performed because "discrepancies in methods were noted by other researchers in laboratory and field studies and were to date unexplained." Dow's Section 8(e) submission presents the following information regarding the conduct and results of the company's studies:

> "One of the major steps in these studies was to generate an MDI atmosphere containing both vapors and aerosols of MDI. MDI is used in the work environment in heating and spray operations, and because of its extremely low vapor pressure, has the potential to exist as both a vapor and aerosol. The MDI atmospheres were generated by passing heated, dried air through a J-tube packed with glass beads coated with [Dow's] ISONATE^{R} 125M (98% 4,4'-MDI and 2% 2,4'-MDI). MDI prepolymer and polymeric MDI were also tested. This air stream was then blended with a make-up air stream to give a total flow of approximately 75 L/min going in the 117 liter stainless steel testing chamber. Hot MDI vapors condense and form aerosols. The instruments and sampling devices were placed directly in the chamber for testing.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"The [generated] atmosphere was characterized using a parallel stage impactor. This device contains an array of 6 impactor stages in parallel, with particle cut-off stages ranging from 0.3 [microns] to 7.5 microns; one stage collects the total particulates. The flow rate through each stage was controlled at 700 mL/min. At the base of each stage is a 25-mm glass fiber filter which can be analyzed to determine the particle size distribution. The 25-mm glass fiber filters were coated with 1 mg of 1-(2-pyridyl)piperazine and analyzed by high performance liquid chromatography (HPLC) to determine the mass of MDI. . . . . The results suggest that a small proportion of the [generated] particles are vapor, with a larger percentage represented by particles in the range from 3 [microns] to 4 microns.

"Several monitoring methods [(including OSHA Method 47 and NIOSH P & CAM 142)] were tested. . . . It was evident from early experience that an impinger method utilizing 1-(2-pyridyl)piperazine as a derivatization reagent followed by analysis by HPLC consistently gave the highest reading.

"Based on these data, the impinger method was chosen initially as the reference method to which the other methods were compared. Later in the study, after some understanding was reached as to why these differences were occurring, another method showed equivalency to the reference impinger method. This method used a 13-mm glass fiber filter coated with 1 mg of 1-(2-pyridyl)-piperazine and 5% (by volume) diethyl phthalate for the collection medium followed by analysis by HPLC. This method was also then used as a reference method. . . .

"The [obtained] data for OSHA Method 47 . . . show that at MDI concentrations greater than approximately 25 ppb MDI, the coated filter method can significantly underestimate the MDI concentration. A possible explanation for these results is the poor inlet capture velocity of this method. It is important to note that these filters were analyzed in less than 1 day. A preliminary storage study conducted with these filters after sampling this aerosol atmosphere showed a loss in recovery after 7 days of storage.

". . . [The NIOSH P & CAM 142 monitoring data] indicated a mean recovery of 78% and have a significant amount of variability, as indicated by the high standard deviation.

". . . [MDHS 49, a monitoring method used by the Health and Safety Executive (HSE), London, England, gave very precise data but] "gave an average recovery for MDI of 34%, underestimating the MDI level."

> "Some evaluations were also conducted with commercially available paper tape instrumentation. After testing the various filter methods and realizing that paper tapes would behave quite similarly to [the] filters, it was felt early in the study that the current commercially available instruments would likely underestimate MDI air concentrations."

Dow reported that one commercial paper tape monitoring device, sold for analysis of toluene diisocyanate (TDI), "underestimated the MDI levels when placed in an atmosphere containing both MDI vapors and aerosols." Dow also stated, however, that modifications made by the manufacturer produced an instrument "specifically for MDI which could accurately sample vapors and aerosols, at least those of the size described in this study . . . The [modified] instrument was shown to be equivalent to the reference 13-mm filter method."

Dow also reported that another paper tape instrument (sold by its manufacturer for MDI analysis) "consistently provided significantly low readings" when compared to those obtained via the 13-mm filter method or the modified commercial monitoring device cited above. According to Dow, these results were duplicated in the field at a facility of one of Dow's customers.

Finally, Dow provided the following information with regard to the overall significance of the company's comparative air monitoring studies:

> "It is quite evident from the data presented that many of the monitoring methods currently being used for MDI are deficient when aerosols of the particle size range used in this [Dow] study are present. The MDI atmosphere that was generated in this study does not represent all field situations but does represent at least a potential workplace atmosphere. There are other areas such as spraying operations and wood product plants which could potentially pose [MDI] sampling problems which were not addressed in this study. While . . . [Dow has] no data for larger particle size aerosols, it is . . . [Dow's] belief that the methods found to be deficient in . . . [Dow's] study might yield even worse results under such conditions. This study in . . . [Dow's] estimation represents very ideal conditions and emphasizes the importance of determining what is actually present in the workplace. [Air] monitoring for MDI is much more complex than most people have realized, probably leading them to believe they are meeting established exposure limits when in fact they may not be."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch transmitted copies of this TSCA Section 8(e) submission to OSHA, NIOSH and the American Conference of Governmental Industrial Hygienists (ACGIH).

In addition, copies of this submission were provided immediately to the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in their ongoing review of available toxicity and exposure information on diisocyanates (e.g., MDI, polymeric MDI and TDI). It should be noted that EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on diisocyanates. Further, EPA prepared (in 1984) Chemical Hazard Information Profiles (CHIPs) on MDI (including polymeric MDI) and TDI. TDI and MDI (including polymeric MDI) are also the subject of TSCA Section 8(d) and 8(c) information gathering rules. Finally, it should be noted that the Interagency Testing Committee (ITC) has designated hexamethylene diisocyanate (HDI) for testing pursuant to Section 4 of TSCA; HDI is the subject of TSCA Section 8(d) and 8(a) information gathering rules.

COMMENTS/RECOMMENDATIONS

In its submission, Dow stated that the company is notifying its MDI customers and competitors about the reported findings.

a) The Chemical Screening Branch will ask Dow to ensure that EPA receives a full copy of the final report (including the actual experimental protocols, data, etc.) from the MDI monitoring studies cited in the submission.

b) As in the case of the initial submission, the Chemical Screening Branch will immediately provide the reported information to the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in the ongoing diisocyanates assessment.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, ACGIH, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; copies of this status report will be sent also to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 30 1989 **APPROVED:** 3/30/89

SUBJECT: Status Report[1] **8EHQ-0289-0785 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical substance is an "acylamino pyrimidine."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information about the conduct and preliminary results of a teratologic study of this acylamino pyrimidine in rats:

> ". . . [The data] obtained from a rat teratology study indicates that acylamino pyrimidine produces maternal and developmental toxicity when administered to rats at 750 mg/kg/day. Equivocal soft tissue and skeletal malformations were observed at a dose of 250 mg/kg/day. In this study, acylamino pyrimidine was administered to 3 groups of mated female rats at dose levels of 0, 75, 250 and 750 mg/kg/day during gestation days 6 through 15. Dams were sacrificed on gestation day 20. [The] fetuses were removed, weighed and examined for external soft tissue and skeletal malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Clinical signs of [maternal] toxicity (alopecia and urogenital staining) were seen at 750 mg/kg/day. A body weight gain deficit when compared to controls of 33% during the treatment period and 14.6% for gestation days 0-20 was observed at 750 mg/kg/day. Weight gain in this group did begin to recover following treatment. Two [of the] females at 750 mg/kg/day had no viable fetuses. The mean number of early resorptions was apparently increased at 750 mg/kg/day with 2.2 vs. 1.0 in controls. Fetal body weight was decreased an average of 23% for males and females at 750 mg/kg/day.

"External malformations were observed at 750 mg/kg/day which were not seen in controls including malrotated hindlimbs, filamentous tail and rudimentary tail. [The] external malformations occurred in a total of 4 fetuses from 3 litters. Several soft tissue variations were observed at increased frequencies at 750 mg/kg/day. Two of these, dilatation of the lateral ventricle and increased renal pelvic cavitation, were equivocally increased at 250 mg/kg/day. Four soft tissue malformations (spinal cord agenesis, heart and/or great vessel malformation, ectopic kidneys and adrenal agenesis) were observed at the high dose which were not observed at other dose levels or the control. Eighteen separate skeletal variations were significantly increased at the high dose. Two of these, less than four caudal vertebrae ossified and 5th/6th sternebrae incompletely ossified, were equivocally increased at 250 mg/kg/day. Four skeletal malformations (filamentous tail, rudimentary tail, forked/fused ribs and vertebral anomaly) were observed at 750 mg/kg/day which were not seen at other dose levels. The skeletal malformations were observed in a total of 4.1% of the fetuses in 18% of the litters."

The submitting company also provided the following information with regard to the conduct and preliminary findings of a teratologic study of this acylamino pyrimidine in rabbits:

"In this study, acylamino pyrimidine was administered to 3 groups of pregnant female rabbits at dose levels of 0, 15, 50 and 150 mg/kg/day during gestation days 7 through 19. Does were sacrificed on gestation day 29. Fetuses were removed, weighed and examined for external soft tissue and skeletal malformations.

"Maternal body weight gain at 150 mg/kg/day was decreased 73% during the treatment period of days 7-20, however the animals did gain weight following treatment (days 20-29). Total mean resorptions were apparently increased at 150 mg/kg/day with 2.6 (29.9%) vs. 1.0 (11.7%) in controls. There was an equivocal increase [found] in the incidence of unossified hyoid (skeletal variation) at 50 and 150 mg/kg/day with an incidence of 2 fetuses from one litter

vs. none in the controls. The skeletal variation, sternebrae asymmetrically ossified with minor fusion, was also equivocally increased at 150 mg/kg/day with an incidence of 2 fetuses from one litter vs. none in the control. There were no treatment related malformations observed in the study."

SUBMISSION EVALUATION

The submitted summary information indicates that both maternal and developmental toxicity occurred in rats and rabbits after exposure to the subject acylamino pyrimidine. In the rat study, maternal toxicity was seen at the high dose level and adverse developmental effects were seen at the high and mid-dose levels. In the rabbit study, maternal weight gain appears to have been affected at the high dose level. It should be noted, however, that maternal weight gain in the rabbit is known to be quite variable. Adverse developmental effects were observed at the high and mid-dose levels in the rabbit study.

In order to evaluate the overall significance of the observed toxicological findings, the submitting company should be asked to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from the rat and rabbit teratology studies that were cited in this TSCA Section 8(e) submission.

CURRENT PRODUCTION AND USE

In light of the submitter's CBI claims, no information about the TSCA Chemical Substance Inventory status or use of the acylamino pyrimidine will appear in this report. The submitter stated non-confidentially that the chemical "is currently being manufactured exclusively for . . . [research and development (R&D)] purposes."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the rat and rabbit teratology studies that were cited in the company's TSCA Section 8(e) the submission.

Considering the Agency's general interest in company actions taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be asked to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to this acylamino pyrimidine. In addition, the submitter will be requested to describe the nature and

results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical substance.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this acylamino pyrimidine.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: APR - 7 1989 **APPROVED:** 4/10/89

SUBJECT: Status Report[1] **8EHQ-0389-0786 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company claimed its company name and certain other information in its Section 8(e) submission to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division (IMD/OTS) will review all incoming correspondence related to the company's TSCA CBI claims.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot teratology study of 3-methyl pyrazole (CAS No. 1453-58-3) in rats:

> "Preliminary results suggest that this material produces maternal and developmental toxicity when administered to pregnant rats at ≥ 100 mg/kg/day. In this study, 3-methyl pyrazole was administered by gavage to 6 groups of 8 mated female rats at dose levels of 0, 25, 100, 175 and 225 mg/kg/day during gestation days 6-18. [The] surviving dams were sacrificed on gestation day 20. [The] fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Six of eight animals at 175 mg/kg/day and all 8 animals at 225 mg/kg/day died or were sacrificed in extremis. No body weight effects were apparent at 25 mg/kg/day, but moderate to severe body weight losses were noted during gestation days 6-12 at 100 mg/kg/day. An increase in resorptions was noted at 100 mg/kg/day and no fetuses were produced by the 2 survivors at 175 mg/kg/day. Fetal weights were substantially reduced at 100 mg/kg/day but appeared to be normal or close to normal weight at 25 mg/kg/day. One fetus in the 100 mg/kg/day [dose] group exhibited external malformations (cleft palate and lip). However, these findings are not unusual since this fetus weighed only 1.2 grams."

SUBMISSION EVALUATION

This submission provides evidence for adverse developmental and maternal effects resulting from exposure to 3-methyl pyrazole at doses greater than 25 mg/kg/day.

The maternal toxicity consisted of lethality (6/8 and 8/8 dams died or were killed in extremis at 175 and 225 mg/kg/day, respectively) and moderate to severe body weight losses (over gestation days 6-12 for dams receiving 100 mg/kg/day). Further, no fetuses were produced by the 2 surviving dams in the 175 mg/kg/day dose group. In addition, it is not clear from the provided summary information if any of the dead or moribund dams in the 175 or 225 mg/kg/day dose groups were pregnant.

The adverse developmental effects consisted primarily of increased resorptions in, and "substantially reduced" body weight of the live fetuses from, the dams receiving 100 mg/kg/day. It should be noted also that one fetus from the 100 mg/kg/day group was found to have a cleft lip and palate. Further, all fetuses from the 25 mg/kg/day group were reported to appear "normal or close to normal weight."

It should be noted that while the submitted summary indicates that 6 groups of rats were involved in the study, the summary provides information relating to only 5 groups (i.e., a control group and 4 exposed groups). It is not clear whether this discrepancy is due to a typographical error or the existence of an additional but uncited control or exposed group.

An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a full copy of the final report from this pilot teratology study of 3-methyl pyrazole.

CURRENT PRODUCTION AND USE

3-Methyl pyrazole (which is known also as 5-methyl pyrazole) was not found in the non-confidential printed or computerized versions of EPA's initial TSCA Chemical Substance Inventory.

The information obtained from publicly available computerized scientific literature sources cites or alludes to the following uses for 3-methyl pyrazole: drug/therapeutic agent, plant growth stimulator and biocide.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the pilot teratology study that was cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitting company will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical substance. In addition, the company will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to 3-methyl pyrazole.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of 3-methyl pyrazole.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 30 1989 **APPROVED:** 3/30/89

SUBJECT: Status Report[1] **8EHQ-0389-0787 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "alkyl heterocycle."

SUBMISSION DESCRIPTION

The submitting company provided the final results of several acute toxicity studies of the subject alkyl heterocycle. The company's cover letter presents the following non-confidential information regarding the conduct and results of these studies:

> "When [the] undiluted alkyl heterocycle was administered to fasted albino rats of both sexes, the acute oral LD50 was estimated to be greater than 50 but less than 500 milligrams per kilogram (mg/kg). The dermal LD50 was estimated to be less than 50 mg/kg when albino rabbits received a continuous 24-hour application of undiluted alkyl heterocycle on intact skin. Thus, [the] alkyl heterocycle is considered to be moderately toxic by ingestion in single doses and highly toxic by single dermal applications.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"When 0.1 ml of undiluted alkyl heterocycle was placed into the conjunctival sac of the rabbit eye, moderate irritation resulted. Two of six animals died by 72 hours post-exposure. The eyes of the remaining four animals were clear by day 7 post-exposure.

"When 0.5 ml of undiluted alkyl heterocycle was held in continuous 4-hour contact with rabbit skin, no irritation was observed."

SUBMISSION EVALUATION

In the acute oral study, the chemical was found to have an LD50 of greater than 50 mg/kg but lower than 500 mg/kg in fasted albino rats. The animals that received 500 mg/kg exhibited lethargy, progressive weakness and collapse, followed by death. Gross necropsy revealed hemorrhagic lungs and livers, kidney and spleen discoloration and gastrointestinal inflammation. Of the 5 male rats receiving 500 mg/kg, 4 died between 7 hours to 1 day post-dosing; all 5 females died between 1 to 3 days post-dosing. The animals receiving 50 mg/kg did not display any toxic signs.

When the test chemical was applied to the intact skin of albino rabbits for a continuous 24 hour exposure period, the dermal LD50 was found to be less than 50 mg/kg. Progressive weakness, collapse and death were observed amongst the 2 animals/sex that were tested at the 50 mg/kg dose level. Only 1 male rabbit survived the 14-day post-application observation period; the mortalities occurred between 1 and 3 days post-dosing. Gross necropsy revealed liver and spleen discoloration, hemorrhagic areas of the lung and gastro-intestinal inflammation.

Moderate irritation was observed following instillation of 0.1 ml of this alkyl heterocycle into the conjunctival sac of rabbits' eyes. By 72 hours post-instillation, 2/6 animals were dead. It was reported that the eyes of the remaining 4 animals were clear by day 7 post-exposure.

When tested for dermal irritation, no irritation was seen following a 4-hour continuous contact with 0.5 ml of the test material to the skin of rabbits.

Overall, the submitted information shows that the subject alkyl heterocycle is highly acutely toxic in animals when administered via the oral, dermal or ocular routes of exposure.

CURRENT PRODUCTION AND USE

In view of the submitting company's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report. In the Section 8(e) submission, the company provided the following non-confidential information regarding the potential for exposure to this alkyl heterocycle:

"[The] alkyl heterocycle is currently being manufactured exclusively for . . . [research and development (R&D)] purposes and is handled only by technically qualified workers. The material is handled in the laboratory using prudent laboratory practices. Appropriate personal protective measures, engineering controls and waste disposal procedures are utilized by the researchers in order to effectively control and minimize human and environmental exposure to this chemical. This information is being incorporated in a research and development Material Safety Data Sheet (MSDS). The MSDS will be provided to all potentially exposed workers in compliance with the TSCA Section 5 R&D exemption requirements and the OSHA Hazard Communication requirements."

COMMENTS/RECOMMENDATIONS

a) Considering EPA's general interest in company actions taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject alkyl heterocycle.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this alkyl heterocycle.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 23 1989 **APPROVED:** 3/23/89

SUBJECT: Status Report[1] **8EHQ-0389-0788 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "halo alkyl hydroxy heterocycle."

SUBMISSION DESCRIPTION

The submitting company reported simply that the subject chemical "is highly toxic to rats after acute inhalation and repeated dietary exposure, and has substantial anticoagulant properties."

SUBMISSION EVALUATION

An evaluation of the significance of the reported toxicological findings should be possible upon EPA's receipt of full copies of the final reports from the acute inhalation and repeated dietary exposure studies cited in the company's submission.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

CURRENT PRODUCTION AND USE

In view of the submitting company's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

In its submission, the company reported non-confidentially that the subject chemical "is currently being manufactured exclusively for [research and development (R&D)] purposes."

COMMENTS/RECOMMENDATIONS

The submitting company stated non-confidentially that the reported toxicological findings "have been communicated to all individuals who may potentially be exposed to this chemical." In addition, the company reported non-confidentially that further studies of this halo alkyl hydroxy heterocycle are underway.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the acute inhalation and repeated dietary exposure studies cited in the company's TSCA Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitting company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to this halo alkyl hydroxy heterocycle.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: APR 18 1989 **APPROVED:** 4/21/89

SUBJECT: Status Report[1] **8EHQ-0389-0789**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The BASF Corporation submitted the following summary information with regard to the conduct and preliminary results of an ongoing inhalation study of Pigment Yellow 184 (mixture of bismuth vanadate (CAS No. 14059-33-7) and bismuth molybdate (CAS No. 13565-96-3)) in rats:

> "Groups of Wistar rats were exposed in head-nose inhalation units to concentrations of 0, 2.0, 8.0 and 80 mg/m^3 of test material [for] 6 hours/day, 5 days/week for 4 weeks. Particle sizes of the test material were in the respirable range. Increased lung weights and pulmonary lesions (alveolar proteinosis and multifocal re-epithelialization) were observed in all dose groups after the end of exposure and a one-month recovery period. After a six-month recovery period, alveolar proteinosis was observed only at the two highest doses. A No-Observed-Effect-Level (NOEL) was not established in the study."

According to BASF, this ongoing study (which is being conducted by the parent company, BASF Aktiengesellschaft, West Germany) includes a 12-month recovery group.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

The preliminary findings from this study suggest a potential health hazard posed by chronic inhalation exposure to Pigment Yellow 184. The observed lung toxicities (alveolar proteinosis and multifocal re-epithelialization) were observed in rats of all dose groups at the end of the 4-week exposure period and at the end of the 4-week post-exposure recovery period. After a 6-month recovery period, alveolar proteinosis was still seen in animals from the two highest dose groups (8 and 80 mg/m^3). It should be noted that the provided summary does not indicate whether the effects were dose-related.

Considering that lung toxicity was observed following such a short duration of exposure to such relatively low dust concentrations (i.e., 2 and 8 mg/m^3), it would be prudent to exercise caution during handling of the tested material. Further, it is apparent that additional studies are needed to determine a No-Observable-Adverse-Effect-Level (NOAEL) for this pigment.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for bismuth molybdate (CAS No. 13565-96-3), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 10 thousand and 100 thousand pounds of this chemical were reported as manufactured and/or imported in 1977.

A review of the production range (includes importation volumes) statistics for bismuth vanadate (CAS No. 14059-33-7), which is also listed in the initial TSCA Chemical Substance Inventory, has shown that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)).

The above production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

BASF reported the company imports and sells Pigment Yellow 184 for use "as a colorant in paints and varnishes." In addition, BASF provided the following information regarding the potential for exposure to Pigment Yellow 184:

> "Exposure to the pigment is anticipated to be low for several reasons: the density of the product is high, causing dusts to settle rapidly; the product as sold contains a relatively small amount of particles of

> respirable size; and agglomerates in the product increase particle size and reduce dust formation. The supplier of this preliminary information indicates that exposures to the pigment during manufacturing are at or below 0.1 mg/m^3. . . . . The supplier of the pigment indicates that the powder form is being changed to a free-flowing granular form with average particle sizes of 80-200 μm to further reduce its dusting potential. . . . ."

No further information regarding the use of Pigment Yellow 184 or its constituents was located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

BASF provided the following information regarding the company's actions to notify workers/others about the submitted toxicologic findings:

> "Although [workplace] exposures [to Pigment Yellow 184] are anticipated to be low, BASF Corporation will notify all customers ['via a customer letter and Material Safety Data Sheet' (MSDS)] of these preliminary findings. The importance of reducing dusting to the extent feasible and the use of appropriate respiratory protection will be stressed. This information will also be supplied to any BASF Corporation personnel handling the product. . . ."

In addition, BASF reported that "additional studies are planned in order to determine a NOEL and suitable [workplace] exposure limits [for Pigment Yellow 184]."

a) The Chemical Screening Branch will ask BASF to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the ongoing inhalation study cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, BASF will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which BASF is aware or that BASF has conducted, is conducting or plans to conduct that are designed to determine the toxicity of Pigment Yellow 184 or its constituents.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of Pigment Yellow 184, bismuth vanadate and bismuth molybdate.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: APR - 7 1989 **APPROVED:** 4/11/89

SUBJECT: Status Report[1] **8EHQ-0389-0790 S**

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division (IMD/OTS) will review all incoming correspondence related to the company's TSCA CBI claim(s). In the "sanitized" version of the Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "diheterocyclic ketone."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot teratology study of this diheterocyclic ketone in rats:

> "In this [teratologic] study, the diheterocyclic ketone was administered by gavage to 5 groups of 8 mated female rats at dose levels of 0, 50, 125, 250 and 500 mg/kg/day during gestation days 6-18. [The] surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Mortality occurred in 2/8 animals at 250 mg/kg/day and 5/8 animals at 500 mg/kg/day. Weight losses and/or substantially decreased weight gains were noted at ≥ 125 mg/kg/day. Slightly decreased weight gain was observed at 50 mg/kg/day during gestation days 6-9 but overall weight gain at this level appeared normal. Abnormal clinical signs and a dose-related increase in liver weights (-22 to 51%) were noted at all dose levels. No fetuses were produced by the survivors at 250 and 500 mg/kg/day and only 6 light-weight fetuses were produced at 125 mg/kg/day. A slight increase in post-implantation loss and a possible slight decrease in fetal weight were noted at 50 mg/kg/day. The only external fetal abnormality observed was a single fetus at 50 mg/kg/day with omphalocele."

SUBMISSION EVALUATION

The submitted information (which included several data tables) provides evidence of the potential developmental and maternal toxicity of this diheterocyclic ketone. In addition, it should be noted that the submitted data tables indicate that a 750 mg/kg/day dose group was included in this study.

Maternal toxicity was observed in all treatment groups. No dams survived in the 750 mg/kg/day dose group; exposure to 250 and 500 mg/kg/day resulted in death for 2/8 and 5/8 animals, respectively. The 125, 250 and 500 mg/kg dose group dams exhibited a significant reduction in body weight. Although no specific supporting data were included in the submission, the submission does state that "abnormal clinical signs and a dose-related increase in liver weights . . . were noted at all dose levels." Given these reported observations, a "no-observable-adverse-effect-level" (NOAEL) for maternal toxicity was not established in this study.

With regard to developmental toxicity, embryotoxicity/fetotoxicity was observed at all exposure levels. The dams that survived the exposure to 250 and 500 mg/kg/day did not produce any live pups. The 6 gravid dams from the 125 mg/kg/day dose group produced a total of 6 pups, all of which were classified as being "light-weight." The exposure to 50 mg/kg/day resulted in a significant decrease in mean fetal body weight, an increase in total and early resorptions, and a decrease in litter size. Further, omphalocele was reportedly seen in one fetus from the 50 mg/kg/day dose group. As was the case for maternal toxicity, a NOAEL for developmental toxicity was not established in this study.

CURRENT PRODUCTION AND USE

In view of the submitter's CBI claims, no information about the TSCA Chemical Substance Inventory status or use of the diheterocyclic ketone will appear in this report. In the sanitized version

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US EPA TOXICS LIBRARY
401 M ST SW (TS-
WASHINGTON DC

of the submission, the company provided the following information with regard to the potential for exposure to the subject chemical substance:

> "The . . . diheterocyclic ketone is a new . . . [research and development (R&D)] compound which is handled only by technically qualified workers. Manufacturing of this R&D material has been carried out in compliance with [the] TSCA Section 5 R&D exemption requirements. Appropriate personal protective measures, engineering controls and waste disposal procedures are utilized by the researchers in order to effectively control and minimize human and environmental exposure to this chemical."

COMMENTS/RECOMMENDATIONS

The company stated non-confidentially that the reported toxicologic findings are "being provided to all potentially exposed workers in compliance with the TSCA Section 5 R&D exemption requirements."

a) The Chemical Screening Branch will ask the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of statistical analyses, etc.) from the pilot teratology study cited in the company's Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this diheterocyclic ketone.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this diheterocyclic ketone.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAR 30 1989 **APPROVED:** 3/30/89

SUBJECT: Status Report[1] **8EHQ-0389-0791 S**

MATERIAL BELONGS TO:
US EPA TOXICS LIBRARY
401 M ST SW / TS-793
WASHINGTON, DC 20460
(202) 260-3944

FROM: James F. Darr, Section Head
Chemical Risk Identification Section/CSB

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division (IMD/OTS) will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, Eli Lilly reported non-confidentially that the subject chemical substance is an "unsaturated sulfone" that "has not yet been patented."

SUBMISSION DESCRIPTION

Eli Lilly and Company provided the following summary information regarding the conduct and preliminary results of several in vitro genotoxicity studies of this unsaturated sulfone:

> "The compound was evaluated in the gradient plate assay, a modification of the Ames assay, used to screen compounds for the induction of mutations in bacteria. A positive response was obtained in E. coli strain WP2uvrA- both in the presence and in the absence of metabolic activation; and in Salmonella typhimurium strain TA100 without activation only. Positive responses were observed in E. coli exposed to the compound at concentrations that ranged between 5 and 10 µg/ml and between 5 and 40 µg/ml in the assays without and with activation, respectively. The response in TA100 occurred between 0.1 and 1 µg/ml.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "The [subject] compound was also evaluated for the ability to induce chromosome aberrations in cultured Chinese hamster ovary cells. A positive dose response was obtained in the assay conducted without metabolic activation. The compound at concentrations of 1, 2 and 4 μg/ml yielded aberration frequencies of 4, 8 and 17 percent, respectively. The solvent control aberration frequency was 4 percent. The compound was also tested for aberration induction with activation; however, the microscope slides have not yet been evaluated."

SUBMISSION EVALUATION

The submitted information indicates that this unsaturated sulfone possesses some degree of genotoxic activity. An EPA evaluation of the overall significance of the reported in vitro results should be possible upon the Agency's receipt of full copies of the final reports from the performed studies.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claim, no information about the TSCA Chemical Substance Inventory status of the unsaturated sulfone will appear in this report.

In the sanitized version of the Section 8(e) submission, Eli Lilly provided the following non-confidential information with regard to the manufacture/use of and the potential for worker exposure to the subject chemical:

> "Lilly has manufactured less than 10 kilograms of the compound, which is utilized in controlled field trials for pesticidal effectiveness in Lilly test plots and selected university test plots in the United States and in selected university test plots and government test plots outside of the United States. The compound is labelled as hazardous and all personnel who work with it are notified of the compound's properties and of the appropriate safety precautions. Field applications are being limited to those allowed under . . . [the Federal Insecticide, Fungicide and Rodenticide (FIFRA)] pre-Experimental Use Permit ('EUP') guidelines. The total number of people working with this compound is approximately 25. The exposure time averages 16 hours per year each. If the field trials indicate that the compound may be suitable for commercial use, Lilly will apply for an EUP, at which time all required toxicological information about the compound will be submitted to the EPA."

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's

TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will request Eli Lilly to ensure that EPA receives full copies of the final reports (including actual experimental protocols, data, results of statistical analyses, etc.) from all in vitro studies cited in the company's TSCA Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Eli Lilly will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Eli Lilly is aware or that Eli Lilly has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this unsaturated sulfone.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: APR 17 1989 **APPROVED:** 4/18/89

SUBJECT: Status Report[1] **8EHQ-0489-0792**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Mobay Corporation provided complete copies of the final reports (written in German) from two teratology studies of 1,2,4-triazole (CAS No. 288-88-0) in rats. According to Mobay, these teratology studies, which were performed by Mobay's parent company (Bayer AG located in West Germany), present "new findings for 1,2,4-triazole." Mobay's Section 8(e) cover letter contains the following information with regard to the conduct and results of the studies:

> "The first study . . . was conducted at [oral] dose levels of 100 and 200 mg/kg/day on days 6-15 of gestation. Effects seen in this study at 200 mg/kg included decreased body weight gain in the dams, decreased numbers of fetuses, increased fetal loss, decreased fetal weights and an increase of fetal malformations and runts. Effects seen in the 100 mg/kg group included decreased fetal weights, increased skeletal deviations and increased numbers of runts. No No-Observed-Effect-Level [(NOEL)] was achieved in this study, so a second study was performed.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "The second study . . . was conducted at dose levels of 10, 30 and 100 mg/kg/day. Effects seen in this study were limited to the high dose of 100 mg/kg and included decreased body weight gain in the dams, decreased numbers of fetuses, decreased fetal weights and an increased number of runts."

In its TSCA Section 8(e) cover letter, Mobay stated that, upon completion, English translations of the two study reports would be submitted to the Agency. Mobay reported by phone on April 7, 1989 that the company expects to receive those translations within the next two months.

SUBMISSION EVALUATION

According to the submitted summary information, 1,2,4-triazole causes maternal as well as developmental toxicity. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of the English translations of the provided studies.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for 1,2,4-triazole (CAS No. 288-88-0), which is listed in the initial TSCA Chemical Substance Inventory, has shown that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All of the data reported for the initial TSCA Inventory, including production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

According to Mobay, "low volumes of . . . [1,2,4-triazole] have been used as a raw material in the production of an agricultural pesticide by Mobay and by a limited number of customers." Mobay stated further that "the potential for exposure under production conditions is low." In addition, Mobay reported that "with the no-effect level of 30 mg/kg from these [teratology] studies, a safety factor of 700 is estimated for workers under worst case exposure conditions." Mobay did not identify the agricultural pesticide for which 1,2,4-triazole is used as the raw material.

According to the **Chemical Dictionary** (10th Edition), "triazole" has a "suggested" use as a photoconductor in copying systems. Further, the "Fine Chemicals" section of the American Chemical Society's **Chemcyclopedia** (Volume 6, 1988) states that 1,2,4-triazole is "a component in solutions used for the chemical polishing of copper and its alloys and in metal corrosion inhibitors."

COMMENTS/RECOMMENDATIONS

Mobay stated that the company will advise its employees and those customers to whom Mobay has distributed 1,2,4-triazole about the reported toxicologic findings.

a) The Chemical Screening Branch will ask Mobay to ensure that full copies of the translations of the submitted German final reports are sent to the Agency immediately upon the company's receipt of those translations.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and exposure data, Mobay will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which Mobay is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of 1,2,4-triazole.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of 1,2,4-triazole.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAY - 3 1989 **APPROVED:** 5/9/89

SUBJECT: Status Report[1] **8EHQ-0489-0793**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The IBM Corporation provided an interim summary report concerning a 13-week oral toxicity study of 5-methyl-3-heptanone (ethyl sec-amyl ketone (EAK); CAS No. 541-85-5) in male rats. According to IBM, this study (which was conducted by the Eastman Kodak Company for IBM) was "designed to evaluate the potential neurotoxicity" of EAK. IBM's cover letter presents the following information about the conduct and preliminary results of this 13-week study:

> "The solvent [(EAK)] was administered by gavage [5 days per week for 13 weeks] to groups of five adult male rats at doses of 0, 100, 500 and 1,000 mg/kg. [The control animals received distilled water in a volume equal (on a per kilogram basis) to that received by the high dose group animals.] . . . . Acute neurotoxic effects observed during the course of exposure included reduced activity, ataxia, and sialorrhea. Symptoms indicative of peripheral neuropathy were also noted, primarily in the high-dose group. A marked reduction in body weight gain was observed in the high-dose animals. Histopathological evaluation of sciatic and tibial nerves from the high-dose animals indicated lesions characteristic of those produced by gamma-diketones. . . . .

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "Histopathology of mid- and low-dose animals will be conducted to determine a no effect level for EAK-induced gamma-diketone neuropathy. Based on Kodak's experience with this class of solvents, EAK appears to be somewhat more potent on a mg/kg basis than 3-heptanone (ethyl n-butyl ketone, EnBK) in producing experimental neuropathy. 3-Heptanone is neurotoxic following oral exposure only; it is not neurotoxic by inhalation."

According to the provided interim report, the EAK dose levels used in the 13-week study "were based on results of a two-week probe study in which animals were administered EAK doses of 0, 150, 500, 750, or 1500 mg/kg/day."

SUBMISSION EVALUATION

Observations made at the 1000 mg/kg/day dose level in the 13-week oral study of EAK in male rats included sialorrhea, depression of activity, pink urine, unkempt hair coats, gait abnormalities (stumbling), decreased food consumption, decreased body weight, some changes in the functional observational battery (FOB; e.g., impairment of limb motion, righting difficulties), decreased hind-limb grip strength (day 91), decreased aminotransferase levels, and giant axonal neuropathy (i.e., paranodal axonal swelling with organelle accumulation).

Observations made among the animals at the 500 mg/kg/day dose level included sialorrhea, general depression of activity, pink urine, unkempt hair coats, slight body weight decreases, changes in the FOB (similar but less intense effects than those found at the 1000 mg/kg/day dose level), and decreased aminotransferase levels.

At the 100 mg/kg/day dose level, decreased forelimb grip strength was seen (day 7 and day 63); however, it should be noted that this effect was not observed in the 500 or 1000 mg/kg/day dose groups.

In general, the submitted data indicate that EAK can produce a peripheral neuropathy similar to that caused by gamma-diketones. Further EPA evaluation of the reported findings should be possible upon the Agency's receipt of a complete copy of the final report (which should include results of the histopathological examination of animals from the 100 and 500 mg/kg/day dose groups). In order to supplement EPA's evaluation of the reported findings, IBM should be asked to submit a full copy of the cited 2-week probe study of EAK administered at doses of 0, 150, 500, 750 and 1500 mg/kg/day.

CURRENT PRODUCTION AND USE

EAK (CAS No. 541-85-5) was not located on the current printed or computerized versions of the non-confidential initial TSCA Chemical Substance Inventory. According to the Information Management Division (IMD/OTS), however, EAK (CAS No. 541-85-5) was recently added to the unpublished, non-confidential initial TSCA Inventory based on a formal correction request made by a reporting company.

The submitted interim report from the 13-week study states that EAK is a ketone solvent that can be synthesized or obtained from natural products. The report also states that EAK "has been used as a solvent for nitrocellulose-alkyd, nitrocellulose-maleic and vinyl resins." According to the **Condensed Chemical Dictionary** (10th Edition), EAK is used also in perfumery.

IBM stated that EAK "exposure at IBM is currently controlled to a level of 1 ppm." IBM stated also that under the current conditions of EAK use within IBM, EAK "does not present a health risk to IBM employees."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask IBM to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 13-week and 2-week studies that were cited in the submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, IBM will be requested to describe the actions that the company has taken or plans to take to notify workers and others about the reported findings for EAK. In addition, IBM will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which IBM is aware or that IBM has conducted, is conducting or plans to conduct that are designed to determine the toxicity of EAK.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of EAK.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: MAY - 8 1989 **APPROVED:** 5/9/89

SUBJECT: Status Report[1] **8EHQ-0489-0794 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's CBI claims. In a "sanitized" addendum to its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an alkali metal salt of a substituted aryl sulfonic acid.

SUBMISSION DESCRIPTION

The submitting company provided the final report from an oral teratology study of the subject chemical substance (coded as P-15) in rats. The submitter's cover letter presents the following summary information regarding the conduct and results of the study:

> "The test article, P-15, was evaluated in a conventional teratology study in which a control and three treatment groups of 25 Charles River rats each were used. Dosage levels of 160, 800, and 4000 mg/kg/day were administered orally by gavage as a single daily dose on days 6 through 15 of gestation at a volume of 16 ml/kg. The control group received the vehicle only, 0.7% carboxymethylcellulose, on a comparable regimen. Cesarean sections were performed on all surviving dams on gestation day 20 and the fetuses were removed for teratologic evaluation.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Maternal toxicity was not detectable in the control, low (160 mg/kg/day), or intermediate (800 mg/kg/day) - dose animals. Furthermore, no significant developmental toxicity of any kind was evident in the low and intermediate groups as compared to the control group.

"In the high dose group, maternal toxicity was observed, which included labored breathing, tremors, loss of [the] righting reflex, hypothermia, moribundity, emaciation, yellow staining in the anogenital region, and piloerection. There also was a significant reduction in the group mean maternal body weight gain, and a persistent depression in motor activity in all the test subjects. In a few animals, depressed motor activity persisted up to the time of [the] scheduled sacrifice. Moreover, three dams succumbed during the treatment period and one additional animal in extremis was sacrificed before term. Fetal toxicity exhibited as lowering of mean fetal body weight and a reduction in fetal viability was observed. In addition, a slight, but statistically insignificant, increase in microphthalmia and in a vertebral anomaly was noted in the fetuses examined."

In its cover letter, the submitting company stated that based on the observations made exclusively in the high dose group, the company has "arrived at the conclusion that [the] developmental toxicity encountered was probably secondary to the maternal stress resulting from the distinctive maternal toxicity." The submitter provided several stress-related literature citations believed by the company to support its position. The submitter also reported that "no attempt [will be made] to establish the high dose group as an overall no observable effect level because maternal and fetal toxicity were unmistakenly present." The company reported, however, that "the data obtained clearly support the intermediate dose, 800 mg/kg/day, being an overall no observable effect level, fetal or maternal, which represents at least 4 to 5 orders of magnitude, in terms of the daily dose, higher than the worst situation where humans are likely to be exposed to this substance." According to the "TEST ARTICLE ADMINISTRATION" section of the teratology study final report, "the selected route of administration was oral since this was considered the most closely equivalent to the typical human exposure [to the chemical]."

SUBMISSION EVALUATION

This Section 8(e) notice presents evidence regarding the maternal and developmental toxicity of the subject chemical substance. The maternal toxicity was clearly evident only at the high dose (4000 mg/kg). Three dams in this group died (2 on gestation day 9 and 1 on gestation day 10). In addition, 1 female was sacrificed in extremis on gestation day 8. During necropsy of the 4 dead and early sacrifice dams, a thick and irregular non-glandular stomach was noted in 1 dam; no gross lesions were seen in the other 3 dams. The cause of death was not determined for any of these animals.

The mean body weight of the 4000 mg/kg group dams was reduced on gestation days 6-20; the differences were significant on gestation days 9, 16 and 20. Clinical signs of toxicity in the high dose dams included reduced motor activity of all the dams early in the treatment period (exact days not specified) and reduced motor activity of some of the dams (number not specified) for the entire treatment period. In addition, 1 or more of the 4 animals that died or were sacrificed early exhibited labored breathing, tremors, loss of the righting reflex, hypothermia, moribundity, emaciation, yellow staining in the urogenital region and piloerection. Although some of these clinical observations suggest neurotoxicity, it is not possible to ascertain (solely on the submitted information) whether the symptoms are actually due directly to a neurotoxic effect of the chemical or result from some other type of toxicity.

Developmental toxicity was clearly evident in the 4000 mg/kg dose group. There was a significant increase in post-implantation loss and a corresponding decrease in litter size. In addition, there was a significant reduction in the mean fetal body weight. There was also an increase in the total number of fetuses and litters with malformations; the increase was principally in the incidence of microphthalmia (3% of the fetuses) and a vertebral anomaly with or without an associated rib anomaly (4.5% of the fetuses). The number of fetuses with skeletal variations was also increased (89% versus 36% in the controls); this was due primarily to an increased incidence of delayed ossification (unossified hyoid, reduced skull ossification and unossified sternebrae) and 2 rib variations (bent ribs and 7th cervical ribs). There was no strong evidence found for developmental toxicity in either the 160 mg/kg or 800 mg/kg dose groups.

For this study, the lowest-observable-adverse-effect-level (LOAEL) and no-observable-adverse-effect-level (NOAEL) for both maternal and developmental toxicity of the subject chemical is 4000 mg/kg (LOAEL) and 800 mg/kg (NOAEL).

Considering the very large spread between the 4000 mg/kg (LOAEL) and 800 mg/kg (NOAEL) dose levels, the submitting company should be asked if it is planning to conduct a study to determine more precisely the maternal and developmental effects of the subject chemical substance at doses between 800 mg/kg and 4000 mg/kg. In addition, it would be of interest to know if the submitting company plans to conduct a repeated dose study (e.g., a 28-day oral gavage or feeding study) to determine if the subject chemical substance is neurotoxic.

CURRENT PRODUCTION AND USE

In the sanitized version of the Section 8(e) notice cover letter, the submitting company reported non-confidentially that the subject chemical substance "is an experimental research material not listed on . . . [EPA's TSCA Chemical Substance Inventory]." The submitter also reported that the company is in full compliance with the TSCA research and development (R&D) conditions.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitting company to provide a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, etc.) from the acute oral toxicity study mentioned in the "TEST ARTICLE ADMINISTRATION" section of the submitted final report of the oral teratology study in rats.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be asked to describe the nature and results, if available, of all studies (other than those sent already to EPA or those cited in the open scientific literature) about which the company is aware or that the company has conducted that are designed to determine the toxicity of this chemical. The submitting company will be informed that the Agency is interested especially in knowing if the company plans to conduct 1) a rat teratology study using oral doses between 800 mg/kg and 4000 mg/kg, and 2) a repeated dose study in rats (e.g., a 28-day oral gavage or feeding study) to determine if the subject chemical substance is neurotoxic.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this alkali metal salt of a substituted aryl sulfonic acid.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JUN 12 1989 **APPROVED:** 6/14/89

SUBJECT: Status Report[1] **8EHQ-0489-0795**
8EHQ-0589-0796

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In 8EHQ-0489-0795, the Amoco Chemical Company (an affiliate of the Amoco Corporation) submitted the final report of a respiratory sensitization study of 4,4'-sulfonylbis(phthalic anhydride) (SPAN; CAS No. 2540-99-0) in rats. (The CAS No. for the subject chemical was reported by the Amoco Chemical Company non-confidentially by phone on May 5, 1989.) The company's TSCA Section 8(e) notice cover letter provides the following information regarding the conduct and results of this study:

> "Three groups of 10 male and 10 female Sprague-Dawley rats were used to study SPAN. One group was exposed to SPAN as a particulate aerosol at a target concentration of 50 $\mu g/m^3$, 6 hours/day for 5 days. The remaining two groups were exposed to filtered air only. Following a 3-week rest period, the SPAN-exposed group along with one filtered air-exposed group were challenged with the same [SPAN] concentration [(50 $\mu g/m^3$)] for 6 hours. The second filtered air-exposed group served as a non-challenged control.
>
> "The analytical time weighted averages for the five [SPAN] exposures and challenge were 45.9 and 43.6 $\mu g/m^3$, respectively.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "This [respiratory sensitization] study indicated a statistically significant increase in lung foci in the SPAN-exposed rats when compared to the challenged and non-challenged control rats. Lung foci counts ranging from 12 to 55 were present in 7 of 20 SPAN-exposed rats. Serum IgG antibody levels were significantly elevated in the SPAN-exposed males compared to the challenged and non-challenged controls. There were no statistically significant effects of treatment on body weight and absolute and relative lung weight and volume."

In 8EHQ-0589-0796, Amoco provided the final report of a respiratory sensitization study of benzophenone tetracarboxylic dianhydride (BTDA; CAS No. 2421-28-5) in rats. The company's TSCA Section 8(e) submission cover letter provides the following information with regard to the conduct and results of this respiratory sensitization study:

> "The study consisted of three groups of 10 male and 10 female Sprague-Dawley rats each. One group was exposed to BTDA as a particulate aerosol at a target concentration of 50 $\mu g/m^3$, 6 hours/day for 5 days. The remaining two groups were exposed to filtered air only. Following a 3-week rest period, the BTDA-exposed rats along with one filtered air-exposed group were challenged with the same concentration of BTDA for 6 hours. The second filtered air-exposed group served as a non-challenged control.
>
> ['The analytical time-weighted averages for the five [BTDA] exposures and challenge were 47.0 and 43.2 $\mu g/m^3$, respectively.']
>
> "The results [of this respiratory sensitization study] indicated that [the] serum IgG antibody levels were significantly elevated in the BTDA-exposed male rats [when] compared to the challenged and non-challenged controls. No other statistically significant effects of treatment were associated with the increased serum IgG antibody levels. Body weight, absolute and relative lung weight and volume, and lung foci [($\leq$10 'observed in the majority of [the] rats from all groups')] were not significantly different in BTDA-treated animals compared to controls. None of the rats died and no significant clinical signs were noted in any rat during the study."

In the cover letters accompanying these two TSCA Section 8(e) submissions, Amoco stated that the submitted toxicological findings "indicate that there is evidence to support the conclusion that SPAN . . . [and BTDA are] potential respiratory sensitizer[s] at particulate aerosol concentrations of 50 $\mu g/m^3$ for 6 hours/day for 5 days."

SUBMISSION EVALUATION

In the SPAN study, sex specific elevations in serum IgG antibody levels were observed in the SPAN-exposed/challenged rats (5/10 males, 1/10 females). In both sexes of SPAN-exposed/challenged and SPAN-challenged-only rats, there was a statistically significant (although widely variable) increase in the number of lung foci/lung but not in the number of rats that exhibited lung foci. The number of lung foci/rat ranged from 12-55 in 7/20 SPAN-exposed/challenged rats versus less than 10 foci/rat in the SPAN-challenged-only and filtered-air/unchallenged rats. The number of rats with lung foci were 9/10 males and 6/10 females in the SPAN-challenged-only group, 10/10 males and 6/10 females in the SPAN-exposed/challenged group and 6/10 males and 2/10 females in the filtered-air/unchallenged control group. In general, the study did not provide a correlation between the increase in lung foci and the increase in serum IgG levels.

In the BTDA study, although elevations in serum IgG antibody levels were seen in both sexes of BTDA-exposed and BTDA-challenged-only rats, the significance of these elevations is unclear considering the wide variation that was found for IgG levels in the filtered-air/unchallenged control animals. For example, 3 female rats in the filtered air/unchallenged control group had serum IgG levels higher than any values found in rats from the BTDA-challenged-only group. In contrast to the SPAN study, the BTDA study does not indicate any sex-related differences for elevated serum IgG levels. Although several rats from each group in the BTDA study had lung foci, there were no statistically significant differences in the number of foci-bearing rats from any group. There was, however, a slight elevation found in the number of lung foci/rat in the BTDA-exposed and BTDA-challenged-only groups. As in the SPAN study, the occurrence of lung foci did not correlate with the elevated serum IgG levels.

Overall, the evidence that BTDA is a potential pulmonary sensitizer is not as persuasive as that obtained for SPAN. Further, the low doses tested (i.e., ~50 $\mu g/m^3$), the lack of good histopathological characterization of the foci and the lack of proper physiological measurements precludes any firm judgements about the ability of SPAN or BTDA to cause respiratory sensitization. It is important to point out, however, that 1) both BTDA and SPAN contain two phthalic anhydride moieties, and 2) phthalic anhydride itself has been shown to cause respiratory sensitization in humans at airborne concentrations that range (according to one published scientific literature source) from 3000 to 13000 $\mu g/m^3$. It is also important to note that although the submitted studies on SPAN and BTDA use serum IgG antibody levels as an indicator of sensitization, asthma and other allergen responses occur most often in direct relation to IgE, another class of immunoglobulin. Therefore, a study to determine the ability of a chemical substance to cause respiratory sensitization should include measurements of serum IgE antibody

levels (both pre- and post-exposure), as well as measurements of bronchoconstriction, respiratory rate or some other physiological parameters of pulmonary function. Finally, and in view also of the fact that anhydrides can be irritating to skin, the conduct of such studies should include consideration of the need for 1) oronasal or head-only exposure as opposed to whole-body exposure, and 2) higher airborne concentrations of the test article.

CURRENT PRODUCTION AND USE

4,4'-Sulfonylbis(phthalic anhydride) was not located on the current printed or computerized versions of the Agency's non-confidential TSCA Chemical Substance Inventory.

Amoco did not provide any information with regard to the use(s) of 4,4'-sulfonylbis(phthalic anhydride) nor was such information found in the secondary literature sources consulted by EPA.

A review of the production range (includes importation volumes) statistics for BTDA (CAS No. 2421-28-5), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 0 and 2,000 pounds of this chemical were reported as manufactured and/or imported in 1977. This production range information does not include any information claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

According to the **Condensed Chemical Dictionary** (10th Edition), the uses of BTDA include: "Epoxy curing agent; heat-resistant polymers, specialty alkyd resins; polyesters and plasticizers."

COMMENTS/RECOMMENDATIONS

Amoco stated that the SPAN and BTDA Material Safety Data Sheets and product labels will be updated to reflect the reported findings.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the Amoco Chemical Company will be requested to describe the actions that the company has taken or plans to take to reduce or eliminate exposure to SPAN and BTDA. In addition, Amoco will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Amoco is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to SPAN and/or BTDA.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of SPAN and BTDA.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of
Pesticides and Toxic Substances

DATE: JUN - 1 1989 **APPROVED:** 6/1/89

SUBJECT: Status Report[1] **8EHQ-0589-0797**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

On behalf of the Antimony Oxide Industry Association (AOIA) member companies (AMSPEC Chemical; ANZON, Inc.; ASARCO Incorporated; Laurel Industries, Inc.; and M&T Chemicals), an outside counsel submitted the following summary information about the conduct of and preliminary ophthalmologic findings from a two-year inhalation study of antimony trioxide (Sb_2O_3; CAS No. 1309-64-4) in rats.

> "AOIA is currently sponsoring a two-year inhalation study of antimony trioxide in Fischer 344 rats as part of a voluntary test program with EPA [pursuant to Section 4 of TSCA]. 48 Fed. Reg. 39979 (September 2, 1983). The rats were exposed to airborne concentrations of 0.05, 0.5 or 5.0 mg/m^3 for a period of one year followed by a one-year recovery period. The recovery period [has] ended and the 24-month sacrifice occurred in February, 1989. A final report of the study will be available later this year.
>
> ". . . [According to the ophthalmologist's report,] there is an indication of dose-related cataracts. The incidence of all types of cataracts is reported as follows:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Control Group	6/55	(11%)
Low Dose	12/49	(24%)
Mid Dose	18/64	(28%)
High Dose	19/60	(32%)

"The ophthalmologist's report also states that there appears to be a compound relationship in the incidence of chromodacryorrhea. The incidence of chromodacryorrhea was reported as follows:

Control Group	2
Low Dose	6
Mid Dose	14
High Dose	7

"The cataracts and chromodacryorrhea do not appear to be related; for the most part, the effects were not seen in the same test animals.

"The ophthalmologist does not consider the [observed] chromodacryorrhea to be indicative of a human hazard. No decrease in function of the tear glands was noted. At most, there may be evidence of a slight over-production of tears.

"When evaluating the ophthalmologist's report, it should be noted that the rats received additional exposure to antimony trioxide via the oral route from normal grooming and preening. To the extent the reported cataracts are dose-related, [. . . the ophthalmologist] has stated that he considers it unlikely that the effects were caused by [direct] eye exposure to airborne antimony trioxide. A preliminary survey indicates that cataracts have not been observed in the workplace by AOIA members. Further analysis may be aided by the pathologist's final report, which will be included in the chronic inhalation study final report."

According to a provided summary report, the historical incidence of cataracts "in the control animals from three other recently completed 24-month oncogenicity studies using Fischer 344 rats were 11, 14 and 15%." The provided summary report states further that the 32% incidence of cataracts observed in the highest antimony trioxide exposure group in the present inhalation study "is well beyond [the] normal variation." Finally, the summary report states that an "association with cataracts and antimony exposure has not previously been reported."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch transmitted a full copy of this TSCA Section 8(e) submission to the Test Rules Development Branch (TRDB/ECAD/OTS) for inclusion in their ongoing

review of toxicity/exposure data on antimony trioxide. Antimony trioxide, antimony metal (Sb metal) and antimony sulfide (Sb_2S_3) were designated by the Interagency Testing Committee (ITC) for testing consideration under Section 4 of TSCA. On January 6, 1983, the Agency published a proposed Negotiated Testing Agreement (NTA; 48 Fed. Reg. 716) covering these chemicals. EPA's acceptance of the Negotiated Testing Agreement was published on September 2, 1983 (48 Fed. Reg. 39979).

It should be noted that EPA's Office of Toxic Substances (OTS) has published TSCA Section 8(a) and Section 8(d) information gathering rules covering antimony trioxide. In addition, OTS has received a number of TSCA Section 8(e) and "For Your Information" (FYI) notices on antimony trioxide, as well as other antimony compounds. In 1981, the Chemical Screening Branch prepared a "Chemical Hazard Information Profile" (CHIP) on antimony trioxide.

CURRENT PRODUCTION AND USE

Information with regard to the manufacture/importation and uses of, as well as the potential for exposure to, antimony trioxide can be found in the Agency's January 6, 1983 proposed Negotiated Testing Agreement (48 Fed. Reg. 716).

COMMENTS/RECOMMENDATIONS

It is important to point out that the TSCA Section 8(e) reporting requirement applies to any substantial risk information[2] obtained during a study conducted under Section 4 of TSCA unless such information, when obtained, is otherwise required to be submitted to EPA under Section 4 of TSCA. To date, EPA has received a number of TSCA Section 8(e) notices containing interim results of studies conducted under Section 4 of TSCA. The Section 8(e) reporting that takes place in such instances occurs typically before reporting of the information is required under Section 4. If required reporting under Section 4 occurs before or coincidental with an obligation to report under Section 8(e), the information does not need to be submitted also under Section 8(e). The purpose of this exemption is not to change substantially the TSCA Section 8(e) reporting obligation, but is merely to avoid duplicative reporting except in those cases where timeliness of reporting is paramount.

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[2] *As defined in the Agency's March 16, 1978 TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110), the term "substantial risk information" is any new information that offers reasonable support for a conclusion that a subject chemical or mixture presents a substantial risk of injury to health or the environment; new information is that information about which EPA is not already adequately informed.*

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; copies of this report will be provided also to the TSCA Assistance Office (TAO/OTS) for further distribution.

b) The Chemical Screening Branch will send a copy of this status report to AOIA and ask AOIA to transmit copies of the report to their member companies.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 12 1989 **APPROVED:** 6/14/89

SUBJECT: Status Report[1] **8EHQ-0589-0798 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity and use of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) submission, the company reported non-confidentially that the subject chemical substance is "an isolatable process intermediate" and identified the chemical generically as a "chlorinated aliphatic ketone."

SUBMISSION DESCRIPTION

The submitting company provided the final report from an Ames Salmonella typhimurium (bacteria) mutagenicity assay of the subject chlorinated aliphatic ketone. According to the company's cover letter, the results of the test "indicate that this chemical caused a positive increase in the numbers of histidine revertants per plate with Salmonella tester strain TA-100 in the presence of [exogenous] microsomal enzymes." The cover letter reports also that "positive increases were not induced in any of the other tester strains, either with or without the metabolic activation system."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

According to the provided final report, this chlorinated aliphatic ketone was tested for its ability to induce gene mutations in Salmonella typhimurium strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 both with and without exogenous metabolic activation. (The S-9 fraction from livers of rats treated prior to sacrifice with Aroclor 1254 for the non-specific induction of liver enzymes served as the source of metabolic activation.) The chlorinated aliphatic ketone was dissolved in dimethylsulfoxide (DMSO) and tested over a dose range of 66.6 to 3,330 ul/plate using 3 plates for each test concentration.

SUBMISSION EVALUATION

The highest chlorinated aliphatic ketone concentration tested (i.e., 3,330 ul/plate) was toxic to all bacterial strains in the study. All of the tests performed without exogenous metabolic activation in strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 were found to be uniformly negative. In the tests conducted with metabolic activation, the subject chemical induced mutations only in strain TA-100. In strain TA-100 with activation, there was a dose-related increase in the number of revertant colonies that reached a maximum of 4.7 times background (control) reversion rate at a test article concentration of 666 ul/plate. Based on these data, this chlorinated aliphatic ketone is mutagenic in the Ames assay. The positive response observed with strain TA-100 in the presence of exogenous metabolic activation is not mitigated in any way by 1) the negative responses that were obtained with TA-100 without activation, or 2) the negative responses obtained in the other strains tested with and without activation.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use of this chlorinated aliphatic ketone will appear in this status report.

The submitter provided the following non-confidential information with regard to the potential for exposure to the subject chemical substance:

> "Due to process conditions, [the] potential for exposure is low. As an added precaution, personnel with possible exposure wear personal protective equipment, including full face air-purifying respirators approved for organic vapors and gloves. The glove material has been tested and found to be impermeable for periods up to twelve (12) hours."

The submitting company stated further non-confidentially that its "employees have been informed of . . . [the submitted genotoxicity findings] in keeping with an extensive hazard communication program."

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risks posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. The Agency expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the Chemical Screening Branch will ask the submitting company to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this chlorinated aliphatic ketone.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 12 1989 **APPROVED:** 6/14/89

SUBJECT: Status Report[1] **8EHQ-0589-0799**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Allied-Signal Inc. reported that the company has been attempting to 1) develop substitutes for fully halogenated chlorofluorocarbons (CFCs), and 2) reduce the amount of CFCs used. Allied-Signal stated that, as part of this ongoing research effort, a 93%/7% blend of Refrigerant 12 (R12, dichlorodifluoromethane, CAS No. 75-71-8) and dimethyl ether (DME; CAS No. 115-10-6), respectively, was tested "in a simulated automotive air conditioning application." According to Allied-Signal, the overall purpose of this laboratory study "was to determine if any toxic chlorinated ethers could be formed as decomposition products." Allied-Signal submitted the following summary information about the conduct and results of the study:

> ". . . [Three hundred (300) grams (g)] of the 93% R12 and 7% dimethyl ether together with copper, aluminum and steel rods were sealed into a one gallon cylinder. [The submission does not mention the material from which the cylinder was made.] The rods were 6 inches long and 1/8 inch in diameter. The cylinder was wrapped with a heating tape and thermal blanket. The tape was connected to a temperature control set at 200°C. The time of exposure was 1 week. As a control, sealed tube tests with mineral oil, steel, aluminum and copper were also done. The

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

tubes, four in all, were put into an oven at 200°C for 2 days. The analysis was done using a method developed by the OSHA Analytical Laboratory of Salt Lake City.

"The results after one week indicated that the 300 g sample in the one gallon cylinder contained 430 ppb of chloromethyl methyl ether [(CAS No. 107-30-2)] and 2.29 ppb bis-chloromethyl ether [(BCME; CAS No. 542-88-1), both highly toxic materials (BCME has been found to be a human carcinogen). [The] analysis of the sealed tubes was complicated. Many products seem to be formed and reacted with the derivatizing agent used (sodium salt of 2,4,6-trichlorophenol). The analysis of these tubes was therefore indeterminate.

"The probability exists that these decomposition products may build up in concentration after extended exposure. Since bis-chloromethyl ether and chloromethyl methyl ether were clearly detected when R12 and DME were heated for 1 week at 200°C in the presence of steel, aluminum and copper, . . . [Allied-Signal believes that] this blend may pose a health risk under foreseeable use conditions in an automotive air conditioner system, especially for service people who change the refrigerant after many months or years of the refrigerant's use. If this blend were to be used, . . . [Allied-Signal believes that] additional risk assessment related studies would be needed to more accurately characterize and quantify the health risk to both the public and automotive service people."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent a copy of this TSCA Section 8(e) notice to the Chemical Control Division (CCD/OTS) for inclusion in its ongoing review of CFC substitutes/ reduction.

COMMENTS/RECOMMENDATIONS

Allied-Signal reported that the company is notifying the patent holder and other CFC producers about the submitted findings.

a) The Chemical Screening Branch will ask Allied-Signal to ensure that the Agency receives a full copy of the final report (including the actual experimental protocol, data, etc.) from the simulated automotive air conditioning application study that was cited in the submission.

b) As was the case with the initial Section 8(e) notice, the Chemical Screening Branch will immediately forward full copies of all incoming data to CCD/OTS.

c) The Chemical Screening Branch will transmit copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 29 1989 **APPROVED:** 7/5/89

SUBJECT: Status Report[1] **8EHQ-0589-0800**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The American Cyanamid Company reported that based on recently conducted 4-hour nose-only inhalation tests in rats, the LC50 for dimethyl-1,1,1-trifluoro-2,4-pentanedionato gold (CAS No. 63470-53-1) "is approximately 30 ppm or somewhat greater than one-half the saturated vapor concentration." American Cyanamid reported further that "exposure at one-third the saturated vapor pressure (approximately 17 ppm) produced no mortality nor other toxic findings." In addition, American Cyanamid stated that "prior studies, which have been submitted [already] to the EPA, indicated that the material is a moderate skin irritant in rabbits and is not a dermal sensitizer in guinea pigs."

According to American Cyanamid, the tested chemical substance is the subject of a TSCA Section 5 "Low Volume Exemption" (LVE No. L89-032). American Cyanamid stated further that 1) the preliminary results of the acute nose-only inhalation studies had been received orally from the IBM Materials Toxicology Laboratory, and 2) the studies are being conducted for IBM at a contract laboratory.

A "COMPANY SANITIZED" (i.e., non-confidential) American Cyanamid document retrieved from EPA's public LVE No. L89-032 file states that the subject chemical, identified therein as dimethylgold trifluoroacetylacetonate (DMGTF), when applied at a dose of 0.5 g

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

for 4 to 4.5 hours to the shaved, intact skin of rabbits, 1) caused moderate irritation, 2) caused "initially, a blackish discoloration to the skin which appears to fade to a yellow to brownish color" and 3) did not cause any observable clinical signs or mortality. In addition, this non-confidential document states that despite the fact that "many gold compounds will produce an allergic response upon repeated contact," the subject chemical did not cause dermal sensitization in guinea pigs.

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch transmitted a complete copy of the incoming TSCA Section 8(e) submission to the Chemical Control Division (CCD/OTS) which is responsible for EPA's "New Chemicals Program" (NCP) under Section 5 of TSCA.

Based on the 4-hour 30 ppm LC50 value reported in this Section 8(e) notice, the subject chemical substance could be classified as being extremely toxic via inhalation. EPA's evaluation of the overall significance of the reported findings should be possible upon the Agency's receipt of the final report from this study.

CURRENT PRODUCTION AND USE

The non-confidential document that was obtained from EPA's public LVE No. L89-032 file stated that American Cyanamid was planning to import the subject chemical. This non-confidential document, which contains copies of a technical bulletin and a draft Material Safety Data Sheet (MSDS), also provides the following information about the use of and potential for exposure to the chemical:

> "Dimethylgold trifluoroacetylacetonate (DMGTF) is an electronic grade crystalline solid product used in the fabrication of electronic components. Specifically, DMGTF is used to deposit gold on various substrates, such as, for example, silicon wafers, in order to fabricate, repair, or modify circuits. The deposition of gold is accomplished by the vapor phase decomposition of DMGTF which is induced by any suitable means, such as a laser or a focused ion or electron beam.
>
> "Risk of exposure during use at the customer's site is minimal due to the low usage volume and the special self-contained equipment designed to prevent leakage of the organo-gold complex. . . . . Customer facilities are in most cases either laboratories or highly specialized manufacturing sites having skilled operators, technicians and engineers especially trained to handle materials of this type. Many customer applications require specially constructed and equipped clean-room operations, where

> [the] operators and technicians are also required to wear special over-clothing and gear. The purpose here is to protect the processes from deleterious trace contamination. The protective clothing and gear usually worn in typical chemical plant operations are not necessarily used in all electronic chemicals applications. This is because of the stringent containment and exposure control measures employed."

In its TSCA Section 8(e) submission, American Cyanamid provided the following additional information with regard to the potential for exposure to the subject chemical:

> ". . . . A normal shipment of this material to customers is 5-10 grams. If the entire shipment were to be spilled in a typical laboratory (15 X 30 X 8 ft.) and allowed to come to equilibrium, the concentrations obtained are not likely to exceed the levels which produced no mortality or toxic effects in animals after exposure for 4 hours. Since this material has a very unpleasant and pungent, musky odor, any spills are readily detected."

COMMENTS/RECOMMENDATIONS

In its Section 8(e) submission, American Cyanamid reported that the final report of the 4-hour nose-only inhalation study would be submitted to the Agency "in compliance with the requirements of the low volume exemption granted . . . [for the subject chemical under Section 5 of TSCA]."

It should be noted that Part VII of EPA's Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) describes the kinds of information that do not need to be submitted to EPA under Section 8(e) of TSCA. For example, Part VII(b) of the policy statement explains that information need not be submitted under Section 8(e) if the information has been submitted already to EPA pursuant to mandatory reporting requirements under TSCA (e.g., Section 5 of TSCA) or any other authority administered by EPA. In other words, if the required reporting of information to the Agency under Section 5 of TSCA, for example, occurs prior to or coincidental with a respondent's obligation to report that same information under Section 8(e) of TSCA, the information need not be reported also under Section 8(e). The overall purpose of this exemption is not to change substantially the TSCA Section 8(e) reporting obligation, but is designed merely to avoid duplicative submission except in those cases where the timeliness of reporting is critical. Therefore, to the extent that American Cyanamid was required under Section 5 of TSCA to submit their preliminary acute inhalation test results and had already done so within 15 working days of obtaining the results, the company's reporting of those results additionally under Section 8(e) of TSCA was not required.

a) The Chemical Screening Branch will ask American Cyanamid to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, the results of any gross and histopathological examinations, the results of statistical analyses, etc.) from the acute nose-only inhalation tests cited in the company's TSCA Section 8(e) submission.

In view of EPA's general interest in company actions that are taken (especially on a voluntary basis) in response to chemical toxicity/exposure data, American Cyanamid will be asked to describe the actions the company has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical substance. In addition, American Cyanamid will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As was the case for the initial Section 8(e) submission, the Chemical Screening Branch will forward all additional incoming information received on the subject chemical to staff of the Chemical Control Division for review and appropriate followup attention.

c) The Chemical Screening Branch will send copies of this report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS/EPA; in addition, copies of this status will be sent to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 30 1989 **APPROVED:** 7/5/89

SUBJECT: Status Report[1] **8EHQ-0589-0801**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Union Carbide Corporation submitted summary results of the company's attempts "to develop and validate workplace monitoring methods for ethylenediamine" (EDA; CAS No. 107-15-3). Union Carbide stated that its research efforts "indicate that industrial hygiene methods in current use for EDA may be seriously deficient where particulates of EDA or its compounds are present." Union Carbide provided the following information to substantiate this assertion:

> "[In order] to monitor the presence of EDA in the work-place, Union Carbide formerly used a small bore (4-6mm [inner diameter (ID)]) glass sampling tube containing XAD-2 ion exchange resin adsorbent as the sampling device. The sampling rate used was limited to 100 ml/min. NIOSH method 276 uses a similarly small bore (6 mm ID) glass sample tube containing silica gel and a sampling rate of 1000 ml/min. OSHA method 60 uses a small bore (4 mm ID) glass sample tube containing a coated XAD-2 resin adsorbent and a sampling rate of 100 ml/min.
>
> "EDA forms EDA-carbamate (a fine particulate) when exposed to [the] carbon dioxide present in humid air. Union Carbide's recent research indicates that use of current industrial hygiene methods may result in poor

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

detection of this particulate. The reason appears to be the low effective capture rate of the small bore sampling tube. [Union Carbide's] tests have demonstrated that in the absence of EDA-carbamate, the former Union Carbide sampling method obtains acceptable recovery of EDA in the test chamber. When moist air containing carbon dioxide is used, poor results are achieved by the sampler but an independent analysis of the test air monitored by the sampler indicates that EDA is present (most likely in the EDA-carbamate form).

"When EDA-carbamate is placed on the adsorbent in the sample tube, the recommended desorption and analytical procedure results in acceptable recovery of the EDA-carbamate as EDA. This finding demonstrates that if [the] EDA-carbamate is collected on the sampling tube, it will be desorbed and analyzed by the recommended procedure.

"Union Carbide has concluded that the source of the problem is the small effective source sectional area (13-26 mm^2) of the sample tube inlet and the low sampling rates. Field experience has demonstrated that for fine particulates, a minimum sampling rate of 300-500 ml/min is suggested for effective capture of particulates. The former Union Carbide and OSHA methods for EDA are limited to 100 ml/min whereas the NIOSH method has a recommended 1000 ml/min sampling rate. Although the NIOSH method has the suggested sampling rate to capture the finely dispersed EDA-carbamate effectively, NIOSH reports that its method suffers adversely from ammonia interference, and is not well suited for many applications where amines are used.

"It is evident from the information presented that many of the monitoring methods [that are] currently being used for EDA are seriously deficient when particulates of EDA-based compounds are present. Consequently, Union Carbide has developed a new recommended sampling and analytical method for EDA. The new [Union Carbide] method employs a liquid sampler containing a pH buffer solution. The buffer solution is reacted with a fluorogenic reagent to form a characteristic fluorophor and is analyzed using UV spectrophotometric techniques. Sampling is done at 800-1000 ml/min. Laboratory and field validation studies have demonstrated that the new Union Carbide method has overcome the sampling deficiency of the small bore-low sampling rate method, and provides more realistic monitoring data because it samples both the free EDA and its carbamate form.

"Early field results to date indicate that airborne concentrations of EDA in Union Carbide workplaces are well below the OSHA PEL and ACGIH TLV of 10 ppm (8-hour TWA)."

SUBMISSION EVALUATION

Immediately upon receipt of this TSCA Section 8(e) submission, the Chemical Screening Branch sent full copies of the submission to NIOSH, OSHA, ACGIH and the Exposure Evaluation Division (EED/OTS).

According to secondary literature, EDA is a colorless alkaline liquid with an ammonia-like odor that is irritating (in some cases severely irritating) to skin, eyes and respiratory tract; some individuals are reportedly hypersensitive to EDA. Based on an inhalation LC50 value of 0.3 mg/l in mice, EDA is listed as an "Extremely Hazardous Substance" (EHS) under Section 302 of the Superfund Amendments and Reauthorization Act (SARA) and is subject to certain SARA requirements (e.g., EDA has a "Threshold Planning Quantity" (TPQ) of 10,000 pounds). Further, EDA is subject to the Superfund chemical substance release reporting requirements (EDA has a "Reportable Quantity" (RQ) of 5,000 pounds).

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for ethylenediamine (CAS No. 107-15-3), which is listed in the initial TSCA Chemical Substance Inventory, shows that about 11-61 million pounds were reported as manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any data that would compromise TSCA CBI. All data reported for the initial TSCA Inventory, including production range data, are subject to the limitations in the TSCA Inventory Reporting Regulations (40 CFR 710).

According to the **Condensed Chemical Dictionary** (10th Edition), EDA uses include: "Fungicides; manufacture of chelating agents (EDTA); dimethylolethylene-urea resins; chemical intermediate; solvent; emulsifying agent; textile lubricants; antifreeze inhibitor."

COMMENTS/RECOMMENDATIONS

In its submission, Union Carbide reported that the company plans to conduct further sampling and analysis. Union Carbide stated also that the company is notifying its EDA customers and other domestic EDA suppliers about the reported information.

a) The Chemical Screening Branch will ask Union Carbide to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, data, etc.) from the monitoring studies cited in the submission.

b) The Chemical Screening Branch will review the submitted information to determine the need for further OTS assessment of the reported findings.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, ACGIH, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/EPA and EED/OTS; copies of this report will be provided also to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL - 3 1989 **APPROVED:** 7/5/89

SUBJECT: Status Report[1] **8EHQ-0689-0802**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Olin Corporation reported the findings from a guinea pig skin sensitization study of octadecyl isocyanate (CAS No. 112-96-9). Olin provided the following summary information regarding the conduct and results of this study:

> ". . . . Ten male Hartley albino guinea pigs received nine topical applications of the test material over a three-week period. Subsequent to the induction phase, the animals were challenged on two separate occasions beginning two weeks following the last induction application. Each animal was challenged at two sites, at the original site used for induction and at a virgin site. In the challenge phase, 7/10 and 8/10 animals developed a positive reaction during the first and second challenges, respectively. This reaction consisted of moderate erythema indicative of skin sensitization. The results of this test reveal that octadecyl isocyanate causes allergic skin sensitization of mild-to-moderate potency."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

Although Olin's Section 8(e) letter stated that a copy of the final report of the skin sensitization study of octadecyl isocyanate was attached, the final report did not accompany the letter. Therefore, in order for the Agency to evaluate the overall significance of the reported findings, Olin should be asked to submit a full copy of the final report (including the actual experimental protocol, data, etc.) from the cited skin sensitization study.

Immediately upon receipt of Olin's incoming Section 8(e) letter, the Chemical Screening Branch provided a complete copy of the letter to the Risk Analysis Branch (RAB/ECAD/OTS); RAB staff are currently reviewing toxicologic/exposure data on several monomeric diisocyanates (e.g., toluene diisocyanate).

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for octadecyl isocyanate (CAS No. 112-96-9), which is listed in the initial TSCA Chemical Substance Inventory, has shown that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All of the data reported for the initial TSCA Inventory, including production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

Olin reported that the company "manufactures very small amounts (less than 3,000 pounds . . . [as of about June, 1989]) of this material at its Lake Charles, Louisiana plant and sells such quantities to . . . [Olin's] only customer, 3M Company, St. Paul, Minnesota, as a raw material in the manufacture of a product used for adhesive-type applications."

According to the **Condensed Chemical Dictionary** (10th Edition), the uses of octadecyl isocyanate include: "Intermediate in synthesis; water-repellent textiles, paper, and other surfaces."

COMMENTS/RECOMMENDATIONS

Olin reported that although the company does not plan to conduct any further evaluations of octadecyl isocyanate, the company is informing its Lake Charles, Louisiana plant-site employees about the submitted skin sensitization results and "confirm with such employees previously furnished data and information concerning the appropriate precautions and worker protection equipment which must be worn when handling this material." In addition, Olin stated

that the octadecyl isocyanate Material Safety Data Sheet (MSDS) is being updated to reflect the reported findings. Finally, Olin stated that a copy of the revised MSDS for octadecyl isocyanate will be provided to the 3M Company.

a) The Chemical Screening Branch will ask Olin to submit a complete copy of the final report (including the actual experimental protocol, data, etc.) from the guinea pig skin sensitization study of octadecyl isocyanate cited in the company's TSCA Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure information, Olin will be requested to describe the nature and results of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Olin is aware or that Olin has conducted that are designed to determine the toxicity of or the exposure to octadecyl isocyanate.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of octadecyl isocyanate.

c) The Chemical Screening Branch will send copies of this report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS/OPTS/EPA; in addition, copies of this report will be provided to the TSCA Assistance Office (TAO/OTS/OPTS/EPA) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 24 1989 **APPROVED:** 7/25/89

SUBJECT: Status Report[1] **8EHQ-0689-0803**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Union Carbide Corporation submitted 1) a full copy of the final report from a 1-hour inhalation LC50 study of Chlorosilane A-199 (dichlorosilane; CAS No. 4109-96-0) in rats, and 2) preliminary results from a 9-day repeated inhalation exposure study of this chemical substance in rats. Union Carbide's TSCA Section 8(e) cover letter presents the following summary information about the conduct and results of these studies:

> "An acute exposure study with dichlorosilane vapor [in Sprague-Dawley rats] allowed the determination of a 1-hr LC50 (with 95% confidence limits) of 314 (211-466) ppm calculated as nominal dichlorosilane vapor. . . In view of the moderately high acute inhalation toxicity of the vapor, a short-term repeated exposure of Sprague-Dawley rats to dichlorosilane vapor was conducted. Target concentrations were 15, 7 and 3 ppm dichlorosilane vapor, using 10 male and 10 female rats per exposure group. Additionally, there was an air-alone (0 ppm) control and a hydrogen chloride [(HCl)] gas control because of the hydrolysis of dichlorosilane to hydrogen chloride. After

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

a 14-day post-exposure period, survivors were sacrificed for necropsy examination and removal of various tissues and organs for weighing and histological examination. Major findings were as follows:

1) "The nominal (metered) chamber concentrations of dichlorosilane were, respectively, 15.0, 6.9, and 2.7 ppm for the target high, intermediate and low concentration groups. However, [the] dichlorosilane could not be analytically detected in the [exposure] chambers by gas chromatography. The hydrogen chloride concentrations, as mean ± SD [(Standard Deviation)], were 28 ± 5.4, 19 ± 5.8 and 8 ± 0.9 ppm for the target dichlorosilane concentrations of 15, 7 and 3 ppm. The concentration in the hydrogen chloride control was 34 ± 6.3 ppm.

2) "There were no mortalities during [the 9-day] exposure or over the 14-day post-exposure observation period.

3) "[The] signs of toxicity, occurring principally in the 15 ppm dichlorosilane group, included blepharitis [(inflammation of the eyelids)] and audible breathing.

4) "Body weight decreases, both absolute weight and weight gains, were measured in the 15 ppm group. Males of the 7 and 3 ppm group showed reduced body weight gain. There were no effects on body weight gain of the HCl group.

5) "Food and water consumption were reduced for the 15 ppm dichlorosilane group.

6) "Hematology for the 15 ppm dichlorosilane group showed slight increase in erythrocyte count and hematocrit, and decrease in mean corpuscular hemoglobin, for males. Females of this group had slightly increased total leucocyte count.

"For the males and females of the HCl-alone group, there was an increase in leucocyte count. Males showed slight increase in erythrocyte count, hematocrit and mean corpuscular volume; the mean corpuscular hemoglobin and mean corpuscular hemoglobin concentration were decreased.

7) "At necropsy, the lungs of [rats from] the high concentration dichlorosilane group appeared red or dark pink.

8) "Lung weights were increased (60-70%) above control weights in the highest dichlorosilane group. Also, the lung weight relative to body weight was increased for the intermediate group, but with males only.

9a) "Abnormal histological effects were seen in the upper respiratory tract of all dichlorosilane exposed animals. [The] principal effects were rhinitis [(inflammation of the nasal mucosa)], epithelial hyperplasia, and squamous metaplasia of the nasal mucosa; metaplasia was present mainly in the anterior regions. Also, with the high and intermediate dichlorosilane groups, there was epithelial hyperplasia of the trachea.

b) "Rats of the high dichlorosilane group had lung lesions, consisting of inflammation, alveolar histiocytosis, and interstitial fibrosis.

c) "There were no abnormal histological findings in the respiratory tract of rats from the control or hydrogen chloride groups.

"The above findings indicate that a 9-day repeated [inhalation] exposure of rats to low nominal [vapor] concentrations of dichlorosilane (range 2.7 to 15.0 ppm) caused inflammatory, hyperplastic, and metaplastic lesions in the respiratory tract. These were produced at concentrations where the equivalent hydrolytically-generated hydrogen chloride [(HCl)] concentrations are ineffective in producing such lesions, and in the absence of analytically detectable dichlorosilane in the chamber atmosphere. The causative molecule(s) and mechanisms are unknown."

SUBMISSION EVALUATION

An EPA evaluation of the overall significance of the reported toxicologic findings should be possible upon the Agency's receipt of a full copy of the final report from the cited 9-day repeated dichlorosilane vapor inhalation study in rats.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for dichlorosilane (CAS No. 4109-96-0), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 11,000 and 110,000 pounds of this chemical were reported as manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA

Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any data that would compromise TSCA CBI. All data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

Union Carbide did not provide any specific information about the use(s) of dichlorosilane, nor was such information located in the secondary literature sources consulted by EPA. According to the American Chemical Society (ACS) **CHEMCYCLOPEDIA** (Volume 6; 1988), dichlorosilane is available in "electronic" and "semiconductor" grades.

COMMENTS/RECOMMENDATIONS

Union Carbide stated that the dichlorosilane Material Safety Data Sheet (MSDS) is being revised to reflect the reported toxicological findings. In addition, Union Carbide stated that its employees and customers are being advised about the reported findings.

It should be noted that the Agency has received a number of TSCA Section 8(e) and "For Your Information" (FYI) notices containing toxicologic and/or exposure data on organosilanes. In addition, the Chemical Screening Branch prepared (in 1986) a Chemical Hazard Information Profile (CHIP) covering several organosilanes. Finally, the Risk Analysis Branch (RAB/ECAD/OTS) is currently evaluating available toxicologic and exposure information on organosilanes.

a) The Chemical Screening Branch will ask Union Carbide to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 9-day inhalation study cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure information, Union Carbide will be requested to describe the actions that the company has taken or plans to take to reduce or eliminate exposure to dichlorosilane. In addition, Union Carbide will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to dichlorosilane.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of dichlorosilane.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS and RAB/ECAD/OTS; in addition, copies of this status report will be sent to the TSCA Assistance Office (TAO/OTS/OPTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1989 **APPROVED:** 7/18/89

SUBJECT: Status Report[1] **8EHQ-0689-0804**
8EHQ-0689-0804 S SUPP.

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Technical Assessment Systems, Inc. submitted the following summary information on behalf of Albright & Wilson Company, Ltd., which is located in England:

> "Tetrakis(hydroxymethyl)phosphonium chloride (THPC; CAS No. 124-64-1) and tetrakis(hydroxymethyl)phosphonium sulfate (THPS; CAS No. 55566-30-8) have been produced for approximately 35 years using the same chemical processes. No reported incidents of adverse health effects have been encountered by Albright & Wilson [Company], Ltd. during this time interval.
>
> "New analytical data regarding the composition of THPC and THPS have recently become available to Albright & Wilson [Company], Ltd. . . . .
>
> "Using a more sophisticated analytical procedure than available originally, the presence of previously unknown equilibrium moieties have been detected in THPC and THPS which led [the company] to suspect the presence of previously undetected formaldehyde [(CAS No. 50-00-0)]. Preliminary indications are that formaldehyde is present at levels between 0.1% and 1.0%. . . . ."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

The initial submission notes that no evidence of carcinogenicity was seen in the National Toxicology Program (NTP) 2-year gavage studies of THPC and THPS in Fischer 344/N rats and B6C3F1 mice (NTP Technical Report No. 296).

Albright & Wilson's supplemental submission contains analytical information on which the company's initial submission was based.

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent copies of the initial and supplemental TSCA Section 8(e) submissions to staff of the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in the Agency's review of formaldehyde.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for THPC (CAS No. 124-64-1), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 100 thousand and 1 million pounds of this chemical were reported as manufactured and/or imported in 1977. A review of the production range statistics for THPS (CAS No. 55566-30-8), which is listed also in the initial TSCA Chemical Substance Inventory, has shown that between 1.1 million and 11 million pounds of this chemical were reported as manufactured and/or imported in 1977.

The above production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any data that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

According to information presented in the "1. Manufacture." section of Albright & Wilson's supplemental TSCA Section 8(e) submission, THPC and THPS are "used as feedstocks for the manufacture of flame retardant treatments for textiles" and have recently been "found to have a number of end applications as biocides."

COMMENTS/RECOMMENDATIONS

According to Technical Assessment Systems, Inc., Albright & Wilson has further analytical work underway to quantify the formaldehyde concentrations in THPC and THPS. In addition, Albright & Wilson is reportedly advising its customers (via updated product labels and Material Safety Data Sheets (MSDSs)) about the company's detection of formaldehyde in THPC and THPS.

It should be noted that EPA has received other TSCA Section 8(e) and "For Your Information" (FYI) submissions on THPC and THPS; the reader's attention is directed to the "Status Reports" that EPA prepared in response to 8EHQ-1080-0369 et seq..

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Albright & Wilson will be asked to describe the actions that the company has taken or plans to take to 1) notify its THPC and THPS production workers about the reported detection of formaldehyde in THPC and THPS, and 2) reduce or eliminate formaldehyde in those chemicals.

b) The Chemical Screening Branch will forward any further reported information to staff of the Risk Analysis Branch for inclusion in the ongoing EPA review of formaldehyde.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS and RAB/ECAD/OTS/OPTS; copies of this report will be provided also to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 12 1989 **APPROVED:** 7/14/89

SUBJECT: Status Report[1] **8EHQ-0789-0805 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (TSCA CBI). The Information Management Division will review all of the incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of this TSCA Section 8(e) submission, Eli Lilly reported non-confidentially that the subject chemical substance is an "unsaturated sulfone."

SUBMISSION DESCRIPTION

Eli Lilly provided the following summary information regarding the conduct and results of genotoxicologic testing of this unsaturated sulfone:

> "The compound was evaluated in the gradient plate assay, a modification of the Ames assay, used to screen compounds for the induction of mutations in bacteria. A positive response was obtained in E. coli strain WP2uvrA- both in the presence and the absence of metabolic activation, and in Salmonella typhimurium strain TA100 with metabolic activation only. Positive responses were

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

observed in E. coli between 1 and 2 ug/ml and 1 and 10 ug/ml in the assays without activation and with activation, respectively. The response in TA100 occurred between 1 and 10 ug/ml.

"The compound was also evaluated for the ability to induce chromosome aberrations in cultured Chinese hamster ovary [(CHO)] cells. A positive response was obtained at the mid-dose only in the assay conducted without activation. Compound concentrations of 1, 2, and 3 ug/ml yielded 3, 8, and 4 percent cells with aberrations, respectively. The solvent control yielded 1 percent cells with aberrations. A positive response was also obtained at the high dose only in the assay conducted with activation. Compound concentrations of 25, 37.5, and 50 ug/ml yielded 3, 2 and 19 percent cells with aberrations, respectively. The solvent control yielded 1 percent cells with aberrations."

SUBMISSION EVALUATION

The submitted information indicates that this unsaturated sulfone does possess some degree of genotoxic activity. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of full copies of the final reports from the cited studies.

It should be noted that genotoxicological findings for another unsaturated sulfone were reported previously by Eli Lilly to the Agency under Section 8(e) of TSCA (8EHQ-0389-0791 S). The reader's attention is directed to the "Status Report" prepared by EPA for that previous Section 8(e) submission.

CURRENT PRODUCTION AND USE

In view of Eli Lilly's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status of this unsaturated sulfone will appear in this status report.

Eli Lilly provided the following non-confidential information about the manufacture and use of, as well as the future plans for this unsaturated sulfone:

"Lilly has manufactured less than 5 kilograms of this [research] compound for use in controlled field studies for pesticidal effectiveness in Lilly test plots in the United States. Of the 5 kilograms [made], approximately 250 grams were actually applied in 1988 and 1989. Lilly does not plan to do further work on this compound. The remainder of the compound, except for a reference standard, will be incinerated."

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will request Eli Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, data, etc.) from each study cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity or exposure data, Eli Lilly will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which Eli Lilly is aware or that the company has conducted that are designed to determine the toxicity of this unsaturated sulfone.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 12 1989 **APPROVED:** 7/14/89

SUBJECT: Status Report[1] **8EHQ-0789-0806 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its TSCA Section 8(e) submission, Eli Lilly stated non-confidentially that the subject chemical substance is a "substituted quinazoline."

SUBMISSION DESCRIPTION

Eli Lilly provided the following summary information regarding the conduct and results of an acute toxicity study of this substituted quinazoline in mice:

> "Preliminary testing of this research compound has resulted in a mouse oral toxicity study with a median lethal dose [of] less than 50 mg/kg.
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> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

received either 50, 500, or 2000 mg/kg of the compound. There were no survivors following a single oral dose of this compound. All of the deaths occurred by test day three. Antemortem signs of toxicity included ataxia, coma, hypoactivity, lethargy, piloerection, and tremors."

SUBMISSION EVALUATION

The submitted summary information indicates that this substituted quinazoline is extremely toxic via oral administration. An EPA evaluation of the overall significance of the reported findings should be possible upon the Agency's receipt of a full copy of the final report of the cited acute toxicity study in mice.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report. In its Section 8(e) notice, Eli Lilly stated non-confidentially that the company has manufactured only 2 grams of this substituted quinazoline thus far and is in the process of producing an additional 50 to 100 grams of the chemical.

COMMENTS/RECOMMENDATIONS

Eli Lilly stated that this substituted quinazoline is now labelled as "hazardous."

a) The Chemical Screening Branch will ask Eli Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study cited in the company's Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Eli Lilly will be requested to describe any additional actions the company has taken or plans to take 1) to notify workers and others about the reported toxicologic information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, Eli Lilly will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Eli Lilly is aware or that Eli Lilly has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to this substituted quinazoline.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 25 1989 **APPROVED:** for 8/25/89

SUBJECT: Status Report[1] **8EHQ-0789-0807 S and FYI-OTS-0389-0677 S**

FROM: Frank D. Kover, Chief
Chemical Screening Branch/ECAD

TO: Joseph J. Merenda, Director
Existing Chemical Assessment Division/OTS

NOTE

This status report pertains to an initial Section 8(e) submission (8EHQ-0789-0807 S) and an initial "For Your Information" (FYI) submission (FYI-OTS-0389-0677 S) on pyrazole (CAS No. 288-13-1). The submitting companies have claimed their company names to be TSCA Confidential Business Information (TSCA CBI); the Information Management Division will review all incoming correspondence related to these CBI claims.

SUBMISSION DESCRIPTIONS

The submitter of 8EHQ-0789-0807 S provided the following summary information about the conduct and preliminary results of a pilot oral teratology study of pyrazole in rats:

> "Preliminary unaudited results . . . [from this study] suggest that pyrazole causes developmental as well as maternal toxicity in rats at dose levels ≥ 10 mg/kg/day. In this study, pyrazole was administered by gavage to 6 groups of 8 mated female rats at dose levels of 0, 1, 5, 10, 15 and 20 mg/kg/day during gestation days 6-18. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of data submitted to the Agency on a "For Your Information" (FYI) basis and under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final EPA policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "No mortality occurred at any [pyrazole] dose level. However, substantial body weight losses were noted at 15 and 20 mg/kg/day. Slight to moderate mean body weight effects occurred at 10 and possibly 5 mg/kg/day, primarily during the first 3 days of dosing. A dose related decrease in mean fetal weights was apparent at ≥ 10 mg/ kg/day. Implantation loss may have been marginally increased at 20 mg/kg/day. The only external malformations observed were cleft palate in 6 fetuses from 2 litters at 20 mg/kg/day."

The submitter of FYI-OTS-0389-0677 S Initial provided the following summary information with regard to two published and one company-conducted developmental toxicity studies of pyrazole:

> "Pyrazole . . . previously has been reported to induce developmental toxicity in rats and mice. Varma and Presaud (Res. Communic. Chem. Path. Pharm. 26:65-73, 1979) reported a 'high incidence of ocular and urinary bladder anomalies in the offspring of [Sprague-Dawley] rats following [oral] treatment on gestational day 9.' 'Embryocidal effects' and 'infrequent minor structural abnormalities' were reported in [Swiss Webster] mice injected [intraperitoneally on gestation days 8, 10, 12 and 14] with pyrazole (Giknis and Damjanov, Teratology 25:43A, 1982).
>
> "To further evaluate . . . [the] potential to produce developmental toxicity, pyrazole was administered to pregnant female rats [(strain not specified)] at dose levels ranging from 25 to 225 mg/kg/day during gestation days 6-18. Fetuses were weighed and evaluated for external malformations. Unfortunately, substantial maternal toxicity (substantial weight loss and/or death) was noted at all dose levels. No fetuses were produced at ≥ 100 mg/kg/day. Fetuses were produced at 25 mg/kg/day but these fetuses weighed about one-half that of [the] controls. These fetuses also exhibited a high incidence of external malformations (primarily cleft palate) but that was not unusual considering the low fetal weights.
>
> "Because of the excessive maternal toxicity, this study is judged to be inadequate to assess the developmental toxicity of pyrazole."

SUBMISSION EVALUATIONS

The information presented in the published studies cited in the FYI submission indicates that pyrazole can cause developmentally toxic effects following intraperitoneal injection in mice and oral administration to rats. Giknis and Damjanov (1982) found that intraperitoneal injections of pyrazole at a dose of 6 mg/kg/day to pregnant Swiss Webster mice on days 8, 10, 12 and 14 of gestation resulted in reduced litter size and reduced fetal weight. Further,

Varma and Persaud (1979) observed a significant increase in the incidence of malformations, primarily ocular and urinary bladder anomalies following administration of a single oral dose of 100 mg/kg to pregnant Sprague-Dawley rats on gestation day 9; single oral adminstration of this dose on gestation day 6 or 12 was not found to produce an increase in the incidence of malformations. No maternal toxicity was noted by the investigators. It should be noted that no other published developmental toxicity information on pyrazole was located by the Agency during an initial search of several publicly available computerized data bases and a variety of secondary literature sources.

The FYI submission states that the company-conducted study involved administration of pyrazole to pregnant rats at doses ranging from 25 to 225 mg/kg on gestational days 6-15; the rat strain, route of administration, exact dose levels administered and group sizes were not reported in the submitted summary. Maternal toxicity, evidenced by death and/or "substantial" weight loss, reportedly occurred at all dose levels; however, the number of deaths and the degree of weight loss was not reported. According to the summary, dams that received $\geq$ 100 mg/kg failed to produce offspring. Further, fetuses from the 25 mg/kg dose group were reported to have 1) "reduced body weight (about one-half that of controls)," and 2) a "high incidence of external malformations (primarily cleft palate)." The submitter asserts that these malformations were "not unusual considering the low fetal weights." The submitter stated also that "because of the excessive maternal toxicity, this "is judged to be inadequate for establishing the developmental toxicity of pyrazole." Although it may be true that this study may not be adequate for establishing the limits for exposure to pyrazole, the study does provide further and more precise information than that contained in the published literature about the developmental toxicity of this chemical. EPA should request a complete copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of any statistical analyses, etc.) from the developmental toxicity study cited in FYI-OTS-0389-0677 S Initial.

The Section 8(e) submission provides still further and even more precise information with regard to the maternal and developmental toxicity of pyrazole. In this study, 6 groups, each containing 8 pregnant rats (strain not given), received pyrazole via gavage at dose levels of 0, 1, 5, 10, 15 or 20 mg/kg on gestation days 6-18. Maternal toxicity (significantly decreased weight gain) was evident in the dams from the 15 and 20 mg/kg/day groups. A slight reduction in body weight gain was seen in the dams in the 5 and 10 mg/kg/day groups during the first 3 days of dosing; thereafter, however, the body weight gains for these groups were comparable to the controls. Developmental toxicity was apparent at pyrazole dose levels of 10 mg/kg/day and greater. Fetuses from the 10, 15 and 20 mg/kg/day dose groups had significantly reduced body weights. In addition, there was an increased incidence of cleft palate among fetuses from the 20 mg/kg/day dose group (6 fetuses from 2 litters); no other malformations were reportedly seen in the fetuses from the control or any of the other pyrazole-exposed groups. An interpretation of

the litter size and post-implantation loss data from this study is somewhat very difficult due to the fact that the litter size in the control group appears to be relatively small. The mean litter size for the control was 13.3, while the mean litter sizes for the 1, 5, 10, 15 and 20 mg/kg/day pyrazole dose groups were 15.6, 15.4, 15.3, 13.9 and 13.4, respectively. It appears that the litter sizes from the 15 and 20 mg/kg/day dose groups were reduced when compared to the other treated groups, but not when compared to the control. It is not clear whether this reduction is of biological relevance or it is a sampling error due in part to the small number of litters/group (i.e., 8 litters as opposed to the 20 litters used normally in a full teratology study. It must be noted that there also appears to have been an increase in post-implantation loss in the 20 mg/kg/day dose group (1.5 vs 0.9 in the control); again, a larger sample size would aid resolution. The submitter of this Section 8(e) notice should be asked to ensure that EPA receives a complete copy of the final report from this teratological study.

It should be noted that EPA also received a previous Section 8(e) notice (8EHQ-0389-0786 S) containing summary results from a pilot rat teratology study of 3-methyl pyrazole administered orally at doses of 0, 25, 100, 175 or 225 mg/kg/day on gestation days 6-18. This previous TSCA Section 8(e) submission provides evidence for adverse developmental and maternal effects resulting from exposure to 3-methyl pyrazole. The maternal toxicity consisted of lethality (6/8 and 8/8 dams died or were killed in extremis at 175 and 225 mg/kg/day, respectively) and moderate to severe body weight losses over gestation days 6-12 for dams receiving 100 mg/kg/day. Further, no fetuses were produced by the 2 dams that survived in the 175 mg/kg/day dose group. Also, it was not clear from the provided summary information if any of the dead or moribund dams in the 175 or 225 mg/kg/day dose groups were pregnant. The serious adverse developmental effects consisted primarily of increased resorptions and "substantially reduced" body weight of the live fetuses in the dams receiving 100 mg/kg/day. It should be noted also that a fetus from the 100 mg/kg/day dose group was found to have a cleft lip and palate. Further, all of the fetuses from the 25 mg/kg/day group were reported to appear "normal or close to normal weight." For further information about this teratological study of 3-methyl pyrazole, the reader's attention is directed to the status report that was prepared by the Agency in response to 8EHQ-0389-0786 S.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for pyrazole (CAS No. 288-13-1), which is listed in the initial TSCA Chemical Substance Inventory, has shown that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All data reported for the initial Inventory, including production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

In 8EHQ-0789-0807 S, the submitting company reported that pyrazole "was previously utilized exclusively for . . . [research and development (R&D)] purposes, but is no longer under active R&D." The submitter of FYI-OTS-0389-0677 S did not provide any information with regard to pyrazole use(s).

The 10th Edition of the **Condensed Chemical Dictionary** states that pyrazole has the following uses: "Chemical intermediate; stabilizer for halogenated solvents and lubricating oils."

COMMENTS/RECOMMENDATIONS

Following review of FYI-OTS-0389-0677 S Initial, EPA believes that the summary developmental toxicity information presented therein should have been submitted pursuant to Section 8(e) of TSCA. The following discussion provides the basis for the Agency's position:

> TSCA Section 8(e) states, "Any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."
>
> The preface to Part V of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence." With regard to the seriousness of the effect, Part V explains that the types of serious health effects for which substantial risk information must be reported include, for example, "any pattern of effects or evidence that the subject chemical or mixture can produce . . . birth defects . . ." The information concerning such serious toxic effects can be obtained directly or inferred from designed studies (e.g., studies conducted in animals) as described in Part VI of the TSCA Section 8(e) policy statement. Part VI explains further that a subject "person is not to delay reporting until he obtains conclusive evidence that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."
>
> With regard to "the fact or probability of its [(i.e., the serious effect's)] occurrence criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., birth defects) are considered by EPA to be so serious that relatively

little or no weight should be attached to the subject chemical's exposure in determining whether a risk is substantial. Further, EPA's response to Comment 31 in Appendix B of the TSCA Section 8(e) policy statement as it pertains to a question on research and development (R&D) substance, states that the mere occurrence of serious toxic effects such as those that are described in Part V(a) of the Section 8(e) policy statement presuppose exposure to the subject chemical or mixture and must be reported to EPA immediately under Section 8(e).

With regard to the kinds of information that do not need to be reported to EPA under Section 8(e), Part VII of the policy statement explains that "information need not be reported if it . . . is corroborative of well established adverse effects already documented in the scientific literature. . ." It is important to point out, however, that the Agency does not consider new-found information to corroborate previously available information regarding a serious adverse effect if, for example, the new-found information differs in terms of parameters such as, but not limited to, route of exposure, dose, time to onset of the effect, severity of the effect, species and/or strain of animal in which the effect was observed.

Considering the preceding discussion and EPA's evaluation of the information contained in FYI-OTS-0389-0677 S Initial, EPA believes that the provided information meets the reporting criteria set forth in EPA's 1978 TSCA Section 8(e) policy statement. Further, the Agency believes that 1) the developmental toxicity of pyrazole cannot be considered in any way to have been "well established," and 2) the provided information does not corroborate previously available information on pyrazole (i.e., the information contained in this FYI submission differs in terms of the dose levels, the dosing regimen and the nature of the observed developmental effects from the information previously available to the Agency on this chemical substance). It is EPA's initial position, therefore, that the data presented in FYI-OTS-0389-0677 S Initial should have been submitted to the Agency under Section 8(e) of TSCA.

a) The Existing Chemical Assessment Division will provide the submitter of FYI-OTS-0389-0677 S an ample opportunity (i.e., 20 working days) to rebut EPA's initial position on the TSCA Section 8(e)-applicability/reportability of the summary developmental toxicity information that was presented in the company's FYI submission.

b) The submitter of FYI-OTS-0389-0677 S and the submitter of 8EHQ-0789-0807 S will be requested to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from the unpublished developmental toxicity studies that were cited in those submissions.

c) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and/or exposure data, the FYI and Section 8(e) submitters will be requested to describe the actions taken or planned to notify workers and others about the reported information. The FYI and Section 8(e) submitters will be asked also to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the submitters are aware or that the submitters have conducted that are designed to determine the toxicity of pyrazole.

d) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of pyrazole.

e) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this status report will be provided also to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 24 1989 **APPROVED:** 7/25/89

SUBJECT: Status Report[1] **8EHQ-0789-0808 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Lilly Research Laboratories (a division of Eli Lilly and Company) has claimed the exact identity of the subject chemical substance to be TSCA Confidential Business Information (CBI); Information Management Division staff will review all incoming correspondence related to the company's CBI claim. In the "sanitized" version of this TSCA Section 8(e) notice, Lilly stated non-confidentially that the subject chemical is a "substituted quinazoline."

SUBMISSION DESCRIPTION

Lilly provided the following summary information regarding the conduct and preliminary results of an acute oral toxicity study of this substituted quinazoline in mice:

> "Preliminary testing of this research compound has resulted in a mouse oral toxicity study with a median lethal dose [of] less than 50 mg/kg.
>
> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

received either 50, 500, or 2000 mg/kg of the compound. There were no survivors following a single oral dose of this compound. All of the deaths occurred by test day three. Antemortem signs of toxicity included ataxia, coma, hypoactivity, lethargy, piloerection, soft stools, exophthalmos, and tremors."

SUBMISSION EVALUATION

The submitted summary information indicates that this substituted quinazoline is extremely toxic via oral administration. An EPA evaluation of the overall significance of the reported findings should be possible upon the Agency's receipt of a full copy of the final report of the cited acute toxicity study in mice.

It should be noted that EPA recently received a TSCA Section 8(e) notice from Eli Lilly and Company in which the company reported that another "substituted quinazoline" was found to be extremely toxic (LD50 of less than 50 mg/kg) in an acute oral toxicity study in mice. The reader's attention is directed to the "Status Report" prepared by the Agency in response to this previous Section 8(e) submission (8EHQ-0689-0806 S).

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report. In its Section 8(e) submission, Lilly stated non-confidentially that the company "has manufactured only 5.6 grams" of this substituted quinazoline.

COMMENTS/RECOMMENDATIONS

Lilly reported that this substituted quinazoline is labelled as being "hazardous."

a) The Chemical Screening Branch will ask Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study cited in the company's Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Lilly will be asked to describe any additional actions the company has taken or plans to take 1) to notify workers and others about the reported toxicologic information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, Lilly will be requested to describe the nature and results, if

available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Lilly is aware or that Lilly has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to this substituted quinazoline.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 24 1989 **APPROVED:** 7/25/89

SUBJECT: Status Report[1] **8EHQ-0789-0809**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Dixie Chemical Company, Inc. submitted the following summarized information from a draft National Toxicology Program (NTP) report concerning NTP chronic studies of glycidol (CAS No. 556-52-5) in mice and rats:

> "Under the conditions of these 2-year gavage studies, there was clear evidence of carcinogenic activity of glycidol for male and female F344/N rats and male and female B6C3F_1 mice, based on increased incidences of a variety of neoplasms at numerous tissue sites."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent a full copy of this Section 8(e) submission to the Test Rule Development Branch (TRDB/ECAD/OTS) and the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in ongoing reviews of glycidol and certain glycidol derivatives. Glycidol and its derivatives were recommended by the Interagency Testing Committee (ITC) for testing consideration by EPA pursuant to Section 4 of TSCA. In addition, EPA has published TSCA Section 8(a) and 8(d) information gathering rules on glycidol and certain glycidol derivatives.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

CURRENT PRODUCTION AND USE

Information relating to production and uses of glycidol as well as the potential for exposure to glycidol can be found in an "Advance Notice of Proposed Rulemaking" (ANPR) published by the Agency on December 30, 1983 (see 48 FR 57562-57571). Additional information on glycidol can be found in the "Third Report of the Interagency Testing Committee" (see 43 FR 50630-50635 and 44 FR 18733).

COMMENTS/RECOMMENDATIONS

It should be noted that Part VII of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) provides a number of examples of the types of information that need not be reported under Section 8(e) (i.e., information about which subject persons can automatically assume EPA to be "adequately informed"). In addition to the examples that are cited specifically in Part VII, subject persons can automatically assume, for the purposes of TSCA Section 8(e) reporting, that the Agency has been adequately informed about substantial risk information contained in a formal publication or report released to the general public by another agency of the U.S. Government. It should be noted also that EPA's position on the Section 8(e)-reportability of results of NTP bioassays has been described previously; the reader's attention is directed to the "Status Report" prepared by EPA in response to TSCA Section 8(e) submission number 8EHQ-1282-0467. In summary, EPA's position on the TSCA Section 8(e)-reportability of results of NTP bioassays is as follows:

> A subject person can assume automatically that the Agency has been "adequately informed" about the results of an NTP carcinogenesis bioassay once the NTP has formally released copies of the draft technical report from that study for peer review by the Technical Report Peer Review Subcommittee of NTP's Board of Scientific Counselors. This assumption can be made because EPA's Office of Toxic Substances (OTS) routinely receives complete copies of all draft NTP carcinogenesis bioassay technical reports formally released by NTP for peer review.
>
> Therefore, if a subject company obtains (i.e., knows of or possesses) toxicologic information concerning an NTP bioassay and there has not been a formal public release of those findings by NTP (e.g., formal release of the draft technical report for peer review), the subject company should immediately consider the need to report the information to EPA under Section 8(e) of TSCA.
>
> It should be noted that EPA has correctly received a number of Section 8(e) submissions (usually comprised of 1 to 2 typed pages) filed by companies that obtained toxicologic data from studies conducted by/for agencies

of the U.S. Government that have not been published or released formally to the general public. In each of these cases, OTS has immediately initiated appropriate followup activities directly with the other Federal agency in order to minimize and, in most cases, eliminate further TSCA Section 8(e) reporting obligations on the part of the submitting company to provide such items as complete copies of supporting data or actual technical reports.

Considering the preceding discussion and in view of the fact that the source of the oncogenicity findings reported in the present submission by Dixie was a draft NTP glycidol bioassay technical report that had been released formally by the NTP for peer review by the Technical Report Peer Review Subcommittee of NTP's Board of Scientific Counselors, Dixie's submission of those findings to EPA under Section 8(e) was not warranted.

a) Despite the fact that Dixie was not required to report in this instance under Section 8(e) of TSCA, EPA does have a general interest in corporate actions taken on a voluntary basis in response to chemical toxicity/exposure data. Therefore, Dixie will be requested to describe the actions the company has taken or is planning to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to glycidol. In addition, Dixie will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Dixie is aware or that Dixie has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to glycidol.

b) As was the case for the initial submission, the Chemical Screening Branch will immediately send a complete copy of all reported information to the Test Rules Development Branch and the Risk Analysis Branch.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, TRDB/ECAD/OTS and RAB/ECAD/OTS; in addition, copies of this status report will be sent also to the TSCA Assistance Office (TAO/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 30 1989 **APPROVED:** 8/30/89

SUBJECT: Status Report[1] **8EHQ-0889-0810 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information with regard to the conduct and preliminary results of an acute oral (with 28-day followup) toxicity study of methyl vinyl oximino silane (MVOS; CAS No. 73160-32-4) in rats:

> "The results of the study indicate that, unlike other oximino silanes tested, MVOS had an adverse effect on the reproductive system in male rats [(strain not specified)] following a single oral (gastric intubation) exposure at dose levels of 0.2, 1.0 and 2.0 ml/kg. Although these dose levels are significantly higher than potential human exposure, and the oral route is not considered [to be] a potential route of exposure as a result of foreseeable uses for MVOS, these results raise some concerns about MVOS as a potential male reproductive toxin. Exposure to MVOS via the inhalation route would also be limited since

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

MVOS has a very low vapor pressure (1.2 mm Hg at 75°C) and readily disassociates when exposed to atmospheric moisture.

"Specifically, microscopic examination of the testes and epididymides from rats sacrificed at various times during the study revealed bilateral degeneration of the germinal epithelium of the testes with associated intratubular formation of spermatocytic-spermatidic giant cells. The lesions occurred in a dose-related manner. The germinal epithelium degeneration was observed from day 1 through day 28 in the high-dose group (2.0 ml/kg), day 1 through day 21 in the mid-dose group (1.0 ml/kg), and on day 7 and day 14 in the low-dose group (0.2 ml/kg). Exfoliation of the germinal epithelium of the testes was felt to account for increased bilateral accumulation of cellular debris observed in epididymal ducts during the study.

"The pathologist believed that the test compound damaged the primary spermatocytes, secondary spermatocytes and spermatids such that these cells were absent from tissue sections of the testes observed as early as 24 hours after exposure to MVOS. Nearly all of the animals on study showed this effect. The loss of these spermatogenic cells resulted in a disappearance of mature sperm during the second week following exposure. Recovery was dose-related with sperm reappearing in the testes of the low-dose group rats by 21 days following exposure and by 28 days following exposure in mid-dose rats. Only partial recovery was observed in high-dose rats at 28 days.

"Based on the above microscopic findings, the pathologist concluded that reproductive capacity would be reduced 14 days after exposure in rats from the low-, mid- and high-dose groups, 21 days after exposure in rats from the mid- and high-dose groups, and 28 days after exposure in rats from the high-dose group. In addition, repeated breeding of rats from the mid- and high-dose groups from 1 to 7 days after exposure would be expected to result in poor reproductive performance. Of particular concern was the loss of spermatogonia observed in one rat from the high-dose group 7 days after exposure.

"Other microscopic effects were noted in the spleen and bone marrow, but these were generally consistent with hemolytic anemia and compensatory hematopoiesis."

The company reported also that this particular study was conducted "to confirm the results of an acute oral toxicity study that was submitted . . . [previously to the Agency with a TSCA Section 5 "Pre-Manufacture Notification" (PMN)]." Further information with regard to the submitter's manufacture and use of MVOS can be found in the **CURRENT PRODUCTION AND USE** section of this status report.

SUBMISSION EVALUATION

The summary information contained in this Section 8(e) submission provides strong evidence for the ability of MVOS to cause serious adverse reproductive system effects in male rats. Further, the finding of adverse spleen and bone marrow effects "consistent with hemolytic anemia and compensatory hematopoiesis" is of concern in light of EPA's lack of parallel information on a number of other silane-based chemicals; it is possible that these spleen and bone marrow effects may be due, however, to the non-silane MVOS moieties or may be specific to MVOS itself. In order for EPA to evaluate the overall significance of the reported adverse reproductive and hematopoietic system effects, the submitter should be asked to ensure that the Agency receives a full copy of the final report from the company's acute/28-day followup oral toxicity study of MVOS in male rats. It would also be of interest to know if the company is performing any studies designed to allow evaluation of the potential for MVOS to produce adverse effects on the female reproductive system.

CURRENT PRODUCTION AND USE

In the "sanitized" (i.e., non-confidential) version of this TSCA Section 8(e) notice, the submitting company provided the following information with regard to MVOS:

> "A . . . [Section 5 PMN] was submitted for this material on July 10, 1985, and [was] subsequently withdrawn on November 25, 1987, due to lack of commercial viability at that time. . . . . Currently, MVOS is used solely as . . . [a research and development (R&D)] compound."

The sanitized version of the company's TSCA Section 8(e) submission did not contain any information with regard to the specific use(s) of MVOS.

COMMENTS/RECOMMENDATIONS

In its Section 8(e) notice, the submitting company stated that the results of the acute/28-day followup oral toxicity study of MVOS "have been communicated to those [employees] in R&D studying the possible development of this material." In addition, the company reported that labels on research samples of MVOS are being revised to include a warning about the potential for MVOS to cause adverse male reproductive system effects.

a) The Chemical Screening Branch will ask the submitting company to ensure that the Agency receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses performed, etc.) from the acute/28-day followup rat oral toxicity study that was cited in the company's TSCA Section 8(e) submission on MVOS.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of MVOS.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of MVOS. In addition, and as was the case for the initial Section 8(e) submission, the Chemical Screening Branch will immediately send a complete copy of any submitted information on MVOS to the Chemical Control Division (CCD/OTS); CCD is responsible for the administration of EPA's TSCA Section 5 "New Chemicals Program" (NCP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 18 1989 **APPROVED:** 9/18/89

SUBJECT: Status Report[1] **8EHQ-0889-0811 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aryl propyl ether."

SUBMISSION DESCRIPTION

The submitting company provided summary information about the conduct and preliminary results of developmental toxicity studies of this aryl propyl ether in rats and rabbits. The following information was presented with regard to the rat study:

> "Aryl propyl ether was administered daily by gavage [to pregnant rats (strain not specified)] at doses of 0, 3, 10 and 30 mg/kg/day from Day 6 up to and including Day 15 of pregnancy.

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Clinical signs associated with treatment with aryl propyl ether were confined to 30 mg/kg/day. Following the first administration, all animals at this dosage showed general twitching and occasional flicking of paws. After a second administration, all animals became hypersensitive, showing extreme response to touch and sound, and were biting their forepaws; these signs continued and after the last administration (on Day 15) all animals at 30 mg/kg/day had marked body tremors.

"At 30 mg/kg/day, reduced [maternal body] weight gain to Day 8 was apparent following the initiation of treatment; thereafter, weight gains compared well with controls although parity with the control group had not been fully restored by Day 20. At 10 mg/kg/day, a slightly reduced weight gain was seen between Days 12 - 14 and 16 - 18; otherwise, gains were comparable with [the] controls. At 3 mg/kg/day, gains were essentially similar to controls throughout.

"At [the] terminal autopsy of the adults, there were no findings which were considered to be related to [aryl propyl ether] treatment.

"Litter parameters of the pre- and post-implantation loss and total live young were similar among all the groups including the controls. At 10 mg/kg/day, slightly reduced litter and mean fetal weights were seen; however, considering no similar effects were seen at 30 mg/kg/day, the effect at 10 mg/kg/day is thought to be coincidental and not related to treatment.

"At gross examination, there were two malformations both at 30 mg/kg/day. At this stage, it is not clear whether these are treatment related."

The submission presents the following summary information with regard to the conduct and preliminary results of the developmental toxicity study in rabbits:

"Aryl propyl ether was administered [to pregnant rabbits (strain not specified)] by gavage at doses of 0, 1, 3 and 9 mg/kg/day from Day 7 to Day 19 of pregnancy inclusive. On Day 29, animals were sacrificed and litter values determined.

"Clinical signs were apparent at varying degrees in all treated groups and mainly consisted of flicking and chewing of [the] paws post dosing. At 9 mg/kg/day, these signs were generally observed throughout the treatment period, occurring immediately after dosing and persisting through to the initial examination on the next day. At 3 mg/kg/day, signs were generally observed throughout the treatment period occurring about 1 hour after dosing and

were, very occasionally, apparent at the initial examination the next day; there were also 2 occasions where 2 animals recovered 2-3 hours after dosing. At 1 mg/kg/day, signs were observed for no more than 10 days during the treatment and [were] generally observed to occur 1-3 hours after dosing; they were never observed at the initial examination the next day. On 6 occasions, 4 animals [in the 1 mg/kg/day group] recovered 1-3 days after dosing. Another sign related to treatment was scabbing, seen in 2/6 animals at both 3 and 9 mg/kg/day, which appeared to be directly correlated with the history of chewing seen during the dosing period.

"One control animal showed marked anorexia until Day 9 of pregnancy and appeared to be unduly influencing the group mean body weight gain. Excluding this animal, the following summarizes the findings.

"Following initiation of treatment, an apparent dose related reduction in [the] food intake was seen with respect to the control value. Evidence of recovery is seen throughout the remainder of the treatment period, although parity with controls is not achieved until Days 24 - 28.

"Weight loss at 9 mg/kg/day was apparent from initiation of treatment to Day 9, thereafter weight gain comparable with controls was seen to Day 15; reduced weight gain is seen to Day 20 with [the] gains comparing favorably with controls to termination. At 3 mg/kg/day, slight weight loss from Day 9 to Day 11 was seen along with reduced weight gain from Day 15 to Day 20; other gains compared favorably with controls. At 1 mg/kg/day, there was no conclusive evidence that the slightly reduced weight gain following initiation of dosing was related to treatment.

"At terminal autopsy, 1 and 2 animals at 3 and 9 mg/kg/day [respectively] had scabbing with associated fur loss; a further 1, 1, 1 and 2 [animals] at 0, 1, 3 and 9 mg/kg/day [respectively] had fur loss alone. None of the other findings were considered to be related to treatment with aryl propyl ether.

"Total litter sizes generally reflected the number of implantations and post-implantation losses, upon which there was no clear dosage related effect. Litter weights similarly reflected litter size, although at this stage, there appeared to be a slight reduction in mean fetal weight at 9 mg/kg/day. The sex ratios were generally comparable among all the groups.

"There were three fetuses with gross morphological changes, one each at 0, 1 and 9 mg/kg/day. None were judged to be related to treatment."

SUBMISSION EVALUATION

With regard to the rat study, there was evidence of maternal toxicity after exposure to 10 mg/kg/day and 30 mg/kg/day. There was reduced maternal body weight gain at 30 mg/kg/day on gestation days 7-8, and at 10 mg/kg/day on gestation days 12-14 and 16-18. The dams in the 30 mg/kg/day group exhibited clear clinical signs of neurotoxicity. The clinical signs seen following the first administration of aryl propyl ether included general twitching and occasional flicking of the paws. On the subsequent 30 mg/kg dosing days, the dams showed sensory hypersensitivity and were found to be biting their paws. These neurotoxicological signs, which continued through and beyond the last day of dosing (i.e., gestation day 15), were accompanied by marked whole body tremors; the actual duration of these effects is not clear from the submitted summary information. The terminal autopsy was reported to show no findings related to treatment; however, without a full copy of the actual necropsy protocol, the overall adequacy of the neurotoxicological methods used in the study is unknown.

With regard to the rabbit study, maternal toxicity was reported to be evident at all dose levels administered (1, 3 and 9 mg/kg/day). The provided summary reports that there was a dose-related decrease in food consumption. Further, a reduction in body weight gain was reportedly seen on gestation days 7-9 and 15-20 for dams receiving 9 mg/kg/day and on gestation days 9-11 and 15-20 for dams receiving 3 mg/kg/day. Clinical signs of neurotoxicity, including flicking and chewing of paws, were reportedly observed at all dose levels. As in the rat teratology study, the provided necropsy information is not sufficient to permit a full neurotoxicological evaluation.

The clinical signs that were observed in rats and rabbits following daily oral administration of amyl propyl ether are associated with polyneuritis. Chemicals that have been shown to induce central or peripheral nervous system polyneuritis, characterized by an initial hypersensitivity, include alkyl and aryl phosphates, kepone, DDT acrylamide and n-hexane. Although no supporting data were located on aryl propyl ether, the submitted data suggest strongly that this chemical can produce a similar neurological syndrome. It would be of interest to know if the company is conducting or plans to conduct a neurotoxicity battery (that would include a full functional observational battery (FOB), motor activity evaluation and complete neuropathology). If so, special attention should be given to the neuropathological protocol to ensure proper tissue preparation, storage, handling and evaluation.

With regard to developmental effects, reduced litter/body weight was seen only for the 10 mg/kg/day rat fetuses and reduced mean body weights was found only for the 9 mg/kg/day rabbit fetuses. Further, two 30 mg/kg/day rat fetuses had "malformations" and 3 rabbit fetuses (1 each from the 0, 1 and 9 mg/kg/day dose groups) were to have "gross morphological changes." Based solely on the submitted summary information, however, a developmental toxicity evaluation for this aryl propyl ether is not possible at this time.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or specific use of the subject chemical will appear in this report. According to the "sanitized" (i.e., non-confidential) version of the Section 8(e) notice, this aryl propyl ether is being used by the submitting company solely for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

The submitting company stated that all of the company's R&D personnel who might be exposed to this aryl propyl ether were informed about the reported toxicological findings.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the rat and rabbit developmental toxicity studies cited in the company's submission. In addition, the submitter will be asked to provide, to the fullest extent possible, a detailed chemical characterization of this aryl propyl ether.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this aryl propyl ether.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 22 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0812**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Hercules Incorporated provided the first 38 pages of "PART I" of a February 24, 1986 report from a chronic (2-year) toxicity and oncogenicity study of 1,3-dichloropropan-2-ol (CAS No. 96-23-1) administered in the drinking water to Wistar rats. The "SUMMARY" portion of the submitted document gives the following information regarding the conduct of this 2-year bioassay:

> "In this chronic toxicity and oncogenicity study, 1,3-dichloropropan-2-ol was administered [at daily doses of 0, 27, 80 or 240 mg/l] in the drinking water to Wistar rats for 104 weeks. The study was comprised of four groups, each containing 80 male and 80 female rats."

The "ASSESSMENT" section of the submitted document contains the following information about the results of this study:

> ". . . . The pathomorphologic findings in this study strongly suggest an oncogenic effect of 1,3-dichloropropan-2-ol on [the] liver (hepatocellular adenomas and

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

carcinomas, hemangiosarcomas), kidney (tubular adenomas and carcinomas), oral epithelial/tongue (papillomas and carcinomas) and thyroid gland (follicular adenomas and carcinomas) in rats at dose levels of 80 and 240 mg/l water."

"It cannot be decided from this study, whether or not the single papilloma observed in the tongue of one male in group 2 [(27 mg/l)] reflects an oncogenic effect of the test article or whether it is a spontaneous finding. Historical data reveal that papillomas and carcinomas in the tongue have rarely occurred spontaneously in the Wistar rat strain used by RCC. The same holds true for the papilloma observed in the forestomach of one of ten females examined in group 4 [(240 mg/l)] after 78 weeks of treatment.

"The increased incidence of slight to moderate hepatic fatty change [observed] in groups 3 and 4 [(80 and 240 mg/l, respectively)], and the increased incidence of hemosiderin-storing Kupffer cells in the liver in animals of groups 3 and 4 may reflect a metabolic disturbance of the liver caused by the test article.

"The significance of the sinusoidal peliosis observed in all treated groups is not clear. However, peliosis may represent a preneoplastic stage of vascular hepatic neoplasia, such as hemangiosarcoma . . .

"The other neoplastic and non-neoplastic lesions noted in this study are considered to be incidental since they are commonly encountered in rats of this strain and age."

According to the portion of PART I that was submitted by Hercules, the subject study was conducted from 1983 to 1985 by the Research and Consulting Company AG (RCC; Switzerland) for the Verband der Suppenindustrie e.V. (roughly translated to be the Association of Soup Producers). Hercules stated that the company is contacting the European sponsor in an attempt to obtain a full copy of the final report of this 2-year drinking water study for supplemental submission to the Agency.

It should be noted that in previous TSCA Section 8(e) submissions (8EHQ-1280-0401 et seq.), the Stauffer Chemical Company reported that tris(1,3-dichloropropan-2-ol)phosphate (CAS No. 13674-87-8) caused a statistically significant increase in malignant liver tumors (hepatocellular carcinomas) at 80 mg/kg/day, the highest dose level tested in a 2-year feeding study in rats. For further information with regard to tris(1,3-dichloropropan-2-ol)phosphate, the reader's attention is directed to the status report that was prepared by the Agency in response to these previous Section 8(e) submissions. The reader's attention is also directed to a "Chemical Hazard Information Profile" (CHIP) that was prepared by EPA in 1981 on tris(1,3-dichloropropan-2-ol)phosphate.

SUBMISSION EVALUATION

Based on a preliminary review of the submitted information only, this 2-year study appears to be well designed, well conducted, and thorough. The provided information indicates clearly that at the two highest doses administered (80 and 240 mg/l), 1,3-dichloropropan-2-ol induced a wide variety of benign and malignant tumors. Further, the reported pre-neoplastic pathomorphologic observations are consistent fully with the observed oncogenic effects.

A complete evaluation of the findings from this chronic drinking water study should be possible if a full copy of the final report can be obtained by Hercules and sent to the Agency. If Hercules is not successful in its attempt, however, other avenues should be explored immediately by the Agency in order to obtain the complete final report of this study.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for 1,3-dichloropropan-2-ol (CAS No. 96-23-1), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 2,000 and 20,000 pounds of this chemical were reported as manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI.

All of the data that were reported for the initial TSCA Inventory, including the above cited production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (see 40 CFR 710).

The **Condensed Chemical Dictionary** (10th Edition) states that the uses of 1,3-dichloropropan-2-ol include: "General solvent; intermediate in organic synthesis; paints, varnishes, lacquers; water colors' binder; photographic lacquers."

It must be noted that in a previous "For Your Information" (FYI) submission (FYI-OTS-0586-0493), Exxon Chemical Americas stated that 1,3-dichloropropan-2-ol was detected (along with several other by-products and impurities) in polyamine/epichlorohydrin polymers that had been approved for drinking water treatment. The other reported impurities were epichlorohydrin (CAS No. 106-89-8), 3-chloro-1,2-propanediol (CAS No. 96-24-2) and glycidol (CAS No. 556-52-5). In this FYI notice, Exxon stated that the "sum of the concentration of such compounds [including 1,3-dichloropropan-2-ol] was sometimes found to exceed the 500 ppm level, the concentration generally recognized as the acceptable level for residual monomers such as epichlorohydrin, acrylamide, and monomethyl amine." Exxon reported also that the concentrations of these contaminants "are variable, and highly dependent on the manufacturing process." Exxon reported

further that as the result of its evaluation and despite the fact that the company's polyamine/epichlorohydrin polymer drinking water treatment products had been approved by EPA's Office of Drinking Water (ODW/OW), Exxon decided not to provide for potable drinking water treatment any polyamine/epichlorohydrin polymer products "where the combined concentrations of these contaminants exeeds 500 ppm." Finally, Exxon stated that the reported findings were being provided to other manufacturers and to the Chemical Manufacturers Association (CMA) Potable Water Additives Panel. Immediately upon receipt of Exxon's FYI submission, the Chemical Screening Branch sent full copies of that notice to a number of other EPA offices including ODW/OW.

COMMENTS/RECOMMENDATIONS

On June 15, 1988, the Test Rules Development Branch (TRDB/ECAD/OTS) published a TSCA Section 4 "Test Rule" (53 FR 22300) that requires subchronic toxicity and soil adsorption testing on 1,3-dichloropropan-2-ol. The testing of this chemical, as well as more than 30 other chemical substances, was requested by the Office of Solid Waste (OSW) in the Office of Solid Waste and Emergency Response (OSWER) to support EPA's Hazardous Waste Regulatory Program under the Resource Conservation and Recovery Act (RCRA).

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and/or exposure data, Hercules will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, Hercules will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to 1,3-dichloropropan-2-ol.

b) As was the case for the initial Section 8(e) submission, the Chemical Screening Branch will immediately transmit full copies of all reported information to TRDB/ECAD/OTS, OW/EPA and OSW/OSWER/EPA. The Chemical Screening Branch will continue to review all reported information in order to determine the need for further OTS assessment of 1,3-dichloropropan-2-ol.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; copies of this status report will be sent to staff of the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 22 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0813**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

This TSCA Section 8(e) notice was submitted to EPA by the Chemical Manufacturers Association (CMA) Rubber Additives Panel on behalf of companies who are members of the MBT (2-mercaptobenzothiazole) Task Group. A list of these member companies, who manufacture or distribute MBT, or import MBT-containing rubber articles, can be found on the last page (page 3) of this status report.

SUBMISSION DESCRIPTION

In its Section 8(e) submission, CMA presented preliminary results from a developmental toxicity study of MBT (CAS No. 149-30-4) administered by gavage at doses of 0, 300, 1200 or 1800 mg/kg/day to pregnant rats. According to CMA, preliminary results of this developmental toxicity study, conducted in response to a final TSCA Section 4 Test Rule (September 7, 1989; 53 FR 34514), "show an increase in postimplantation loss." According to the submission, the increase in postimplantation loss, which was "almost entirely dependent upon early resorptions," was statistically significant (when compared to concurrent controls) at 300 and 1800 mg/kg/day but not at 1200 mg/kg/day. In addition, CMA presented an in-depth discussion to support CMA's belief that the reported findings may not be toxicologically or biologically significant.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch transmitted full copies of this TSCA Section 8(e) submission to the Test Rules Development Branch (TRDB/ECAD/OTS) for inclusion in their ongoing evaluation of available toxicological and exposure information on MBT, a chemical recommended for testing by the Interagency Testing Committee (ITC). In addition, EPA has published TSCA Section 8(a) and 8(d) information gathering rules for MBT.

CURRENT PRODUCTION AND USE

Information about the production and use of, as well as information on the potential exposure to, MBT can be found in the final TSCA Section 4 Test Rule on MBT (53 FR 34514; September 7, 1988).

COMMENTS/RECOMMENDATIONS

To date, EPA has received a number of TSCA Section 8(e) submissions from trade associations on behalf of their member companies. The Agency reiterated its position regarding the Section 8(e) reporting obligations of trade associations and their member companies in the **COMMENTS/RECOMMENDATIONS** section of the status report prepared for Section 8(e) submission 8EHQ-0186-0587. The reader's attention is directed to this previous status report for further information.

It is important to point out also that the Section 8(e) reporting requirement applies to any substantial risk information[2] obtained during a study conducted pursuant to Section 4 of TSCA unless such information, when obtained, is otherwise required to be submitted to EPA under Section 4 of TSCA. To date, EPA has received a number of TSCA Section 8(e) notices containing interim results of studies conducted under Section 4 of TSCA. The Section 8(e) reporting that takes place in such instances occurs typically before reporting of the information is required under Section 4. If required reporting under Section 4 occurs before or coincidental with an obligation to report under Section 8(e), however, the information does not need to be submitted also under Section 8(e). The purpose of this exemption is not to change substantially the TSCA Section 8(e) reporting obligation, but is merely to avoid duplicative reporting except in those cases where timeliness of reporting is paramount.

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[2] *As defined in the Agency's March 16, 1978 TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110), the term "substantial risk information" is any new information that offers reasonable support for a conclusion that a subject chemical or mixture presents a substantial risk of injury to health or the environment; new information is that information about which EPA is not already adequately informed.*

a) The Chemical Screening Branch will ask CMA to ensure that the Agency receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the developmental toxicity study of MBT in rats cited in the submission.

b) The Chemical Screening Branch will ensure that full copies of all submitted documents on MBT are forwarded immediately to TRDB/ECAD/OTS for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution. The Chemical Screening Branch will ask CMA to send full copies of this status report to each of the companies listed below.

CMA Rubber Additives Panel/MBT Task Group Member Companies

Akzo Chemicals Inc.
BF Goodrich Company - Chemical Group
Firestone Tire and Rubber Company
Goodyear Tire and Rubber Company
Mobay Corporation
Monsanto Company
Quimica Organica De Mexico, S.A. de C.V.*
R.T. Vanderbilt Company, Inc.
Uniroyal Chemical Company. Inc.

* on behalf of the Albis Corporation, Lyons Associates and the Vivion Chemical Company

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 25 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0814**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The CIBA-GEIGY Corporation submitted final reports from 6 in vitro genotoxicity studies of bis-trimethylolpropane tetraglycidyl ether (LMB-4075; no CAS Registry Number as yet). According to CIBA-GEIGY, LMB-4075 was found to be positive 1) in the presence of exogenous metabolic activation in an Ames Salmonella typhimurium (bacteria) test in strains TA-100 and TA-1535, 2) with and without activation in a chromosomal study in cultured human lymphocytes, and 3) with and without activation in a point mutation assay using V79 Chinese hamster cells derived from embryonic lung tissue. LMB-4075 was reportedly negative in a cell transformation study with cultured BALB/3T3 mouse fibroblasts and autoradiographic DNA repair tests in cultured rat hepatocytes and cultured human fibroblasts.

SUBMISSION EVALUATION

LMB-4075 induces gene mutations in bacteria and cultured mammalian (hamster) cells. The chemical also induces chromosomal aberrations in cultured human lymphocytes. LMB-4075 does not induce in vitro DNA repair in rat hepatocytes or human fibroblasts. Although the chemical was reported to be negative in the cultured mouse cell transformation assay, several of the data tables that may support

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

this claim are illegible. In the absence of more readable copies of the data tables, therefore, this particular study is considered to be an "unconfirmed" negative. Overall, however, the obtained negative findings do not outweigh a cause for concern that LMB-4075 may be a potential germ cell mutagen and carcinogen; this concern is based on the positive results from gene mutation and chromosomal aberration assays.

CURRENT PRODUCTION AND USE

According to CIBA-GEIGY, "LMB-4075 is a new developmental epoxy resin intended for coating applications." CIBA-GEIGY reported also that only small quantities have been imported thus far into the U.S. for research and development (R&D) purposes. In addition, the company stated that 2 potential customers have received samples of LMB-4075 to date. CIBA-GEIGY reported further that the LMB-4075 exposure should be "minimal or nil" when the chemical is handled in accordance with the current Material Safety Data Sheet (MSDS) which carries the following precautionary information:

> "Wear impervious gloves. Wear splash-proof chemical goggles. Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely. Wear appropriate protective equipment to avoid personal contact and exposure."

CIBA-GEIGY reported that once LMB-4075 "is used in its intended application, it becomes a highly crosslinked, high molecular weight, insoluble and inert material." Finally, CIBA-GEIGY stated that there is no consumer exposure to LMB-4075.

COMMENTS/RECOMMENDATIONS

Although a positive *in vitro* genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

In its submission, CIBA-GEIGY stated that the company is revising the current LMB-4075 MSDS to reflect the reported positive and negative genotoxicologic findings. CIBA-GEIGY reported also that the company is informing its workers and the 2 potential LMB-4075 customers about the submitted findings.

Immediately upon receipt of this TSCA Section 8(e) notice, staff of the Chemical Screening Branch transmitted full copies of the notice to the Test Rules Development Branch (TRDB/ECAD/OTS) and the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in their ongoing reviews of glycidyl ethers and epoxy resins, respectively.

a) The Chemical Screening Branch will request CIBA-GEIGY to submit, if available, readable copies of all data tables from the cell transformation assay of LMB-4075.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, CIBA-GEIGY will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of LMB-4075.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and TRDB and RAB/ECAD/OTS; in addition, copies of this status report will be provided to staff of the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 16 1989 **APPROVED:** for Joseph J. Merenda

SUBJECT: Status Report[1] **8EHQ-0886-0815 INIT**
8EHQ-0487-0815 FLWP

FROM: Frank D. Kover, Chief
Chemical Screening Branch/ECAD

TO: Joseph J. Merenda, Director
Existing Chemical Assessment Division/OTS

NOTE

In an initial "For Your Information" (FYI) notice (FYI-OTS-0886-0506 S Initial), the submitting company claimed its name and the exact identity of the subject chemical to be TSCA Confidential Business Information (TSCA CBI). In addition, the submitting company claimed the production volume and use of the subject chemical to be CBI. In the "sanitized" version of the company's initial FYI notice, the company reported non-confidentially that the subject chemical is a pyrazole carboxamide. In a follow-up FYI notice (FYI-OTS-0487-0506 Followup Response), the Eli Lilly Company withdrew its CBI claims for company identity, chemical identity, and intended use of the subject chemical. According to the "declassified" version of Eli Lilly's initial FYI notice and the company's non-confidential followup response, the subject chemical is 5-cyano-1-(1,1-dimethylethyl)-N-methyl-1H-pyrazole-4-carboxamide, a research and development (R&D) substance intended for use as a broadleaf herbicide.

SUBMISSION DESCRIPTION

In FYI-OTS-0886-0506 S Initial, Eli Lilly provided the following summarized findings from an oral toxicity study of this pyrazole carboxamide in dogs:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA. The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "In a preliminary toxicity study, a pyrazole carboxamide was administered daily by capsule to two beagle dogs of each sex for three days at 0.5 mg/kg body weight, for two weeks at doses of 1.5 or 5.0 mg/kg, and for 11 days at 10 mg/kg. At a dose of 10 mg/kg, tonic/clonic convulsions, myoclonic jerking, ataxia and hypoactivity were observed sporadically in all [of the] dogs from test day 4 through study termination, but there was no histopathologic evidence of central or peripheral nervous system abnormalities. With the exception of emesis in one dog (given 1.5 mg/kg), all animals given 0.5, 1.5, or 5.0 mg/kg body weight appeared normal throughout the study and no effects were detected at any dose levels in body weights, organ weights, electrocardiograms, histopathology, clinical chemistry, hematology or in neurological examinations."

In submitting these summarized toxicologic findings to the Agency on an FYI basis, Eli Lilly stated the company's belief that "the exposure of certain chemicals is too low to be within the scope of [TSCA Section] 8(e) if:

> "the chemicals are handled only by company research and development [(R&D)] personnel who are trained in working with hazardous chemicals, and
>
> "the personnel are supplied with all appropriate safety equipment, such as laboratory exhaust hoods, dust masks, rubber gloves, aprons, etc. and
>
> "the personnel handle the chemicals only in company laboratories, test plots, or pilot plants, and
>
> "no other company is likely to be working with the compound."

In its review of the initial FYI submission, EPA stated that the neurotoxicological effects (i.e., tonic/clonic convulsions, myoclonic jerking, ataxia, hypoactivity) that reportedly occurred sporadically from day 4 to termination in all dogs receiving the 10 mg/kg dose level are of concern especially considering the small amount of pyrazole carboxamide administered. Although the submitter stated that there was no histopathologic evidence of central or peripheral nervous system abnormalities, EPA noted that it is not necessary to have a histopathological correlate to convulsions. In addition, EPA noted that the lower doses (i.e., 0.5, 1.5 or 5.0 mg/kg) administered may have altered the seizure thresholds in the absence of frank seizures in the exposed animals.

Based on EPA's review of the information contained in the initial FYI notice, EPA informed Eli Lilly in writing (EPA letter dated March 3, 1987) that the Agency believed that the neurotoxicologic findings presented in the initial FYI notice provided reasonable support for a conclusion that the subject chemical substance can

cause serious or prolonged incapacitation and as such should have been submitted formally to the Agency pursuant to Section 8(e), the "substantial risk" information reporting provision of TSCA.

In its March 3, 1987 letter, EPA requested Eli Lilly to submit a full copy of the final report from the company's 2-week oral dog study. In addition, Eli Lilly was requested to describe 1) the nature and results of all other studies (especially neurotoxicity studies) that the company had conducted on the subject chemical, and 2) the actions the company had taken to notify its workers about the reported toxicologic findings. Finally, Eli Lilly was asked to submit further information explaining its decision not to submit the neurotoxicologic findings under Section 8(e).

In response to EPA's March 3, 1987 letter, Eli Lilly provided (FYI-OTS-0487-0506 Followup Response) all of the information requested by EPA. In addition to a full copy of the final report from the 2-week oral study in dogs, Eli Lilly submitted the final reports from a number of in vitro and in vivo toxicologic studies of the subject chemical. Eli Lilly also provided an Experimental Compound Safety Data Sheet that summarizes the toxicity of this pyrazole carboxamide as follows:

> "ACUTE EXPOSURE: The median lethal dose of 181977 [(the subject pyrazole carboxamide)] was greater than 500 mg/kg of body weight when administered orally to mice and male rats, and between 50 and 500 mg/kg in female rats. Signs of toxicity were leg weakness, clear ocular discharge, poor grooming, chromorhinorrhea, salivation, ataxia, hypoactivity, lethargy, and coma.
>
> "DERMAL EXPOSURE: Single doses of 2000 mg of 181977 per kg of body weight, applied to the skin of rabbits for 24 hours, caused no systemic toxicity or dermal irritation.
>
> "OCULAR EXPOSURE: Single doses of 181977, when instilled into rabbit eyes, caused corneal dullness to slight corneal opacity, slight iritis, and slight to moderate conjunctivitis within one hour after exposure. Corneal and iridal irritation cleared within 24 hours, while conjunctival irritation cleared between two and seven days after exposure.
>
> "SUBCHRONIC EXPOSURE: In a six week dietary study, rats received average daily doses of 57, 149, 317, or 727 mg of 181977 per kg of body weight. Treatment-related effects included decreased body weight, weight gain and food consumption; decreased weights of heart, kidneys, adrenals and ovaries; and an increase in liver weight; and a dose-related increase in hepatic microsomal enzyme activity (except in females at 57 mg/kg). Histopathology revealed the presence of prominent hyaline droplets in the kidneys of males at the three highest doses. In a two-week study in dogs, all animals survived daily oral

doses of 0.5, 1.5, 5.0, or 10.0 mg/kg. [The] signs of toxicity were only observed at 10.0 mg/kg and included tonic/clonic seizures, tremors, soft stools and depressed appetite. CNS effects were reversible and disappeared within several hours of each treatment. There were no treatment-related effects detected on body weights, organ weights, electrocardiograms, histopathology, hematology, clinical chemistry or neurological examinations. The no-effect level was considered to be 5.0 mg/kg.

"REPRODUCTION: In a preliminary teratology study in rats given oral doses of 25, 100, 175, or 250 mg/kg 181977, there were no fetal abnormalities noted during gross examination.

"MUTAGENICITY STUDIES: Compound 181977 was negative in the [modified Ames Salmonella typhimurium (bacteria)] gradient plate assay and the DNA repair[/synthesis] assay in primary rat hepatocytes."

Eli Lilly also submitted the following summarized final results from a dose-ranging study of this pyrazole carboxamide in beagle dogs:

"Two groups of dogs, each consisting of one male and one female, were administered a single oral dose of 5 or 10 mg of . . . [pyrazole carboxamide] . . . per kg of body weight. The test material was placed in gelatin capsules for dose administration. Each dog was fed four hours after dosing and observed for signs of toxicity several times daily for six days.

". . . The female dog that received a dose of 5 mg of . . . [pyrazole carboxamide] per kg of body weight was normal throughout the study. The male dog that received this same dose had myoclonic jerking that began approximately 2.5 hours after dosing and lasted for 30 minutes. This dog was normal three hours after dose administration and remained normal for the rest of the study.

"Male and female dogs that received 10 mg of . . . [pyrazole carboxamide] per kg of body weight had three and two instances of convulsions, respectively, that occurred from one to three hours after dosing. Each convulsive episode lasted approximately one to two minutes and was followed by myoclonic jerking which persisted for three to four hours after dosing in each dog. Excessive salivation was seen in each dog following the seizures. In addition, emesis (three times) and hypoactivity (once) were observed in the male dog. Both animals were normal five hours after dose administration and on the remaining test days. No treatment-related changes in body weight were observed in any dog during the study."

Eli Lilly's Experimental Compound Safety Data Sheet also contains the following "CONCLUSION" regarding the mammalian toxicity of the subject pyrazole carboxamide:

> "Compound 181977 is an ocular irritant. No mutagenic or teratogenic effects have been associated with 181977. Repeated exposure in dogs caused reversible central nervous system effects (convulsions, ataxia, tremors, mild seizures) at 10.0 mg/kg body weight."

In addition, Eli Lilly provided summary information with regard to the conduct and results of acute aquatic and avian species toxicity studies. Excerpts from those summaries are presented below:

- Rainbow Trout (Salmo gairdneri) - ". . . the acute NOEC was at least 16 mg/L and the 96-hour LC50 with 95% confidence limits was 62.5 (52.5, 74.4) mg/L."

- Bluegill (Lepomis macrochirus) - ". . . the acute NOEC was at least 30mg/L and the 96-hour LC50 was greater than 100 mg/L."

- Water flea (Daphnia magna) - ". . . the acute NOEC was at least 30mg/L and the 48-hour EC50 was greater than 100 mg/L."

- Bobwhite (Colinus virginianus) - ". . . the single oral dose 14-day LD50 was estimated to be greater than 500 but less than 2000 mg/kg."

Eli Lilly also provided 1) a list of studies in progress that included a 2-week feeding study in mice and pharmacokinetics and metabolism studies in rats, and 2) a list of proposed studies that included chronic toxicity studies in mice and rats as well as a metabolism/pharmacokinetics study in beagle dogs.

In its followup response, Eli Lilly reiterated the company's rationale (i.e., the four criteria described previously in this status report) for not submitting the neurotoxicologic findings under Section 8(e). In addition, Eli Lilly asked that EPA provide guidance about the weight that exposure potential should be given in a company's Section 8(e) reporting decision-making process.

SUBMISSION EVALUATION

According to the submitted information, this pyrazole carboxamide has acute oral LD50s of approximately 500 mg/kg in rats and mice; acute doses near the LD50 caused possible temporary neurotoxic effects in rodents. When tested in rabbits, the compound itself caused slight, temporary eye irritation, no dermal irritation and not dermal toxicity; however, when a dry, flowable formulation containing the subject chemical was applied topically, slight to moderate irritation and possible systemic toxicity was observed.

The repeated administration of non-lethal doses of this pyrazole carboxamide to rats (0.4% or 1.0% in the diet; average of 317 or 727 mg/kg/day, respectively) for 6 weeks resulted in neurotoxic signs (generalized and limb weakness) and adverse renal and hepatic effects as well as possible adverse blood effects. The renal and hepatic effects were seen at 0.18% (average of 149 mg/kg/day) and induction of hepatic enzymes was still evident in the male rats receiving this pyrazole carboxamide at 0.07% in the diet (average of 57 mg/kg/day).

The neurotoxic effects were evident at much lower doses in Beagle dogs. An acute oral dose (via capsule) of 5 or 10 mg/kg was found to cause neurotoxic signs (myoclonic jerking at 5 and 10 mg/kg; convulsions at 10 mg/kg). Multiple doses up to 5 mg/kg/day in dogs did not cause any observable effects in dogs. At 10 mg/kg/day, however, apparent neurotoxic effects characterized by tonic/clonic convulsions, myoclonus, hypoactivity and ataxia were observed; no functional deficits were observed during neurological examinations and no morphological changes were found in the nerve tissues during the histopathological examinations.

The submitted information provides evidence that this pyrazole carboxamide is neurotoxic. It would be desirable for the proposed subchronic (90-day) studies in rats and mice to include specific observations for neurotoxic effects and reliable histopathological examinations of the nervous system tissues. The studies designed to determine the blood levels of pyrazole carboxamide in rats (in progress) and dogs (proposed) may shed some light on the difference in sensitivity between dogs and rodents.

With regard to the pilot teratology study, EPA believes that the lowest adverse effect level for maternal toxicity is the highest dose level tested (i.e., 250 mg/kg/day). This is in contrast to Eli Lilly's report claiming that the lowest adverse effect level was 175 mg/kg/day. Regarding developmental toxicity, no adverse effects of treatment were seen in the mean number of corpora lutea or implantations per litter, preimplantation loss, percentage of resorptions, dead fetuses, mean number of viable fetuses per litter or fetal weight. Therefore, an effect level for developmental toxicity was not achieved in this study.

Based on the summarized final results from genotoxicity studies, the Agency concludes that this pyrazole carboxamide does not induce unscheduled DNA synthesis in primary rat hepatocytes. Further, EPA believes that the prokaryote gene mutation data are inconclusive.

It is not possible for the Agency to fully evaluate the summaries of the ecotoxicity studies supplied by Eli Lilly; however, if the acute values provided in the summaries are valid, they would be considered of low concern unless either exposure were high or great chronicity occurred. The symptoms observed in the bobwhite study (i.e., loose feces at 50, 500 and 2000 mg/kg; lethary at 2000 mg/kg) persisted in some cases for 13 days post-dosing, provide one indication of chronicity; the deaths (8/12 birds) observed in the

2000 mg/kg dose group up to 7 days post-dosing provide another. It should be noted that an avian dietary study, rather than an acute oral LD50 study, would most likely provide a better measure of the avian hazard posed by this pyrazole carboxamide.

CURRENT PRODUCTION AND USE

According to Eli Lilly's "declassified" initial FYI notice, all of the subject chemical produced thus far "has been kept within the control of the research component of the company." In addition, Eli Lilly reported that all company personnel working with this chemical "are fully trained and familiar with safety precautions for handling toxic chemicals." Finally, Eli Lilly reported that because "the compound is patented and no licenses have been issued," Eli Lilly believes that "no other company is likely to be working with the compound." According to one of the studies contained in Eli Lilly's non-confidential followup response, this pyrazole carboxamide is intended for use as a broadleaf herbicide. Eli Lilly reported further in its followup response letter that "in May 1987, this compound will fall outside of Lilly's four criteria, if Lilly's current plans continue." Finally, Eli Lilly reported in its followup response letter that "in February 1987, a Lilly scientist presented a paper at a Weed Science Society of America meeting that identified the compound, named Lilly as the developer of the compound, and described the potential uses of the compound."

NOTE

According to staff of the Registration Division in the Office of Pesticide Programs (OPP/OPTS/EPA), Eli Lilly had not yet applied (as of mid-June 1989) for an EUP or registration for the subject chemical under FIFRA. This information was verified by the Chemical Screening Branch during a June 22, 1989 phone conversation with Eli Lilly. During that phone conversation, Eli Lilly reported non-confidentially that 1) the subject chemical will probably not be used as an herbicide in the United States, and 2) all ongoing field research on the chemical is now being conducted in Europe.

COMMENTS/RECOMMENDATIONS

In addition to conducting additional studies to better define the toxicity of this chemcical, Eli Lilly reported that 1) workers were informed of the company's "high to severe toxicity" hazard ranking for the chemical, 2) precautionary label statements and statements of practical treatments accompanied all formulations that were developed for field testing, and 3) requirements were issued for workers to wear the appropriate safety equipment and protective clothing.

Following a review of the information contained in FYI-OTS-0886-0506 Initial and FYI-OTS-0487-0506 Followup Response, EPA has determined that the neurotoxicologic findings presented therein should have been submitted to EPA formally under Section 8(e), the "substantial risk" information reporting provision of TSCA. The basis for the Agency's determination is as follows:

> Under TSCA, EPA can regulate certain activities that involve chemical substances and mixtures. A substance that is manufactured, processed or distributed in commerce solely as a pesticide is excluded by Section 3 of TSCA from TSCA regulation. In accordance with EPA's TSCA Chemical Substance Inventory reporting regulations (43 FR 64585, December 23, 1977, Appendix A, Comments 37, 38 and 39), however, a chemical substance which is in the process of research and development (R&D) as a pesticide is subject to TSCA until the manufacturer or importer demonstrates the intent to create a pesticide by submitting to EPA an application for an experimental use permit (EUP) or registration under FIFRA. It should be noted that EPA affirmed this interpretation in the recent amendments to the Agency's TSCA Section 5 "Premanufacture Notification Rule" (51 FR 15098; April 22, 1986). Prior to the EUP or registration stages, therefore, the Agency treats the substance as a "chemical substance" under the jurisdiction of TSCA, including Section 8(e) of TSCA.
>
> Section 8(e) of TSCA states "any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."
>
> The preface to Part V of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health or the environment is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence." With regard to the seriousness of the effect, Part V explains that EPA considers the types of health effects for which substantial risk information must be reported to include "any pattern of effects or evidence that the chemical substance or mixture can produce . . . toxic effects resulting in . . . serious or prolonged incapacitation." Information concerning these types of serious effects can be obtained directly or inferred from designed studies (e.g., studies in animals) as described in Part VI of the Section 8(e)

policy statement. Part VI explains also that a subject "person is not to delay reporting under Section 8(e) of TSCA until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."

With regard to the "fact or probability of its [(i.e., the serous effect's)] occurrence" criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., neurotoxicity) are considered so serious that relatively little or no weight should be attached to the chemical's exposure in determining whether a risk is substantial. Further, EPA's response to Comment 31 in Appendix B of the policy statement (as it pertains to a question on research and development (R&D) chemicals) states that the occurrence of serious effects such as those alluded to in Part V(a) (e.g., neurotoxicity) presuppose exposure to the chemical and must be reported immediately under Section 8(e).

Therefore, if a subject company obtains (i.e., possesses or knows of) substantial risk information with regard to a chemical substance during R&D of that chemical as a pesticide, reporting is required under TSCA Section 8(e) if such information is obtained by the company prior to the application for an EUP for or registration of that chemical as a pesticide under FIFRA (even though such information might be submitted to EPA at a later date).

Considering the preceding discussion and in view of the fact that neurotoxicity is clearly a serious toxic effect that can result in serious or prolonged incapacitation, EPA has determined that the neurotoxicologic information on this pyrazole carboxamide should have been submitted to the Agency pursuant to Section 8(e) of TSCA in accordance with the reporting procedures outlined in Part IX of the TSCA Section 8(e) policy statement. Further, EPA believes that the Section 8(e) policy statement is sufficiently clear with regard to the weight that should be given to exposure in determining TSCA Section 8(e)-applicability/reportability.

a) The Existing Chemical Assessment Division (ECAD/OTS) will notify Eli Lilly about the Agency's decision regarding the Section 8(e)-reportability of the neurotoxicologic findings for this pyrazole carboxamide. Eli Lilly will be informed also that the Chemical Screening Branch (CSB/ECAD/OTS) has delivered the company's initial and followup response submissions to the OTS Document Control Officer (DCO) for appropriate handling and filing under Section 8(e) of TSCA.

b) In regard to the above referenced submissions, Eli Lilly will be asked to submit full copies of the final reports (including the actual experimental protocols, results of gross and histopathologic examinations, results of any

statistical analyses, etc.) from the ongoing/planned studies cited in FYI-OTS-0487-0506 Followup Response (i.e., those studies mentioned in the next to the last paragraph of the **Submission Description** section of this status report).

c) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this pyrazole carboxamide.

d) The Chemical Screening Branch will transmit copies of this status report to OSHA, NIOSH, CPSC, FDA, NTP, OW/EPA, OSWER/EPA, OAR/EPA, ORD/EPA, OPP/OPTS/EPA and OCM/OPTS/EPA. In addition, copies of this report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS)) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 25 1989 **APPROVED:** 9/24/89

SUBJECT: Status Report[1] **8EHQ-0889-0816 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Rhone-Poulenc Inc. has claimed the exact identity of the subject chemical substance to be TSCA Confidential Business Information (TSCA CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of the Section 8(e) notice, Rhone-Poulenc reported non-confidentially that the subject chemical is a "halophenylcycloalkenyl substituted aryl ester."

SUBMISSION DESCRIPTION

Rhone-Poulenc submitted a summary data table and the following summary information regarding the conduct and preliminary results of a teratology study of this halophenylcycloalkenyl substituted aryl ester in rats:

> "Doses used in the rat teratology screen were 100, 150, 250 and 350 mg/kg/day. [(Neither the route of exposure nor the days of gestation on which dosing occurred was provided in the submission.)] There were ten animals per group. All [of the] dams died at 350 mg/kg, 7/10 died at 250 mg/kg, 1/10 died at 150 mg/kg and 1/10 died at 100

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

mg/kg. [Maternal] food consumption and body weight gain were decreased at all dose levels. The major malformation seen was gastroschisis. Maternal and fetal toxicity were observed at all dose levels. . . . ."

SUBMISSION EVALUATION

The reported results indicate that this halophenylcycloalkenyl substituted aryl ester caused maternal toxicity and developmental toxicity in the performed study. Maternal toxicity (evidenced by reduced weight gain and lethality) was observed at all dose levels administered. The developmental toxicity was also observed at all doses given. There was a significant increase in post-implantation loss and reduction in the number of dams with viable litters at doses of 150 mg/kg or more. In addition, mean fetal body weight was reduced in all treated groups, but the differences were not statistically significant. The incidence of malformations was also increased in all treated groups. The most common malformation was gastroschisis, observed in 1 fetus at 100 mg/kg, 22 fetuses from 6/6 litters at 150 mg/kg (statistically significant) and 4 fetuses from 1/1 litter at 250 mg/kg. The other observed malformations included tail anomalies (2 fetuses, 1 each from the 100 mg/kg and 150 mg/kg groups), filamentous tail (2 fetuses from 2/6 litters in the 150 mg/kg group), exencephaly (2 fetuses from 1/1 litter at 250 mg/kg), and adactaly (1 fetus from 1/1 litter in the 250 mg/kg dose group).

An evaluation of the overall significance of the submitted findings should be possible upon the Agency's receipt of a full copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of any statistical analyses, etc.) from this rat teratology study.

CURRENT PRODUCTION AND USE

In view of Rhone-Poulenc's CBI claim, no information with regard to the TSCA Chemical Substance Inventory status or use(s) of the subject chemical will appear in this report. The submitter stated non-confidentially that "a relatively small amount of this material has been synthesized for testing only and none has been distributed external to Rhone-Poulenc Inc."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Rhone-Poulenc to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the rat teratology study that was the subject of the company's TSCA Section 8(e) submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity or exposure information, Rhone-Poulenc will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical substance. In addition, Rhone-Poulenc will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Rhone-Poulenc is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this halophenylcycloalkenyl substituted aryl ester.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this report will be sent also to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 26 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0817 INIT**
8EHQ-0989-0817 SUPP

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In the initial TSCA Section 8(e) submission (8EHQ-0889-0817 INIT), PPG Industries, Inc. provided preliminary findings from a 13-week inhalation study of 1,3-dioxolane (CAS No. 646-06-0) in rats. PPG stated that this inhalation toxicity study was "a project of the Halogenated Solvents Industry Alliance (HSIA) with PPG Industries, Dow Chemical Company, and Vulcan Chemicals as the study sponsors." PPG submitted the following summary information with regard to the conduct and preliminary results of this study:

> "In the [inhalation] study, groups of male and female rats were exposed to dose levels of 0, 300, 1000 and 3000 ppm 1,3-dioxolane. Unaudited draft hematology data from the study at the end of thirteen weeks show an apparent dose related decrease in white cell counts which were statistically significant in comparison to controls at 3000 ppm for males and 1000 and 3000 ppm for females. Determination of the myeloid (M) to erythroid (E) ratio from bone marrow smears at the end of thirteen weeks

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

showed an apparent decrease in the M/E ratio only for the 3000 ppm males and females. There were no significant body weight effects observed in the study. Based on the available data, 300 ppm is clearly a no observed effect level (NOEL).

"Satellite groups of animals which had been exposed for 13 weeks at the same dose levels as animals in the main study were continued in a recovery phase following the end of the exposure period. Hematology data show the white cell counts for these animals to have returned to the normal range of values for the control animals by the end of an eight week recovery period. The animals in these satellite groups will undergo a complete necropsy and potential target organs (based on the 13 week main group) will be evaluated histologically."

PPG reported further that the 13-week inhalation study also had a group of rats exposed to 2000 ppm of a commercial PPG formulation of 1,1,1-trichloroethane (CAS No. 71-55-6) that contains <4% 1,3-dioxolane as a stabilizer. According to PPG, "no adverse effects were observed in the animals in this group."

Finally, PPG reported that "based on consideration of the 300 ppm NOEL observed in this [13-week inhalation] study, the permissible exposure levels for use of 1,1,1-trichloroethane, and the absence of adverse effects in this study following exposure to 2000 ppm of formulated 1,1,1-trichloroethane containing 1,3-dioxolane, . . . [PPG believes that] there is an adequate margin of safety in [the] present use conditions. Therefore, PPG does not believe that this new [hematological] finding represents a significant risk."

In the supplemental Section 8(e) submission (8EHQ-0989-0817 SUPP), the Dow Chemical Company provided a copy of the final report from a 2-week vapor inhalation of 1,3-dioxolane in Fischer 344 rats. The SUMMARY section of the submitted report presents the following information about the conduct and results of this 2-week study:

"Groups of male and female Fischer 344 rats were exposed to concentrations of 1,3-dioxolane targeted to be 0, 500, 2000, and 5000 ppm. Exposures were for six hours per day for nine days at mean analytical concentrations of 0, 516, 2319, and 5132 ppm.

"Parameters examined included body weight, organ weights, hematology, clinical chemistry, and gross and microscopic pathology. Exposure related and concentration-dependent effects were slight incoordination (5000 ppm males and females) during and following each exposure, decreased mean body weight during week two of exposure (5000 ppm males and females), and decreased mean white blood cell (WBC) counts (2000 and 5000 ppm males and females). The transitory incoordination did not cause microscopic changes in [the] tissues examined from the central and

peripheral nervous system. The decreased mean WBC counts were not associated with morphologic alterations in the bone marrow, spleen, thymus, or lymph nodes. In addition, there were no exposure-related microscopic changes in any other organ or tissue.

"Male and female rats were comparable to control rats following nine exposures to 500 ppm 1,3-dioxolane."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent full copies of the initial and supplemental Section 8(e) submissions to the Test Rules Development Branch (TRDB/ECAD/OTS) for inclusion in their review of available toxicologic and exposure information on 1,3-dioxolane and 1,1,1-trichloroethane. These chemicals were recommended by the Interagency Testing Committee (ITC) for testing under Section 4 of TSCA. It should be noted the Agency published TSCA Section 8(a) and Section 8(d) information gathering rules on 1,3-dioxolane and 1,1,1-trichloroethane. Full copies of the initial and supplemental submissions were immediately sent to staff of the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in their ongoing review of 1,1,1-trichloroethane.

CURRENT PRODUCTION AND USE

Information pertaining to the production and uses of, as well as the potential for exposure to, 1,3-dioxolane can be found in the following TSCA Section 4 testing-related Federal Register notices: 48 FR 51839 (November 14, 1983) and 49 FR 32133 (August 10, 1984).

COMMENTS/RECOMMENDATIONS

In the initial submission, PPG stated that PPG's 1,3-dioxolane supplier, workers and 1,1,1-trichloroethane formulation customers are being notified about the reported toxicological findings. PPG also stated that the company will ensure that handling procedures in PPG's plant are adequate.

The following discussion pertains to the relationship between TSCA Section 8(e) reporting and reporting that takes place pursuant to Section 4 and Section 8(d) of TSCA. The Section 8(e) reporting requirement applies to any substantial risk information[2] obtained

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[2] *As defined in the Agency's March 16, 1978 TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110), the term "substantial risk information" is any new information that offers reasonable support for a conclusion that a subject chemical or mixture presents a substantial risk of injury to health or the environment; new information is that information about which EPA is not already adequately informed.*

during a study 1) conducted under Section 4, or 2) "listed" under Section 8(d) as being underway, unless such information, when obtained, is otherwise required to be submitted to EPA under Section 4 or Section 8(d). To date, the Agency has received a number of Section 8(e) notices containing interim findings from studies that are being conducted under Section 4 or "listed" under Section 8(d). The Section 8(e) reporting that takes place in such instances occurs typically before reporting of the information is required under Section 4 or Section 8(d). If required reporting under Section 4 or Section 8(d) occurs before or coincidental with an obligation to report pursuant to Section 8(e), however, the information does not need to be submitted also under Section 8(e). The purpose of this exemption is not to change substantially the TSCA Section 8(e) reporting obligation, but is merely to avoid duplicative reporting except in those cases where timeliness of reporting is paramount.

a) The Chemical Screening Branch will ask PPG to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 13-week inhalation study cited in the submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Dow will be asked to describe the actions that Dow has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to 1,3-dioxolane.

b) The Chemical Screening Branch will immediately transmit complete copies of all incoming information to TRDB and RAB/ECAD/OTS.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and TRDB and RAB/ECAD/OTS; in addition, copies of this status report will be provided to staff of the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 26 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0818 S**
8EHQ-0989-0818 S SUPP

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim.

SUBMISSION DESCRIPTION

In its initial and supplemental TSCA Section 8(e) notices, the submitter reported that 1-bromo-2-fluoroethane (BFE; CAS No. 762-49-2) caused extreme acute toxicity (lethality) via the oral and inhalation routes of exposure in rats and via dermal and ocular exposure in rabbits. According to the initial submission, the oral (rat) and dermal (rabbit) LD50s were found to be ~5 mg/kg and <50 but >20 mg/kg, respectively. Further, all rabbits reportedly died within 3 hours in acute eye and dermal irritation studies. With regard to the acute inhalation toxicity of BFE, the company stated in its supplemental submission that all rats died after a 1 hour exposure to an atmosphere of approximately 1000 ppm BFE.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

The submitter stated that the reported acute toxicity studies had been conducted because the company received a TSCA Section 8(c) allegation concerning "tightness in the chest of a few workers." The submitter also stated that an "initial examination [of workers] did not confirm any obvious medical effects."

SUBMISSION EVALUATION

The submitted summary information indicates that BFE is extremely toxic by virtually all routes of exposure. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of complete copies of the final reports from all of the acute toxicity studies cited in the company's submissions.

CURRENT PRODUCTION AND USE

In the "sanitized" version of the initial Section 8(e) notice, the submitting company reported that BFE "is not listed on the non-confidential TSCA Inventory." In addition, the submitter stated that BFE "has been manufactured solely for export under 40 CFR 720.30(e) for use as a pharmaceutical intermediate."

As indicated by the submitter, 1-bromo-2-fluoroethane was not found on the non-confidential printed and computerized versions of EPA's TSCA Chemical Substance Inventory. No other information regarding the use(s) of BFE was located in the secondary literature sources consulted by EPA.

According to the submitting company, workplace monitoring studies have shown that individual worker exposure to BFE is 1.5 ppm or less and workplace area exposure is 8 ppm or less.

COMMENTS/RECOMMENDATIONS

With regard to further actions, the submitting company stated that additional medical examinations and more animal toxicity tests are planned. Also, the company stated that the BFE Material Safety Data Sheet (MSDS) and product label have been updated to reflect the reported toxicologic findings. In addition, the submitting company stated that foreign BFE customers had been notified about the reported findings. Finally, the submitter stated that "based on the results of the [reported acute rat/rabbit toxicity] range-finding studies, manufacturing of BFE has been suspended until an exposure limit of 0.05 ppm can be maintained."

Although the reported toxicologic findings are clearly of the type required to be submitted to EPA under Section 8(e) of TSCA, it is not totally clear at this time that the manufacture of a chemical solely for export as a drug intermediate is a commercial activity subject in and of itself to TSCA and therefore Section 8(e). This matter has been referred to the Office of the General Counsel.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from each study cited in the company's initial and supplemental Section 8(e) notices. The submitter will be requested also to keep the Agency apprised of any significant findings from the medical examinations reportedly planned by the company.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to 1-bromo-2-fluoroethane.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of 1-bromo-2-fluoroethane.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and OGC/EPA; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 29 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0889-0819 S**
8EHQ-0989-0819 SUPP

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (TSCA CBI). Staff of the Information Management Division (IMD/OTS) will review all of the incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its initial Section 8(e) submission, Eli Lilly reported non-confidentially that the subject chemical is a "substituted quinazoline."

SUBMISSION DESCRIPTION

In its initial TSCA Section 8(e) submission, Eli Lilly stated that preliminary testing of this substituted quinazoline in an acute oral toxicity study in mice resulted in a "median lethal dose less than 50 mg/kg." Eli Lilly provided the following summary regarding the conduct and results of this in vivo study:

> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> received either 50, 500, or 2000 mg/kg of the compound. There was one survivor following a single oral dose of 50 mg/kg of this compound. All [of the] other animals at each dose level died by Test Day 2. Antemortem signs of toxicity included ataxia, coma, hypoactivity, lethargy, ptosis, and tremors. The surviving animal [from the 50 mg/kg group] was normal by Test Day 3."

In its supplemental Section 8(e) submission, Eli Lilly provided summary information regarding the conduct and results of a recently completed bacterial mutagenicity assay using Salmonella typhimurium and Escherichia coli. According to Eli Lilly, this substituted quinazoline did not exhibit any mutagenic activity in the presence or absence of exogenous metabolic activation.

SUBMISSION EVALUATION

The submitted summary information indicates that this substituted quinazoline is extremely toxic via oral administration but is not mutagenic in bacteria. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of complete copies of the final reports from the acute mouse oral toxicity and bacterial mutagenicity studies that were cited in the company's initial and supplemental TSCA Section 8(e) submissions.

It should be noted that EPA recently received two TSCA Section 8(e) notices from Eli Lilly and Company in which the company reported two other "substituted quinazolines" to be extremely toxic (LD50s of less than 50 mg/kg) in acute oral toxicity studies in mice. The reader's attention is directed to the "Status Reports" prepared by the Agency in response to these previous Section 8(e) submissions (8EHQ-0689-0806 S and 8EHQ-0789-0808 S).

CURRENT PRODUCTION AND USE

In view of Eli Lilly's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report. In its initial TSCA Section 8(e) submission, Eli Lilly stated non-confidentially that the company "has manufactured only 1.9 grams" of this substituted quinazoline.

COMMENTS/RECOMMENDATIONS

In its initial submission, Eli Lilly stated that company employees have been notified about the acute toxicity findings for this substituted quinazoline. In addition, Eli Lilly reported that the subject chemical substance is labelled as "hazardous." Finally, Eli Lilly stated that "no other toxicology data have been generated on this compound."

a) The Chemical Screening Branch will request Eli Lilly to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross/histopathological examinations, results of any statistical analyses, etc.) from the acute mouse oral toxicity and bacterial mutagenicity studies cited in the company's submissions.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this substituted quinazoline.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV - 3 1989 **APPROVED:** 11/17/89

SUBJECT: Status Report[1] **8EHQ-0889-0820 INIT**
8EHQ-0889-0820 SUPP
FYI-OTS-0785-0423 INIT

FROM: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD

TO: Charles M. Auer, Acting Director
Existing Chemical Assessment Division/OTS

SUBMISSION DESCRIPTION

On behalf of the "Ad-Hoc Committee of Phosphorus Manufacturers," the Monsanto Company submitted preliminary findings from a one-generation rat reproduction study of elemental phosphorus (CAS No. 7723-14-0). (The Committee's member companies, who manufacture, import or distribute elemental phosphorus in the U.S., are listed on the last page (Page 9) of this status report.) In its TSCA Section 8(e) submission (8EHQ-0889-0820 INIT), Monsanto provided the following summary information about the conduct and preliminary results of this one-generation reproduction study:

> "In this study, elemental phosphorus was administered by gavage in either corn oil or tricaprylin at a dose level of 0.075 mg/kg/day to rats 100 days prior to mating, through mating, and either through day 15 of gestation or throughout gestation. The preliminary results show the occurrence of deaths in treated dams during the last two days of gestation and during parturition. A similar effect was seen in rats dosed throughout gestation and those withdrawn from treatment after gestation day 15."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA), as well as on a "For Your Information" (FYI) basis. The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical. Any review of this status report should take into account that the report may be based on incomplete information.*

In a supplemental Section 8(e) notice (8EHQ-0889-0820 SUPP), the FMC Corporation stated that FMC concurred in Monsanto's submission of the subject information to EPA under Section 8(e) of TSCA.

It should be noted that the Agency previously received a "For Your Information" (FYI) notice (FYI-OTS-0785-0423) in which the Monsanto Company submitted the following summary information with regard to the conduct and results of a one-generation reproduction study of elemental phosphorus in rats:

"Methods

"Elemental yellow phosphorus (Elemental P) in corn oil was administered by gavage to three groups of 15 male and 30 female 8 week-old Sprague-Dawley derived . . . rats at dosage levels of 0.005, 0.015, [or] 0.075 mg/Kg/day. All [of the] animals received a constant volume of corn oil, 5.0 ml/Kg/day. Treatment began 80 days prior to mating and continued throughout mating, gestation and lactation periods. A control group of 15 males and 30 female rats received the vehicle, corn oil, and a comparable regimen. While this study was originally designed to be a one-litter, one-generation reproduction study, because of low fertility in all groups in the first litter, the study was extended to a two-litter, one-generation study. [The] dosing was continued between the two mating periods. All adult and weaning animals were observed for mortality and clinical signs of toxicity twice daily. Detailed physical examinations were performed weekly. Male body weights were recorded weekly. Female body weights were recorded weekly and on days 0, 6, 13 and 20 of gestation, [and] on days 0, 4, 14, and 21 of lactation. Adult food consumption was measured weekly except during mating for males and females. Females were smeared for ten days prior to mating to establish estrous cycle. Smearing was continued until evidence of copulation [was] observed. Pups were examined twice daily and counted on days 0, 4, 14 and 21 of lactation. [The] individual pup weights were recorded on days 0, 4, 14 and 21 of lactation.

"All [of the] pups were sacrificed at weaning while the parental animals were sacrificed after weaning of [the] F_1b litter. Complete post-mortem examinations were performed on 10 F_0 parental males per group, all F_0 parental females, all F_0 females which did not deliver litters, 10 F_1b pups per sex per group, 5 F_1a pups per sex per group and all animals that died on study or were killed in a moribund condition. All other animals were examined externally, sacrificed by carbon dioxide asphyxiation and discarded. . . . .

"Results

"The incidence of mortality among control, low, mid and high level male rats was 1, 2, 0 and 0, respectively. These deaths were not considered to be related to [the] administration of test compound. Mortality among female rats was 4, 1, 1 and 16 for the control, low, mid- and high dosage groups, respectively. While the exact cause of deaths in the high dosage group is not known (except for one female which died of rupture of uterine walls), these deaths are considered to be related to difficulty at parturition because seven females died on gestation day 21 or 22 after F_1a mating and six females died on the last two days of gestation after F_1b matings. There was no evidence of difficulty in giving birth in the 0.015 and 0.005 mg/Kg dosage groups. There were no apparent clinical signs of toxicity among animals treated with Elemental P except for hair loss on both forelimbs in the 0.075 mg/Kg/day dosage group.

"Mean body weights for F_0 males in the low and mid-dosage group, while not statistically different, were slightly lower than controls throughout the study. In the high dosage group, mean body weights of male rats were comparable to controls for the first part of the study (15 weeks) but appeared to be lower than controls for the latter part of the study. However, there was no dose-related decrease and thus the significance of these changes is unknown. Mean body weights in females treated with Elemental P were considered to be comparable to controls. F_0 mean body weights of treated females were comparable to controls during gestation and lactation for both litters. [The] food consumption data for treated rats were also comparable to controls throughout the study.

"While there was no significant difference in male and female fertility indices in the control and treated groups, the fertility index for male and female [rats] in all groups for the F_1a mating was low. The lowest values [observed] occurred in the control group; the male and female fertility index in the control group 73.3 and 60.0, respectively. These values were just outside the historical range at . . . [the testing laboratory]. Thus a decision was made to mate the parental animals for one more litter. Male and female fertility indices of treated animals for the F_1b matings were comparable to controls. Estrous cycle determined prior to F_1a and F_1b matings showed occasional irregularities (prolonged estrous and post-estrous) at equal frequencies in control and treated groups. The mean length of gestation in the treated groups was comparable to controls.

"Mean number of viable pups in the F_1a litter at 0.075 mg/Kg/day were slightly lower than controls, but this change was not statistically significant. There was a concomitant slight increase in the mean number of dead pups in the F_1a litter. [A] similar trend was also observed in the F_1b litter. Mean numbers of viable and dead pups in the low and mid-dosage level animals for both the F_1a and F_1b litters were comparable to controls. Pup survival through weaning for both F_1a and F_1b litters for all treated groups was comparable to controls.

"Mean pup weights at birth and throughout lactation were comparable to controls. The appearance and behavior of pups at birth and throughout lactation was not adversely affected by treatment with Elemental P.

"There were no compound-related gross changes at necropsy of the F_0, F_1a or F_1b generations. There were no compound-related microscopic changes [observed] in the F_0 and F_1b generations.

"Conclusions

"[The] administration of Elemental P at a dosage level of 0.075 mg/Kg/day adversely affected parturition for both litters. Mean number of live pups was also slightly reduced in the 0.075 mg/Kg/day dosage group. The no-observable-adverse-effect-level [(i.e., NOAEL)] in this study was considered to be 0.015 mg/Kg/day."

In submitting the preceding information to EPA on an FYI basis, Monsanto noted that "while certain toxic effects of exposure to phosphorus are well known," the adverse parturition-related effect described in the submitted report may not be well known. Monsanto also acknowledged the fact that "difficulty at parturition is an infrequently observed event in rat reproduction studies." Further, Monsanto stated specifically that the "administration of 0.075 mg/Kg/day of elemental phosphorus in corn oil to rats for 80 days prior to mating, during mating and gestation was considered to have resulted in difficulty in delivery, so much so that 13 females in this group died on gestation days 21 or 22 (seven females during generation of a first litter and six females during generation of a second litter)." Monsanto also presented the following hypothesis with regard to the influence that the corn oil vehicle may have exerted on phosphorus bioavailability during the study:

"The corn oil vehicle used to prevent reaction of the phosphorus with gastric juices and intestinal fluids probably influenced the tissue bioavailability of [the] phosphorus. It may not only have protected phosphorus from degradation to phosphate ion, but may have permitted relatively small amounts of phosphorus to have direct access to cells."

In conclusion, Monsanto offered the following information regarding the significance of the findings reported to EPA on an FYI basis, rather than under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA):

> "This information does not indicate that [elemental] yellow phosphorus presents a substantial risk of injury to health of the environment because it is extremely unlikely that anyone would ingest phosphorus at levels sufficiently high to result in adverse effects."

SUBMISSION EVALUATION

TSCA Section 8(e) Submission

Based on a preliminary evaluation of Monsanto's TSCA Section 8(e) submission, which consists of a brief written summary and some data tables, the performed one-generation reproduction study provides evidence of the maternal and developmental toxicity of elemental phosphorus. In this study, elemental phosphorus was tested at a single dosage level of 0.075 mg/kg/day in corn oil or tricaprylin as follows:

Group	Vehicle	Phosphorus	Duration of Treatment
1	corn oil	0	throughout gestation
2	corn oil	0.075 mg/kg	throughout gestation
3	corn oil	0.075 mg/kg	until day 15 of gestation
4	tricaprylin	0	throughout gestation
5	tricaprylin	0.075 mg/kg	throughout gestation

Although the submitted summary provides no evidence that there was a treatment-related effect on male fertility, female fertility was found to be slightly reduced in all phosphorus-treated groups (the pregnancy rate was ~8-10% less than controls). The most significant finding was increased mortality of dams during the last few days of pregnancy and during parturition. The increased mortality was observed in those groups receiving phosphorus in either corn oil or tricaprylin throughout gestation, as well as in the single group in which treatment with phosphorus in corn oil was stopped on day 15 of gestation. In group 2, 6 dams died on gestation day 21, 1 on day 22, and 1 on day 23. In group 3, 5 dams died on day 21 and 3 on day 22. In group 5, 4 dams died on day 21 and 2 on day 22. No parturition-related deaths occurred in either the corn oil or

tricaprylin control groups. In this study, there was also some evidence of developmental toxicity in that the mean litter sizes of the phosphorus-treated groups were found to be slightly reduced compared to their respective control groups. The mean litter sizes for test groups 2 and 3 were 9.7 and 11.7, respectively, while the litter size in the corn oil control group (group 1) was 12.8; the mean litter size of group 5 was 11.8, while litter size in the tricaprylin control group (group 4) was 12.9. At the time that Monsanto submitted the preliminary report to the Agency, this one-generation reproduction study was still in the lactation period of the F_1 pups and further information about the pup body weights and pup survival was not yet available.

FYI Submission

In the FYI submission, Monsanto provided summary results of a one-generation rat reproduction study of elemental phosphorus. This FYI submission consisted only of a cover letter and a short summary report of the study; none of the actual data were provided. In this previous study, elemental phosphorus was administered to rats by gavage at doses of 0, 0.005, 0.015, or 0.075 mg/kg/day in corn oil. According to the summary, there were no effects on male or female fertility, or on body weight, and there were apparently no clinical signs of toxicity. However, in the high-dose group (0.075 mg/kg/day), there was an increase in mortality of dams prior to or during parturition. This is the same result as that obtained in the study cited in Monsanto's current Section 8(e) submission. The FYI submission summary also states that the litter size was slightly reduced in the high-dose group (again, a similar result to that reported in the current Section 8(e) submission), but that pup weight, survival, appearance and behavior of treated pups were found to be comparable to controls.

Overall Evaluation

The individual Section 8(e) and FYI submissions provide evidence that very low exposures to elemental phosphorus (0.075 mg/kg/day) can have a deleterious effect on dam survival just prior to and during parturition. The biological explanation for this serious adverse effect is not at all clear. Parturition is a very complex sequence of events, requiring accurate biological timing. From the summary information presented in Monsanto's Section 8(e) and FYI submissions, the observed parturition failure could be interpreted as being maternal or fetal in origin, and/or could represent maternal hormonal imbalance or other factors or fetal deficit, including death.

In order for EPA to attempt to evaluate the overall significance of the reported toxicologic findings, Monsanto should be asked to submit complete copies of the final reports from the reproduction studies cited in the company's Section 8(e) and FYI submissions. In addition, it would be of interest to know why this particular type of toxicologic study was conducted with elemental phosphorus.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for phosphorus (CAS No. 7723-14-0), which is listed in the initial TSCA Inventory, showed that about 380 million to 1.76 billion pounds were reported as produced/imported in 1977. This production range information does not include any data claimed to be TSCA Confidential Business Information (CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any data that would compromise TSCA CBI. All data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

Monsanto did not provide any information on the use(s) of elemental phosphorus; secondary literature references revealed that elemental phosphorus is used in rodenticides, smoke screens and analytical chemistry (gas analysis).

COMMENTS/RECOMMENDATIONS

All members of the "Ad-Hoc Committee of Phosphorus Manufacturers" reportedly received a copy of Monsanto's Section 8(e) submission.

Following a preliminary review of FYI-OTS-0785-0423, it is EPA's initial position that the parturition-related maternal toxicity findings presented therein should have been submitted to the Agency under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The basis for EPA's position in this matter is as follows:

> Section 8(e) states that "any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."
>
> The preface to Part V of EPA's TSCA Section 8(e) policy statement explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence." With regard to the seriousness of the effect, Part V states that EPA considers the types of health effects for which substantial risk information must be reported to include "any pattern of effects or evidence that the [tested] chemical substance or mixture can produce . . . birth defects or toxic effects resulting in death, or serious or prolonged incapacitation [Part V(a)(2)]." The information regarding

these effects can be obtained directly or inferred from designed tests (e.g., studies in animals) as described in Part VI of the TSCA Section 8(e) policy statement. Part VI explains also that a "person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."

With regard to the "fact or probability of its [(i.e., the serious effect's)] occurrence" criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., those described in Part V(a)(2) of the policy statement) are considered by EPA to be so serious that relatively little or no weight should be attached to the subject chemical's exposure in determining whether a risk is substantial. Further, EPA's response to Comment 31 in Appendix B of the Section 8(e) policy statement, as it pertains to a question on R&D chemicals, states that the occurrence of serious effects such as those described in Part V(a)(1) or (2) of the policy statement presuppose exposure to the tested chemical and must be reported immediately to EPA under Section 8(e).

Considering the preceding discussion, EPA believes that the serious parturition-related toxicity data contained in FYI-OTS-0785-0423 offer reasonable support for a conclusion of substantial risk and as such should have been submitted under Section 8(e) of TSCA.

a) The Existing Chemical Assessment Division will provide the Monsanto Company ample opportunity (20 working days) to rebut EPA's initial position on the TSCA Section 8(e)-applicability/reportability of the information contained in the company's FYI submission.

The Chemical Screening Branch will also ask Monsanto to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the one-generation rat reproduction studies cited in the company's TSCA Section 8(e) and FYI submissions. In addition, Monsanto will be asked to provide the specific rationale for the conduct of such studies on elemental phosphorus.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and/or exposure data, Monsanto will be requested to describe the actions that Monsanto and other members of the "Ad-Hoc Committee of Phosphorus Manufacturers" have taken or plan to take 1) to notify workers/others about the reported toxicological findings, and 2) to reduce or eliminate exposure to elemental phosphorus. Monsanto will be asked also to describe the nature and

results, if available, of all studies (other than those submitted already to EPA or those published in the open scientific literature) about which Monsanto and other "Ad-Hoc Committee" companies are aware or that Monsanto or those companies have conducted, are conducting, or plan to conduct that are designed to determine the toxicity of or the exposure to elemental phosphorus.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of elemental phosphorus.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Members of the "Ad-Hoc Committee of Phosphorus Manufacturers

FMC Corporation
Monsanto Company
Hoechst AG Knapsack
Stauffer Chemical Company
Occidental Chemical Corporation
Albright & Wilson, Americas, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 17 1989 **APPROVED:** 10/17/89

SUBJECT: Status Report[1] **8EHQ-0989-0821 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company claimed its company name and the identity of one of the subject chemicals to be TSCA Confidential Business Information (CBI). According to non-confidential information that was provided in the submitting company's "sanitized" cover letter and attached Material Safety Data Sheet (MSDS), ethyl cyanoacrylate (CAS No. 7085-85-0) is the major component (95%) of the subject cyanoacrylate adhesive product. The submitting company will be asked to provide a non-CBI generic name for the minor component. Staff of the Information Management Division will be reviewing all incoming correspondence related to the company's TSCA CBI claims.

SUBMISSION DESCRIPTION

In the "sanitized" (i.e., non-confidential) version of its TSCA Section 8(e) notice, the submitter stated that 1) "a customer which uses [a] cyanoacrylate adhesive among other chemicals reported that three pregnant women [had] experienced premature childbirths," and 2) "two [of the] premature babies died and one continues on life support." The submitting company provided the following summary information regarding this situation:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "The three women, according to their employer, were packing large plastic auto parts following the gluing process. The gluing operation and packing activities are apparently immediately adjacent to one another. . . . [The submitting company understands] that there is no local exhaust for the gluing operation but that large pedestal fans are provided. Again, according to the employer, the women were exposed for only about six weeks' duration when the premature deliveries occurred."

The submitting company noted that despite the fact that "there is no evidence to substantiate a causal relationship," the company's decision to report this information to EPA under Section 8(e) was based primarily on 1) the multiple occurrences of premature births, 2) the similarity between the affected womens' exposure/working relationships, and 3) the seriousness of the observed human health effects.

The submitting company reported that neither component of this cyanoacrylate adhesive product "has any history of causing ill effects." The submitting company reported further that "a search of the literature and commercial data bases reveals little or no information relative to health studies conducted on these specific component chemicals." The submitter noted, however, that when the search was broadened to cyanoacrylates as a class, literature was located on the mutagenic effects of 2-cyanoacrylate monomer when tested in bacterial strains TA98, TA100, TA1535 and TA1538 in an Ames assay. In addition, the submitter reported that while the broadened literature search also confirmed the "known toxic and respiratory effects" of over-exposure to cyanoacrylate vapors, "information concerning the mutagenicity or teratogenicity effects is lacking."

SUBMISSION EVALUATION

In view of the serious nature of the observed adverse effects, the submitting company should continue to investigate this matter and should seek answers to a number of very important questions. For example:

1. To what other chemicals were the affected women exposed occupationally as well as non-occupationally?

2. How was the estimate of 6 weeks of exposure derived?

3. Were the affected women employed at the facility for the same length of time and/or during the same time interval(s)?

4. Did all three of the women deliver at approximately the same time?

5. How far along in pregnancy were the women when their premature deliveries occurred?

6. What are the ages, previous employment and pregnancy outcome histories of the affected women?

7. What was the health status of the women before the premature deliveries occurred? What is the status presently?

8. Where and in what capacity are/were their husbands employed?

9. Was any workplace air monitoring conducted before, during and/or after the incident(s)?

10. Has OSHA and/or NIOSH been informed about or conducted any followup investigations with regard to the incident(s)?

CURRENT PRODUCTION AND USE

The submitter reported non-confidentially that both components of the subject cyanoacrylate adhesive product are listed on EPA's TSCA Chemical Substance Inventory.

In view of the submitting company's TSCA CBI claim, no use or TSCA Inventory production/importation information related to the minor component of the product will appear in this status report.

EPA's review of the production range (includes importation volumes) statistics for the major component (CAS No. 7085-85-0), which is listed in the Agency's initial TSCA Inventory, showed that 112,000 to 1,122,000 pounds of this chemical were reported as manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

COMMENTS/RECOMMENDATIONS

The submitter reported that the company "will continue to research this issue and will explore the merits of conducting teratogenicity studies."

a) The Chemical Screening Branch will ask the submitting company to ensure that EPA is apprised about any further significant findings regarding the reported human health-related incident (e.g., answers to important questions such as those listed in the **SUBMISSION EVALUATION** section of this status report). The submitting company will be asked also to provide a non-confidential generic name for the minor component of the subject cyanoacrylate adhesive product.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take on an interim basis to 1) notify workers and others about the reported information, and 2) reduce or eliminate exposure to this cyanoacrylate adhesive and/or its component chemicals. The submitter will be informed that EPA should be kept apprised of any results of studies that the company conducts or may learn about that are designed to determine the potential developmental toxicity of this cyanoacrylate adhesive product and/or its component chemicals.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject cyanoacrylate adhesive product and/or its component chemicals.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 27 1989 **APPROVED:** 9/29/89

SUBJECT: Status Report[1] **8EHQ-0989-0822**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The CIBA-GEIGY Corporation submitted summary information regarding a chronic study of FAT 65029/G (the disodium salt of 2,2'-([1,1'-biphenyl]-4,4'-diyldi-2,1-ethenediyl)bis-benzenesulfonic acid; CAS No. 27344-41-8) in rats. A "Preliminary Report" included in the submission presents the following information about the conduct and results of this study (performed by the parent company (CIBA-GEIGY Limited in Basel, Switzerland):

> "The test material, FAT 65029/G, was administered to Sprague-Dawley derived rats of both sexes in their daily food for two years at concentrations of 500 (group 2), 5,000 (group 3) and 50,000 (group 4) ppm (mg/kg diet). Each group/sex consisted of 80 animals; a control group (group 1) of the same size received unmedicated diet.
>
> "The preliminary results of the [two year] study revealed proliferative lesions in the exocrine pancreas of both sexes at the following incidences.

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

sex	males				females			
dose group	group 1	group 2	group 3	group 4	group 1	group 2	group 3	group 4
nodular hyperplasia	6/78	12/78	6/79	51/78	1/78	1/79	1/80	10/79
adenoma	0/78	0/78	2/79	18/78	1/78	0/79	0/80	2/79
carcinoma	0/78	0/78	0/79	2/78	1/78	0/79	0/80	0/79
adenoma and carcinoma combined	0/78	0/78	2/79	20/78	2/78	0/79	0/80	2/79
proliferative lesions	6/78	12/78	6/79	54/78	3/78	1/79	1/80	12/79

"It was concluded that an oncogenic response occurred in the male rats at the high dose of 50,000 ppm. No such finding was observed at the lower dose levels in the males, nor at any dose in the females.

"The treatment with FAT 65029/G did not significantly affect general health and longevity of the animals."

With regard to the reported results, CIBA-GEIGY stated that "the significance of this organ specific finding, particularly in view of the magnitude of the dose level (50,000 ppm), is questionable."

SUBMISSION EVALUATION

An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a full copy of the final report of this chronic study. (CIBA-GEIGY stated the final report should be available in late 1989 or early 1990.)

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for CAS No. 27344-41-8, which is listed in the initial TSCA Chemical Substance Inventory, showed that no 1977 manufacture/importation was reported or that all manufacture and/or importation information reported was claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) reporting for the initial TSCA Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

CIBA-GEIGY did not submit any information with regard to the use(s) of FAT 65029/G nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY reported that "notification of workers and customers will be provided through revised Material Safety Data Sheets in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)."

a) The Chemical Screening Branch will ask CIBA-GEIGY to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 2-year bioassay cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure information, CIBA-GEIGY will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: OCT 17 1989 **APPROVED:** 10/18/89

SUBJECT: Status Report[1] **8EHQ-0989-0823**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Mobay Corporation provided a complete copy of the final report (written in German) from an oral teratologic study of O-(2,4-dichlorophenyl)-O-ethyl-S-n-propylphosphorodithioate (Tokuthion; Prothiophos; CAS No. 34643-46-4) in rats. Mobay's Section 8(e) cover letter presents the following summary information about the conduct and preliminary results of the study:

> "The test material was administered [by gavage] to Wistar rats at dosage levels of 0, 10, 30 and 100 mg/kg ([on] days 6-15 of gestation). The overall no-effect dose was 10 mg/kg. Frank maternal toxicity was registered in the 30 and 100 mg/kg/day dosage groups, as evidenced by decreased body weight gain (30 and 100 mg/kg/day) and clinical signs of toxicity (100 mg/kg/day). While no evidence of teratogenicity was observed, fetotoxicity was evident at the high-dose level in the form of reduced pup and placental weights and an increase in the incidence of delayed/incomplete skeletal ossification. To the best of . . . [Mobay's] knowledge, this is a new finding."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

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Mobay reported that when completed, an English translation of the final report of this study (which was performed by Mobay's parent company, Bayer AG in West Germany) will be sent to EPA.

SUBMISSION EVALUATION

According to the provided summary, maternal toxicity was observed at doses of 30 and 100 mg/kg. Dams in both dose groups exhibited reduced body weight gain; dams in the 100 mg/kg group also showed unspecified clinical signs of toxicity. Developmental toxicity was reportedly observed only among the fetuses from the 100 mg/kg dose group and consisted of reduced fetal body weight and an increased incidence of delayed/incomplete skeletal ossification. The overall significance of the reported toxicologic results should be possible upon EPA's receipt of a complete copy of the English translation of the full final report from this teratologic study of Tokuthion in rats.

CURRENT PRODUCTION AND USE

The subject chemical is not listed in the non-confidential printed or computerized versions of the TSCA Chemical Substance Inventory. According to Mobay, "Tokuthion is manufactured in the United States by Mobay for export to Japan." In addition, Mobay stated that "the potential for exposure under production conditions is low." Mobay reported non-confidentially by phone on October 12, 1989 that 1) Tokuthion is manufactured in the United States solely for export for use as a pesticide, and 2) Tokuthion is not registered for use as a pesticide in the United States.

Immediately upon receipt of this TSCA Section 8(e) submission, the Chemical Screening Branch transmitted a complete copy of the cover letter to the Office of Pesticide Programs (OPP) in EPA's Office of Pesticides and Toxic Substances (OPTS).

COMMENTS/RECOMMENDATIONS

Mobay stated that the company is 1) advising its employees about the reported toxicological findings, and 2) reviewing existing "standards for handling Tokuthion in the workplace."

Considering that 1) Mobay is manufacturing Tokuthion in the U.S. solely for export for use as a pesticide, 2) Tokuthion is not registered for use in the U.S., 3) the export of an unregistered pesticide is covered by Section 17 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), and 4) the "Definitions" section (Section 3) of TSCA contains exclusionary language related to pesticides, it is not clear that Mobay was technically required to submit the teratology study findings on Tokuthion to EPA under Section 8(e) of TSCA. While this matter has been referred to the staff of the Office of the General Counsel (OGC) for resolution, it is important to note that EPA recognizes and appreciates the fact that Mobay acted in a prudent manner in formally submitting the company's teratology study findings on Tokuthion.

a) The Chemical Screening Branch will ask Mobay to ensure that EPA receives a full copy of English translation of the final report (including the actual experimental protocol, results of the gross/histopathologic examinations, results of statistical analyses, etc.) from the subject teratology study of Tokuthion.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Mobay will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Mobay is aware or that Mobay has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to Tokuthion.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OGC/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 19 1989 **APPROVED:** 10/24/89

SUBJECT: Status Report[1] **8EHQ-0989-0824 S**
8EHQ-0989-0824 S SUPP

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identities of the subject chemicals as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its initial TSCA Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aryl substituted azole carboxamide." In a supplemental submission, the company reported information about a chemical substance identified non-confidentially as an "azide impurity" of the aryl substituted azole carboxamide.

SUBMISSION DESCRIPTION

In its initial submission, the submitting company provided the following summary information about the conduct and preliminary results of a subchronic feeding and pilot reproduction study of this aryl substituted azole carboxamide in rats:

> "This study consisted of a standard 90-day rat feeding study (10 rats/sex/group) with an additional satellite group of 10 females/group that were mated to the males after 9 weeks of exposure and allowed to deliver their

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

young. The mated females and their pups were sacrificed on gestation [lactation ?] day 4 in order to obtain a preliminary indication as to [the] potential reproductive effects. Dietary concentrations of aryl substituted azole carboxamide were 0, 10, 100, 1000, 5000 and 20,000 ppm.

"No mortality occurred during the study. [The] parental toxicity was observed at 5000 and 20,000 ppm and included significantly decreased body weight gain, slight anemia, increases in several clinical chemistry parameters (alkaline phosphates, BUN, SGPT and albumin) and increases in liver and possibly thyroid weights. No effect was noted on mating or fertility indices. There was a large decrease in pup survival (Days 0-4) and pup weight (Days 0 and 4) at 20,000 ppm but no effect on either of these parameters was noted at 5000 ppm. Mean litter size was slightly lower than controls at both 5000 and 20,000 ppm but the significance of these decreases was questionable."

In its supplemental submission, the company reported that an "azide impurity" in this aryl substituted azole carboxamide was found to be positive in 1) an in vitro cytogenetics assay, and 2) bacterial mutagenicity assays in Salmonella typhimurium and Escherichia coli. According to the submitter, the "identification and testing of the impurity were conducted by a foreign partner of [the submitting company] which also produces the parent chemical." The submitting company stated further that the parent compound, "which contained approximately 6 ppm of the azide impurity, was not found to be genotoxic in either bacterial point mutation assays or in a mouse micronucleus assay." The submitter provided copies of the final reports of the genotoxicity studies of the azide impurity itself and the parent chemical with the azide impurity.

SUBMISSION EVALUATION

According to the summary information contained in the company's initial submission, parental toxicity (evidenced by decreased body weight gain, anemia, increased liver and thyroid weights, and increases in several clinical chemistry parameters) was evident after exposure to 5000 or 20,000 ppm of the parent chemical. Developmental toxicity was also evident at these two dose levels; exposure to 20,000 ppm resulted in decreased pup weight and pup survival, while exposure to 5000 ppm and 20,000 ppm resulted in reduced litter size. A more complete evaluation of the overall significance of the findings should be possible upon the Agency's receipt of a full copy of the final report from this subchronic feeding and pilot reproduction study in rats.

Staff of the Toxic Effects Branch (TEB/HERD/OTS) has been asked to evaluate the genotoxicity data from the company's supplemental submission.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use(s) of this aryl substituted azole carboxamide will appear in this status report. The submitting company stated non-confidentially that this chemical substance is being imported and used exclusively for research and development (R&D).

COMMENTS/RECOMMENDATIONS

In its supplemental submission, the company reported that in order "to ensure that the potential adverse findings of the impurity do not impact the parent compound, procedures will be put in place to keep the azide levels in all future lots of the parent chemical below 2 ppm."

In the supplemental submission, the submitting company stated its belief that the azide impurity was not subject to TSCA because the impurity "is not being manufactured or processed for commercial purposes." The submitter's contention is not correct. Chemical substances not under TSCA jurisdiction and therefore not covered by Section 8(e) are discussed in Section 3 of TSCA and include:

(1) pesticides (as defined in the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA));

(2) tobacco and tobacco products;

(3) source materials, special nuclear materials and byproducts (as defined in the Atomic Energy Act (AEA) of 1954 and the regulations issued under the AEA);

(4) foods, food additives, drugs, cosmetics and devices (as defined in the Federal Food, Drug and Cosmetic Act (FFDCA)).

Therefore, except for chemicals specifically excluded by definition from TSCA jurisdiction, TSCA (and therefore TSCA Section 8(e)) coverage includes, but is not limited to, the following types of chemical substances:

(1) research and development (R&D) chemicals (including those intended for use as pesticides prior to application for an Experimental Use Permit (EUP) or a pesticide registration under FIFRA);

(2) laboratory reagents;

(3) low volume chemicals;

(4) polymers;

(5) chemicals that are manufactured solely for export;

(6) intermediates (including non-isolated intermediates);

(7) catalysts;

(8) byproducts;

(9) impurities;

(10) biotechnology products.

Although some rules promulgated under other sections of TSCA may exempt certain chemical substances or certain types of commercial activities, such exemptions typically apply only to the rule that is issued and do not apply to TSCA in general or to Section 8(e) of TSCA specifically.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the 90-day feeding and reproduction study cited in the initial submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take to 1) notify workers and others about the reported information, and 2) to reduce or eliminate the exposure to this aryl substituted azole carboxamide. In addition, the company will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the aryl substituted azole carboxamide or its azide impurity.

b) The Chemical Screening Branch will review the reported information to determine the need for any further OTS assessment of this aryl substituted azole carboxamide and/or its azide impurity.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 12 1989 **APPROVED:** 10/16/89

SUBJECT: Status Report[1] **8EHQ-0989-0825 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Rhone-Poulenc Inc. has claimed the exact identities of the subject chemicals to be TSCA Confidential Business Information (CBI). The Information Management Division will review all of the incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) submission, Rhone-Poulenc stated non-confidentially that the subject chemical substances are "substituted anilides."

SUBMISSION DESCRIPTION

Rhone-Poulenc provided the following summary information about the conduct and preliminary results of teratological studies of three (3) substituted anilides:

"Compound 1

"Doses used in the rat teratology screen on Compound 1 were 0, 12.5, 25, 50, and 75 mg/kg/day. [(The route of exposure and the gestation days on which dosing occurred was not given in the submission.)] There were ten animals per group. Four dams out of 10 died at 75 mg/kg. Body

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

weight gains were markedly depressed at 50 and 75 mg/kg and embryolethality was seen at these same dose levels. The major malformations seen at 75 and 50 mg/kg included gastroschisis, cephalocele, anophthalmia and exencephaly. Soft tissue and skeletal evaluations are being performed at 25 mg/kg.

"Compound 2

"Doses used in the rat teratology screen on Compound 2 were 0, 15, 40, 80, and 120 mg/kg/day. [(The route of exposure and the gestation days on which dosing occurred was not given in the submission.)] There were ten animals per group. Seven dams out of 10 died at 120 mg/kg and 2 out of 10 [died] at 80 mg/kg. Body weight gains were markedly depressed at 40, 80 and 120 mg/kg, total embryolethality was seen at 80 and 120 mg/kg and partial embryolethality [was seen] at 40 mg/kg/day. The major malformations seen at 40 mg/kg included domed head, gastroschisis, cephalocele, anophthalmia, omphalocele, and exencephaly. Soft tissue and skeletal evaluations are being performed at 15 mg/kg.

"Compound 3

"Doses used in the rat teratology screen on Compound 3 were 0, 10, 20, 40, and 60 mg/kg/day. [(The route of exposure and the gestation days on which dosing occurred was not given in the submission.)] There were ten animals per group. Five dams out of 10 died at 60 mg/kg and 2 out of 10 [died] at 40 mg/kg. Body weight gains were markedly depressed at 20, 40 and 60 mg/kg and embryolethality was seen at 40 and 60 mg/kg. No major malformations were seen at any dose tested. Soft tissue and skeletal evaluations are being performed at 20 mg/kg."

SUBMISSION EVALUATION

The submitted summary information provides evidence of potential maternal and developmental toxicity for all three compounds. The maternal toxicity (as evidenced by reduced weight gain and death) was observed following exposure to Compound 1, Compound 2 or Compound 3 at doses as low as 50 mg/kg, 40 mg/kg, or 20 mg/kg, respectively. Developmental toxicity was apparent after exposure to Compound 1 at doses as low as 50 mg/kg and consisted of embryolethality and an increased incidence of malformations including gastroschisis, cephalocele, anophthalmia and exencephaly. Exposure to Compound 2 at doses as low as 40 mg/kg also resulted in embryolethality and an increased incidence of malformations including domed head, gastroschisis, cephalocele, anophthalmia, omphalocele and exencephaly. Although no "major malformations" were observed, embryolethality was observed after exposure to Compound 3 at doses as low as 40 mg/kg.

At the time of Rhone-Poulenc's Section 8(e) submission, soft tissue and skeletal evaluations of the fetuses from these studies had not been completed; therefore, no information with regard to potential developmental toxicity at the lower doses of the three compounds was available for review.

CURRENT PRODUCTION AND USE

In view of Rhone-Poulenc's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use(s) of these 3 chemicals will appear in this status report. Rhone-Poulenc stated non-confidentially in its submission that "relatively small amounts of these materials have been synthesized for testing only."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Rhone-Poulenc to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the teratology studies cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Rhone-Poulenc will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical substances. Rhone-Poulenc will be requested also to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Rhone-Poulenc is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of these substituted anilides.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemicals.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 19 **APPROVED:** 10/24/89

SUBJECT: Status Report[1] **8EHQ-0989-0826 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim.

SUBMISSION DESCRIPTION

The submitting company provided full copies of the final reports from a wide variety of in vitro/in vivo toxicity and environmental studies of N-amino-N-(carboxymethyl)glycine. According to the submitter, this chemical was the subject of a TSCA Section 5 "Pre-Manufacture Notification" (PMN No. P-88-1267) previously submitted to EPA. The cover letter to the company's Section 8(e) submission presents the following information about the conduct and results of the performed studies:

> "a) Substance was classed as a material of slight [acute] percutaneous toxicity by using CD rats.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"b) Substance caused delayed contact hypersensitization in guinea pigs.

"c) The daily, oral administration of the substance at 10 mg/kg/day [for 4 weeks to CD rats] produced adverse reactions which included changes suggestive of renal toxicity.

Administration at 1.0 or 0.1 mg/kg/day was essentially without effect, and the higher of these dosages was considered [to be] a 'no toxic effect' level.

"d) It was concluded in the [mouse micronucleus] study that the substance induced no significant damage to chromosome structure. . .

"e) It was estimated that the 96-hour LC50 for [rainbow trout exposed to] the substance was 341 or 301 mg/l based respectively on [the] nominal or mean, measured concentrations.

"f) The 48-hour EC50 for immobilization of Daphnia magna by the substance was calculated to be 44.0 or 28.2 mg/l, based respectively on [the] nominal or mean, measured concentrations (95% confidence limits 34.5-54.2 or 21.4-36.1).

"g) Estimates of [the] biotic degradation based on dissolved organic carbon (DOC) removal ranged from 4% on day 7 to 21% on day 28 which indicated that the substance was not readily degradable under the conditions of the test. A separate investigation on biodegradability was [also] performed. . . Overall, it was concluded that the substance was not ultimately degraded under the biotic or abiotic test conditions employed, but it may readily undergo partial degradation following one or more abiotic pathways.

"h) [In previous studies sent to the Agency with P-88-1267,] the substance . . . was found to be non-irritant to the skin [of rabbits], and irritant (with slight to moderate initial pain response) in the [rabbit] eye. No mutagenic activity was detected in the Ames [bacteria] test. [According to an acute rat oral study also submitted with P-88-1267, the chemical was found to have an approximate LD50 of 104 mg/kg (male/female rats combined).]"

The company's Section 8(e) cover letter also presents the following "CONCLUSION" regarding the performed studies:

"Acute effects: possibly related mainly to the acidity of the [test] material, these could be significant in the immediate area of any major, accidental release. Ingestion or skin contact should be avoided, as should [the] discharge or run-off into waterways. However, an absence of acute irritant or toxic effects will provide an indicator of minimal exposure, and toxicity to fish or freshwater invertebrates is unlikely to be high.

"Effect of prolonged exposure: skin contact should be minimized to avoid possible sensitization, and the kidney may be a target organ for subchronic exposure (at high levels: based on limited, rodent data only). In view of the possibility of only partial degradation by abiotic pathways in water, discharge of chemically unmodified [test material] should be minimized.

"Handling procedures of the type normally applied to acidic materials (pH 2-3) are therefore likely to require only minor adaption for adequately safe industrial use of the substance."

SUBMISSION EVALUATION

Staff of the Chemical Screening Branch, in conjunction with staff of the Health and Environmental Review Division (HERD/OTS) and other appropriate OTS Divisions, will evaluate the data presented in this TSCA Section 8(e) submission in context with previous "New Chemicals Program" (NCP) reviews of toxicological and other data submitted to the Agency with P-88-1267.

CURRENT PRODUCTION AND USE

According to the "sanitized" (i.e., non-confidential) version of P-88-1267 obtained from EPA's public document files, the subject chemical (identified therein as a "hydrazine derivative") has an "open, non-dispersive use." No further information regarding the use of this chemical was contained in the sanitized versions of either P-88-1267 or 8EHQ-0989-0826 S. According to IMD/OTS staff, a TSCA Section 5 "Notice of Commencement" (NOC) for P-88-1267 has been received by the Agency.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitter to provide the Chemical Abstract Service (CAS) Registry Number, if known, for the subject chemical substance.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested

to describe the actions that the company has taken or plans to take to notify workers/others about the reported toxicologic findings. In addition, the submitting company will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical substance.

b) The Chemical Screening Branch will continue to review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 26 1989 **APPROVED:** 10/20/89

SUBJECT: Status Report[1] **8EHQ-0989-0827 S**
8EHQ-1089-0827 S SUPP

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (Also see NOTE on Page 4 of this status report)

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" versions of its initial and supplemental submissions, the company reported non-confidentially that the subject chemical is an "N-aryl-cyclic imidate."

It should be noted further that shortly after EPA's receipt of this initial TSCA Section 8(e) submission, the Agency received another initial Section 8(e) notice on a chemical substance also identified generically as an N-aryl-cyclic imidate. The reader's attention is directed to the status report prepared in response to this other submission (8EHQ-0989-0828 S).

SUBMISSION DESCRIPTION

In its initial Section 8(e) submission, the company provided the following summary information regarding the conduct and preliminary results of a teratological study of the subject chemical in rats:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"In this study, N-aryl-cyclic imidate was administered by gavage to 4 groups of 25 mated female rats at dose levels of 0, 15, 150, and 500 mg/kg/day during gestation days 6-18. Surviving dams were sacrificed on gestation day 20. [The] fetuses were removed, weighed, sexed, and examined for possible external, visceral, and skeletal malformations or variations.

"Six dams from the 500 mg/kg/day group died during the study. Other signs of maternal toxicity at this dose level included substantial weight loss (-12 g) during gestation days 6-9, decreased food consumption throughout the dosing period, decreased excreta, mucoid feces and red material around the mouth. Clinical signs and weight gain in the other animals were normal although there may have been a slight transient depression in [the] food consumption at 150 mg/kg/day during gestation days 6-9. Mean liver weights were increased 26% and 49% in the 150 and 500 mg/kg/day groups, respectively.

"No effect was noted on the number of fetuses or on fetal weights. [The] post-implantation loss at 500 mg/kg/day was just outside of the historical control range (1.3 versus an upper limit of 1.2) but was not statistically different from the [concurrent] control value (0.9). The only external malformations noted in this study consisted of one fetus at 15 mg/kg/day with microphthalmia/anophthalmia and one fetus at 500 mg/kg/day with cleft palate. There was no indication that either of these defects were related to treatment. There were no visceral or skeletal malformations noted. However, there appeared to have been a slight increase in several minor skeletal variations at 500 mg/kg/day. Together with the possible effect on post-implantation loss, these data suggest that the test article may induce a very slight degree of developmental toxicity in rats, but only at the severely maternally toxic dose level of 500 mg/kg/day."

In its supplemental submission, the company provided the following summary information regarding the conduct and preliminary results of a 3-month pilot reproduction study of this N-aryl-cyclic imidate in rats:

"In this study, 6 groups of 10 male and 20 female rats were administered the subject chemical via the diet for approximately 3 months. Dose levels were 0, 10, 100, 1000, 5000 and 15000 ppm. Half of the females in each group were mated (1:1) with the males after approximately 10 weeks of exposure. The unmated females and all of the males were sacrificed after 13 weeks of exposure. The mated females were allowed to deliver and raise their pups until lactation day 4, at which time the dams and the pups were sacrificed.

"No mortality occurred during the study. By the end of the study, mean body weights of the high dose (15000 ppm) animals were about 6-7% lower than those of controls. Slight anemia and several clinical chemistry changes indicative primarily of liver damage were noted at 5000 and 15000 ppm. Liver weights and possible thyroid weights were increased at ≥ 100 ppm. Gross kidney and liver lesions were noted at the same 2 dose levels but histopathology results are not yet available. Thus, based upon the increased liver weights, the NOEL for systemic effects appears to be 10 ppm. Adverse reproductive effects consisting of decreased litter size, increased number of dead pups, decreased pup weights and decreased pup survival were observed at 5000 ppm and 15000 ppm but no reproductive effects were observed at ≤ 1000 ppm."

SUBMISSION EVALUATION

The submitted summary information relating to the teratologic study provides evidence of maternal toxicity following exposure to dose levels as low as 150 mg/kg. The exposure to 500 mg/kg resulted in death (6/25 dams), and decreased food consumption and body weight gain; clinical signs of toxicity included decreased excreta, mucoid feces and "red" material around the mouth. Exposure to 150 mg/kg also resulted in decreased food consumption, and exposure to 150 mg/kg or more resulted in increased absolute liver weight. Evidence of developmental toxicity was seen only following exposure to 500 mg/kg, and consisted of increased post-implantation loss and an increased incidence of skeletal "variations."

The supplemental information on the 3-month rat reproduction study provides evidence of maternal toxicity at dietary doses as low as 100 ppm. At 15000 ppm, the dams were found to have a mean body weight 6-7% lower than the concurrent controls. At doses of 5000 and 15000 ppm, "slight" anemia was reportedly observed along with unspecified clinical chemistry changes indicative primarily of liver damage; unspecified gross liver and kidney lesions were also seen at these two upper doses. Increased liver weights and possibly thyroid weights were reportedly found at dose levels of 100 ppm and above. Developmental toxicity was observed at both 5000 and 15000 ppm but apparently not at doses of 1000 ppm and below. The adverse reproductive effects were reported to include decreased litter size, increased numbers of dead pups, decreased pup body weights and decreased pup survival.

An EPA evaluation of the overall significance of the toxicological findings reported in the initial and supplemental TSCA Section 8(e) submissions should be possible upon the Agency's receipt of full copies of the final reports from these two studies.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use(s) of the subject chemical will appear in this status report. The submitter did report non-confidentially in its submissions, however, that this N-aryl-cyclic imidate is currently being manufactured solely for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the oral rat teratology study and the 3-month rat reproduction study cited in the company's initial and supplemental Section 8(e) notices, respectively.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical substance. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this N-aryl-cyclic imidate.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

NOTE The reader's attention is directed to the status report prepared by EPA in response to 8EHQ-0190-0870 S.

James T. Darr 6/28/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: OCT 26 1989 **APPROVED:** 10/30/89

SUBJECT: Status Report[1] **8EHQ-0989-0828 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI); the Information Management Division will review all incoming correspondence on these CBI claims. In the "sanitized" version of the notice, the company stated non-confidentially that the subject chemical is an "N-aryl-cyclic imidate."

It should be noted also that EPA recently received an initial TSCA Section 8(e) submission, as well as a supplemental submission, on a chemical also identified non-confidentially as an N-aryl-cyclic imidate. The reader's attention is directed to the "Status Report" prepared by EPA in response to these prior submissions (8EHQ-0989-0827 S Initial and 8EHQ-1089-0827 S Supplement).

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a teratological study of the subject chemical in rats:

> "In this study, N-aryl-cyclic imidate was administered by gavage to 4 groups of 25 mated female rats at dose levels of 0, 30, 300, and 1000 mg/kg/day during gestation

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

days 6-18. Surviving dams were sacrificed on gestation day 20. [The] fetuses were removed, weighed, sexed and examined for possible external, visceral, skeletal malformations or variations.

"One animal from the 1000 mg/kg/day group was sacrificed moribund. All other animals survived until scheduled termination. Clinical signs of toxicity (red material around nose, decreased excreta, urogenital staining, soft stool, etc.) were common [among dams] in the high-dose (1000 mg/kg/day) group. A few instances of salivation were noted at both 300 and 1000 mg/kg/day. Maternal weight gain was affected only at 1000 mg/kg/day. Animals at this level lost weight during gestation days 6-9 (mean change of -4 grams versus +6 grams for controls) but gained more weight than controls during gestation days 9-12 (27 grams versus 20 grams). [The] food consumption during gestation days 6-9 was greatly decreased at 1000 mg/kg/day and slightly decreased at 300 mg/kg/day. A slight increase in [maternal] food consumption appeared to have occurred once dosing was terminated (gestation days 16-20). Liver weights were increased in all treatment groups in a dose-related manner (9-49%), although the effect at the low dose [level] was not statistically significant.

"No effect was noted on the number of fetuses or [on] implantation losses. Mean fetal weights were slightly decreased at 1000 mg/kg/day. Although the decrease was statistically significant, the mean fetal weight for this group (3.4 grams) was within the normal values (range of 3.3 - 3.9, mean of 3.5) seen historically. Single cases of external or visceral malformations were noted in 1 control, 1 mid-dose and 2 high-dose animals. These consisted of a filamentous tail (control), undescended testes (mid-dose), omphalocele (high-dose) and multiple anomalies (probably twinning, high-dose). There was no indication that any of these defects were treatment related. No skeletal malformations were noted, but the high-dose fetuses exhibited an increased incidence of numerous skeletal variations, primarily reduced ossification of various bones. Together with the slight decrease in fetal weights, the skeletal variations suggest that this N-aryl-cyclic imidate induced a slight degree of developmental toxicity at the high dose level."

SUBMISSION EVALUATION

The submitted summary provides evidence of maternal toxicity at all doses administered (i.e., 30 - 1000 mg/kg). Exposure to 1000 mg/kg resulted in death (1/25 dams), and decreased food consumption and body weight gain; clinical signs of toxicity included salivation, decreased excreta, soft stools, urogenital staining and "red" material around the mouth. The exposure to 300 mg/kg resulted in

decreased food consumption, and an increased incidence of salivation. Further, there was a dose-related increase in absolute liver weight at all dose levels. Developmental toxicity was apparently only evident following exposure to 1000 mg/kg, and consisted of decreased fetal body weight and an increased incidence of skeletal "variations." EPA's evaluation of the overall significance of the reported findings should be possible upon the Agency's receipt of a complete copy of the final report from this study.

CURRENT PRODUCTION AND USE

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use(s) of the subject chemical will appear in this status report. The submitter did report non-confidentially, however, that this N-aryl-cyclic imidate is currently being produced exclusively for research and development (R&D).

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the oral teratology study cited in the company's submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical substance. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this N-aryl-cyclic imidate.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 23 1989 **APPROVED:** 10/25/89

SUBJECT: Status Report[1] **8EHQ-1089-0829**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The BASF Corporation and the GAF Chemicals Corporation submitted summary information with regard to an oral (gavage) teratology study of 2-pyrrolidinone (2-pyrrolidone; CAS No. 616-45-5) in rats. A submitted "SUMMARY REPORT" presents the following information about the conduct of this study, which was performed in Canada and co-sponsored by GAF and BASF AG (the West German parent company of the BASF Corporation):

> "Groups of 25 mated female Sprague-Dawley (CD) rats were treated by gavage, with 2-pyrrolidone, at dosage levels of 0, 190, 600 or 1,900 mg/kg/day from days 6 to 15 of gestation, inclusive.
>
> "On day 20 of gestation, the females were killed and given a gross necropsy examination. The uterine contents were examined and the fetuses were weighed and examined externally and internally."

The BASF/GAF Section 8(e) submission cover letter presents the following information regarding the results of this oral teratology study:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

". . . [The obtained] data show a low incidence of anal atresia with absent or reduced tails at the high dose of 1,900 mg/kg/day. This dose also caused a deficit in maternal body weight gain, an absolute body weight loss in the interval of [gestational] days 6 through 9, and lower mean fetal weights. No abnormalities were observed during gross pathological examination, nor were the number of live or dead fetuses, numbers of resportions, pre- or post-implantation losses affected by exposure to 1,900 mg/kg/day.

"The mid-dose exposure to 600 mg/kg/day failed to produce any significant effects to the litters although a deficit in maternal body weight gains was demonstrated."

In a previous TSCA Section 8(e) submission (8EHQ-1087-0695), the CIBA-GEIGY Corporation provided the final reports from mouse and rat teratology studies of N-methylpyrrolidone (NMP; CAS No. 872-50-4) conducted by BASF AG in 1970-1971. The final report from the BASF AG mouse teratology study of NMP stated that a teratological study of 2-pyrrolidone had been conducted by BASF AG in 1970. At the Agency's request, the BASF Corporation obtained and provided (8EHQ-1287-0695 Followup Response) an English translation of this 1970 teratology study in which 2-pyrrolidone was given orally or intraperitoneally (ip) to mice; the BASF Corporation also submitted an English translation of a 1971 BASF AG teratology study in which 2-pyrrolidone was administered orally to rats. EPA is currently reviewing BASF AG's 1970-71 teratology studies in conjunction with other available toxicity and exposure data on 2-pyrrolidone; EPA is also reviewing available toxicity and exposure data on other pyrrolidone derivatives. In addition to the previously cited TSCA Section 8(e) submissions on NMP (8EHQ-1087-0695 et seq.), EPA has received a "For Your Information" (FYI) submission on NMP (FYI-OTS-0588-0611) and TSCA Section 8(e) submissions on N-vinylpyrrolidone (8EHQ-0785-0561 S et seq.) and N-(2-hydroxyethyl)pyrrolidone (8EHQ-0682-0448 S et seq.). Further, the Test Rules Development Branch (TRDB/ECAD/OTS) is reviewing available toxicity and exposure data on NMP, a chemical substance that was recommended for testing under Section 4 of TSCA by the Consumer Product Safety Commission (CPSC). For more information about this Section 4-related NMP activity, the reader is referred to the September 1989 issue (Volume 10; No. 3, Page 9) of the OTS **Chemicals-in-Progess Bulletin**; a copy of this OTS publication can be obtained by contacting the Environmental Assistance Division (EAD/OTS) by phone at (202) 554-1404, or by writing:

Environmental Assistance Division
Office of Toxic Substances (TS-799)
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

SUBMISSION EVALUATION

The Toxic Effects Branch (TEB/HERD/OTS) has been asked to review the rat (oral) teratology study data provided by BASF and GAF in the present Section 8(e) notice in conjunction with the BASF AG 1970-71 mouse (ip and oral) and rat (oral) teratology studies of 2-pyrrolidone received previously by the Agency in 8EHQ-1287-0695 Followup Response.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for 2-pyrrolidone (CAS No. 616-45-5), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 0 and 1000 pounds were reported as being manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in EPA's TSCA Inventory Reporting Regulations (40 CFR 710).

According to the present Section 8(e) notice, 2-pyrrolidone "is used almost exclusively as an intermediate and is, therefore, consumed by the producer in the synthesis of down-stream products."

According to the 10th Edition of the **Condensed Chemical Dictionary**, 2-pyrrolidone is a "light yellow liquid" produced "from acetylene and formaldehyde by high-pressure synthesis" and has the following uses: "Plasticizer and coalescing agent for acrylic latexes in floor polishes; solvent for polymers, insecticides, polyhydroxylic alcohols, sugar, iodine, specialty inks, monomer for Nylon-4."

COMMENTS/RECOMMENDATIONS

BASF and GAF reported that both companies are currently revising their 2-pyrrolidone Material Safety Data Sheets (MSDSs) and are notifying customers about the reported toxicological findings.

a) The Chemical Screening Branch will ask BASF and GAF to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the teratology study cited in the companies' Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure information, both BASF and GAF will be asked to describe the actions they have taken or plan to

take 1) to notify their own workers about the reported information, and 2) to reduce or eliminate exposure to 2-pyrrolidone. In addition, BASF and GAF will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the companies are aware or that the companies have conducted, are conducting or plan to conduct that are designed to determine the toxicity of or the exposure to 2-pyrrolidone.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of 2-pyrrolidone.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; copies of this status report will be provided also to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV - 2 1989 **APPROVED:** 11/3/89

SUBJECT: Status Report[1] **8EHQ-1089-0830**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Hoechst Celanese Corporation provided the following summary information with regard to the conduct and preliminary results of an acute skin corrosivity study of allylamine (2-propene-1-amine; CAS No. 107-11-9) in rabbits:

> ". . . [Preliminary verbal and hard copy data received from the performing laboratory] indicate that one of three New Zealand albino rabbits died as the result of a three minute skin exposure to 0.5 ml [of allylamine], or approximately 176 mg/kg. The animal survived through the one hour observation period but died in the interim between the one and twenty-four hour observation points. The two surviving animals exhibited signs of toxicity including decreased activity and labored breathing through observation day four but survived through the seven day observation period. All three [of the] test animals exhibited evidence of skin corrosion immediately after the three minute exposure which persisted throughout the [seven day] observation period."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

In submitting this information to EPA under Section 8(e) of TSCA, Hoechst Celanese stated that "a literature report by Hine et al. (Hine, C.H. et al., The Toxicity of Allylamines, Archives of Environmental Health, 1: 65/343-74/352 (October 1960)) indicates a dermal LD50 of 35 mg/kg from an occluded exposure 'for several hours,' with reported times of death ranging from three to twenty-four hours." Hoechst Celanese stated further that the company believes "that the present test result indicates that allylamine may be more readily absorbed through the skin than previously demonstrated."

SUBMISSION EVALUATION

The submitted information does indicate that allylamine is more toxic than previously described. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a complete copy of the final report from the company's acute dermal toxicity study of allylamine in rabbits.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for allylamine (CAS No. 107-11-9), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 1 million and 10 million pounds were reported as being manufactured and/or imported in 1977. These production range data information do not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the initial TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations that are contained in EPA's TSCA Inventory Reporting Regulations (40 CFR 710).

According to the 10th Edition of the **Condensed Chemical Dictionary**, allylamine has the following uses: "Pharmaceutical intermediate; inorganic synthesis."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Hoechst Celanese to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, the results of gross/histopathological examinations, etc.) from the company's acute rabbit dermal toxicity study that was cited in the submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Hoechst Celanese will be asked to describe the actions that the company has taken or

plans to take 1) to notify workers and others about the reported findings, and 2) to reduce or eliminate exposure to allylamine. In addition, Hoechst Celanese will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Hoechst Celanese is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to allylamine.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of allylamine.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution. Finally, a copy of this status report will be provided to the American Conference of Governmental Industrial Hygienists (ACGIH).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 14 1989 **APPROVED:** 11/15/89

SUBJECT: Status Report[1] **8EHQ-1089-0831**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

As an update to previous "For Your Information" (FYI) letters sent to the Agency in 1977 and 1980[2], ICI Americas Inc. reported that, to date, 35 ICI workers in the United Kingdom (UK) who worked in the magnesium (Mg) and high temperature sodium (HTS) processes for making 4,4'-bipyridyl (CAS No. 553-26-4) have developed keratoses. ICI reported further that "a continuous low temperature sodium (LTS) process was substituted for the Mg and HTS processes in the mid 1960's." In addition, ICI stated that "the LTS process is much cleaner and as a result of work practices and personal protective equipment requirements, potential exposures are minimized." ICI also stated that "in the LTS process, no 'tarry' by-products, which were believed to be the cause of [the] keratoses in people involved with the Mg and HTS processes, are produced." ICI stated further, however, that the company recently received information from ICI PLC (the parent company in the UK) that 1) "keratoses have been identified in three employees who work in the LTS plant at Widnes (UK)" and 2) "these people are the only employees involved solely with the LTS process to exhibit such skin lesions."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

[2] *According to ICI Americas Inc., the Agency assigned these previous letters to the FYI No. 0113 file; copies of the two FYI letters were enclosed with ICI's TSCA Section 8(e) submission.*

In its TSCA Section 8(e) submission, ICI provided the following information about the company's U.S. production of 4,4'-bipyridyl:

> "ICI Americas Inc. operates a plant at Bayport, Texas using the LTS process to make 4,4'-bipyridyl. Strict industrial hygiene practices have been followed since the [Bayport] plant began production of 4,4'-bipyridyl in 1977. Health professionals at the Bayport site have actively surveyed employees via annual physicals and special programs. There are no findings of keratoses, Bowens disease or squamous cell carcinoma in potentially exposed employees. Those employees have been briefed on the current situation.
>
> "It is believed that the problem evidenced in the UK is associated with the raw materials, intermediates or by-products [that are] associated with the manufacture of 4,4'-bipyridyl, as the pure compound has been subjected to a lifetime skin painting study in mice and showed no evidence of skin disease. Furthermore, quaternization of 4,4'-bipyridyl to paraquat is carried out in five countries in plants owned or controlled by ICI PLC and there is no evidence to suggest a causal relationship between paraquat and keratomas."

In its TSCA Section 8(e) submission, ICI also included a full copy of the following published scientific article: "Premalignant and neoplastic skin lesions associated with occupational exposure to 'tarry' byproducts during manufacture of 4,4'-bipyridyl" British Journal of Industrial Medicine 1982; **39**: 76-81.

SUBMISSION EVALUATION

Staff of the Statistical Analysis and Epidemiology Section/Design and Development Branch in the Exposure Evaluation Division/OTS has been asked to review the new epidemiologic findings in context with those 1) previously reported to the Agency on an FYI basis, and 2) presented in the scientific paper published in 1982.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for 4,4'-bipyridyl (CAS No. 553-26-4), which is listed in the initial TSCA Chemical Substance Inventory, has shown that no 1977 manufacture/importation was reported or that all of the manufacture and/or importation data reported were claimed as TSCA Confidential Business Information (CBI) by the person(s) reporting for the initial Inventory and cannot be disclosed (Section 14(a) of TSCA; U.S.C. 2613(a)). All data reported for the TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

According to ICI, 4,4'-bipyridyl is an intermediate used in the manufacture of paraquat (an herbicide).

COMMENTS/RECOMMENDATIONS

ICI stated that as a result of the reported information, "a major review of toxicological data and operating practices is being developed" and "will include a detailed comparative review of the operating practices at all ICI plants that produce 4,4'-bipyridyl."

a) The Chemical Screening Branch will request ICI Americas to keep the Agency apprised of significant additional findings from ongoing ICI studies involving the company's 4,4'-bipyridyl production workers. In addition, ICI will be asked to submit a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the mouse skin painting study of 4,4'-bipyridyl cited in ICI's TSCA Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity or exposure data, please describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which ICI is aware or that ICI has conducted, is conducting, or plans to conduct that are designed to determine the toxicity of 4,4'-bipyridyl.

b) The Chemical Screening Branch will review the submitted information further in order to determine the need for additional OTS assessment of the reported findings.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 26 1989 **APPROVED:** 10/30/89

SUBJECT: Status Report[1] **8EHQ-1089-0832**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Hüls America Inc. provided the following summary information with regard to triethoxysilane (CAS No. 998-30-1) and a recent workplace incident involving this chemical substance:

> "Triethoxysilane is a known skin and eye irritant. The onset of symptoms with respect to the eyes can sometimes be delayed by a few hours. In all cases known to Hüls America where the symptoms were reliably ascribed to known exposure, the exposures were at a concentration whereby the presence of triethoxysilane vapors were readily detected by smell.
>
> "As a result of an accident investigation report . . ., it appears that delayed symptoms of eye irritation may result from prolonged exposure to triethoxysilane at concentrations near or below the odor threshold.
>
> "Specifically, . . . five employees at the Hüls America pilot plant site in Bristol, Pennsylvania were working in an area where triethoxysilane was being processed. In such situations, it is the practice to wear eye goggles

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

if the odor of triethoxysilane is apparent. Since no *odor or, in retrospect, only a trace odor* was apparent, eye goggles were not worn during the period of exposure, which lasted an entire eight hour shift. Several hours after the exposure, two of the [five] employees reported experiencing eye irritation and were subsequently treated at a local hospital emergency room. As a precautionary measure, the other three employees were sent for a medical examination for eye irritation. These three employees also received medical attention. It should be noted, however, that all five employees have returned to work with no apparent permanent effects. A followup investigation determined that triethoxysilane, which was present in the work area, is most probably the causative agent."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent full copies of this TSCA Section 8(e) notice to the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in their ongoing review of available toxicity and exposure information on organosilanes. It should be noted that EPA has received a number of Section 8(e) and "For Your Information" (FYI) submissions on organosilanes. In addition, the Chemical Screening Branch did prepare (in 1986) a "Chemical Hazard Information Profile" (CHIP) covering a number of organosilanes.

CURRENT PRODUCTION AND USE

A review of the production range (includes importation volumes) statistics for triethoxysilane (CAS No. 998-30-1), which is listed in the initial TSCA Chemical Substance Inventory, has shown that between 0 and 1000 pounds of this chemical substance were reported as manufactured and/or imported in 1977. This production range information does not include any data that were claimed to be TSCA Confidential Business Information (TSCA CBI) by the person(s) who reported for the TSCA Inventory, nor does it include any information that would compromise TSCA CBI. All of the data reported for the initial TSCA Inventory, including the production range data, are subject to the limitations contained in the TSCA Inventory Reporting Regulations (40 CFR 710).

Hüls America did not provide any information on the use(s) of triethoxysilane, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Hüls America to ensure that EPA is kept apprised of any further medical-related developments arising from the reported workplace incident. In addition, Hüls America will be requested to report the triethoxysilane vapor concentrations, if known, in the work area preceding, during and after the cited incident.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Hüls America will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to triethoxysilane. In addition, Hüls America will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Hüls America is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to triethoxysilane.

b) As was the case for the initial submission, the Chemical Screening Branch will immediately copy and send all of the reported information to the Risk Analysis Branch for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; a copy of this report will be sent also to the American Conference of Governmental Industrial Hygienists (ACGIH). In addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 29 1989 **APPROVED:** DDK 10/30/89

SUBJECT: Status Report[1] **8EHQ-1089-0833 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to this TSCA CBI claim. In the "sanitized" version of the submission, Eli Lilly reported non-confidentially that the subject chemical is a "substituted quinoline" that "has not been characterized."

SUBMISSION DESCRIPTION

Eli Lilly reported that preliminary results from an acute oral toxicity study in mice showed that this substituted quinoline has "a median lethal dose less than 50 mg/kg." Eli Lilly provided the following summary regarding the conduct and results of this study:

> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals received either 50, 500, or 2000 mg/kg of the compound. There were no survivors following a single oral dose of 50 mg/kg of this compound. All [of the] deaths occurred by Test Day 1. Antemortem signs of toxicity included ataxia, coma, hypoactivity, and lethargy."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

The submitted summary information indicates that this substituted quinoline is extremely toxic via oral administration to mice. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a complete copy of the final report from the acute mouse oral toxicity study cited in the company's Section 8(e) submission.

CURRENT PRODUCTION AND USE

In view of Eli Lilly's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use(s) of this substituted quinoline will appear in this report. Eli Lilly did report non-confidentially, however, that only 1.6 grams of this research chemical have been manufactured as of the date of the company's submission.

COMMENTS/RECOMMENDATIONS

In its submission, Eli Lilly stated that company employees were notified about the acute toxicity findings for this substituted quinoline. In addition, Eli Lilly reported that the subject chemical substance was already labelled as "hazardous." Finally, Eli Lilly stated that "no other toxicology data have been generated on this compound."

a) The Chemical Screening Branch will ask Eli Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study cited in the company's submission. Eli Lilly will be asked also to submit, if and when available, a full chemical characterization of the test material.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this substituted quinoline.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA; ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 29 1989 **APPROVED:** DK 10/30/89

SUBJECT: Status Report[1] **8EHQ-1089-0834 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to this TSCA CBI claim. In the "sanitized" version of the submission, Eli Lilly reported non-confidentially that the subject chemical is an "organo tin compound" that "has not been characterized."

SUBMISSION DESCRIPTION

Eli Lilly reported that preliminary results from an acute oral toxicity study in mice showed that the chemical has "a median lethal dose [of] less than 50 mg/kg." Eli Lilly provided the following summary regarding the conduct and results of this study:

> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals received either 50, 500, or 2000 mg/kg of the compound. There were no survivors following a single oral dose of this compound. All [of the] deaths occurred by Test Day 3. Antemortem signs of toxicity included ataxia, coma, hypoactivity, piloerection, hunched posture and tremors."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

The submitted summary information indicates that this organo tin compound is extremely toxic via oral administration to mice. An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a complete copy of the final report from the acute mouse oral toxicity study cited in the company's Section 8(e) submission.

CURRENT PRODUCTION AND USE

In view of Eli Lilly's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use(s) of this organo tin compound will appear in this report. Eli Lilly did report non-confidentially, however, that this organo tin compound is a "research" chemical.

COMMENTS/RECOMMENDATIONS

In its submission, Eli Lilly stated that company employees have been notified about the acute toxicity findings for this organo tin compound. In addition, Eli Lilly reported that the subject chemical substance was already labelled as being potentially "hazardous." Finally, Eli Lilly stated that a "mouse oral screen retest and a gradient plate assay for genetic toxicology are scheduled for this compound."

a) The Chemical Screening Branch will ask Eli Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study, the acute oral toxicity retest, and the genotoxicity study cited in the company's submission. Eli Lilly will be requested also to submit, if and when available, a full chemical characterization of the test material.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this organo tin compound.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 28 1989 **APPROVED:** 12/28/89

SUBJECT: Status Report[1] **8EHQ-1089-0835 S INIT**
8EHQ-1188-0835 SUPP (**)
8EHQ-0989-0835 S SUPP (**)

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS

NOTE

The BASF Corporation has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all of BASF's correspondence related to this TSCA CBI claim. In the "sanitized" version of its Section 8(e) submission, the company reported non-confidentially that the chemical is a "triazole derivative."

SUBMISSION DESCRIPTION

In its Section 8(e) submission, BASF provided summary information regarding a two-generation rat reproduction study of this triazole derivative. BASF's Section 8(e) cover letter presents the following information about the conduct and preliminary results of this study which was performed by BASF's parent company, BASF AG, located in West Germany:

> ". . . [The subject triazole derivative] was continuously administered in the feed to Wistar rats (25 animals per sex per group) at concentrations of 0, 30, 300 and 1,500 ppm. The preliminary results presented here were obtained and evaluated after weaning of [the] F_1a pups.

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[1] *This status report is the result of a preliminary evaluation of information submitted to EPA on a "For Your Information" (FYI) basis and under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical. Any review of this status report should take into account that the report may be based on incomplete information.*

(**) Formerly FYI-OTS-1188-0653 INIT and FYI-OTS-0989-0653 S FLWP.

> "Clear signs of toxicity were seen for both males and females at the 1,500 ppm treatment level in the form of reduced feed consumption and reduced body weight/body weight change. A reduction in feed consumption was also observed during the lactation period in the 300 ppm dose level. . . . .
>
> "At the highest treatment level [(1,500 ppm)], pregnancy was confirmed for only 8 out of 25 females. Three females died during delivery and 5 females delivered a total of 20 pups. Nine pups were stillborn and the remaining 11 died or were cannibalized within 4 days after birth. Thus, no pups were available for the formation of a second generation at this [high] dose level. For this reason, the study is being terminated. At the 300 ppm dose level, an increase in the number of stillborn pups was observed. In addition, more pups died and more pups were cannibalized than in the control group. There were no substance-related teratogenic effects observed, especially no cleft palates, a typical triazole-induced malformation. . ."

In a previous "For Your Information" (FYI) notice (FYI-OTS-1188-0653 INIT), BASF provided the following summary information about the conduct and preliminary results of a rat oral teratology study of this triazole derivative, identified non-confidentially by BASF at that time simply as a "developmental fungicide."

> "The test substance was administered to pregnant Wistar rats (25/group) by gavage daily for a period of 10 days (day 6-15 post coitum) in doses of 20, 60 and 180 mg/kg body weight/day. For comparison, a control group of sham treated animals was used. The dams were sacrificed on day 20 p.c.; the fetuses were developed by cesarean section and examined macroscopically.
>
> "Clear signs of maternal toxicity were observed at 20 mg/kg b.w. and the dose levels above. Signs of embryotoxicity expressed by increased numbers of resorptions and reduced numbers of live fetuses were seen at the 60 and 180 mg/kg b.w. levels. Malformations (exclusively cleft palates) in the presence of marked maternal toxicity occurred only at the highest dose level of 180 mg/kg b.w. About 50% of the fetuses in about 90% of the litters of this dose group were involved."

In this FYI notice, BASF stated that this type of malformation (i.e., cleft palate) "has been reported for chemicals of similar structure." BASF also stated that because "the malformations only occurred at a dose far beyond the threshold for maternal toxicity, the possible risk - if at all - for developmental toxicity in man can be assumed to be low."

With regard to other studies on this developmental fungicide, BASF reported in its initial FYI submission that further studies were being performed "in the course of toxicological evaluation of the compound in order to establish a NOEL [(i.e., no-observed-effect-level)] for maternal toxicity in rats and to investigate prenatal toxicity in a second species and reproductive toxicity in a multi-generation study." (Note: The multigeneration study cited in BASF's initial FYI appears to be the subject of the present Section 8(e) submission.) In its initial FYI, BASF also provided the following information about the labelling of this developmental fungicide:

> "[The] BASF Corporation will ensure that all future deliveries of experimental samples will be labelled to reflect the teratogenic potential of this class of chemicals. This is a provisional measure until it has been confirmed in the multigeneration study and the teratogenicity study in a second species that malformations due to this fungicide only occur in the presence of marked maternal toxicity. Results of future studies being conducted for pesticide registration will be submitted to EPA when they become available."

In evaluating the summary information contained in BASF's initial FYI submission and despite the fact that the submission consisted of only a two-page letter with no tabulated data, EPA believed that the reported information indicated clearly that the tested chemical caused serious developmental toxicity and maternal toxicity of an unknown magnitude. With regard to maternal toxicity, the submission stated that "clear signs of maternal toxicity" were observed at all of the dose levels tested; however, no information was presented concerning the nature of these toxic signs or in how many of the dams these signs were observed. With regard to the developmental toxicity, reduced numbers of live fetuses and increased numbers of resorptions were reportedly observed in both the 60 and 180 mg/kg/day dose groups; again, no numbers were presented regarding these observations. At 180 mg/kg/day dose, 50% of the fetuses from 90% of the litters reportedly had cleft palate, a major malformation.

In its evaluation of the summary information contained in BASF's initial FYI submission, EPA noted also that the company's attempt to dismiss the serious adverse developmental effects on the basis of concurrent maternal toxicity was not appropriate. EPA pointed out that it has been the Agency's longstanding position that one cannot automatically assume that developmental effects occurring at maternally toxic dose levels result only from the maternal toxicity. EPA noted further that this longstanding position was reaffirmed in the Agency's 1986 Risk Assessment Guidelines and a published summary[2] of an EPA workshop on developmental/maternal

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[2] *Kimmel, G.L., Kimmel, C.A. and Francis, E.Z. "Implications of the [EPA] Consensus Workshop on the Evaluation of Maternal and Developmental Toxicity" Terat., Carcinogen. and Mutagen. 7:329-338 (1987).*

toxicity. Finally, the Agency pointed out that 1) the mother and embryo/fetus may be sensitive to the same dose of a chemical, and 2) the adverse effects that are experienced by the mother may be reversible while those that affect the offspring may be permanent.

Following a review of the summary information presented in FYI-OTS-1188-0653 INIT, EPA informed BASF in writing on August 16, 1989 that the Agency believed that the developmental toxicity findings presented in that FYI notice should have been submitted formally under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). BASF was afforded 20 working days to rebut the Agency's initial position with regard to the TSCA Section 8(e)-applicability/reportability of the serious adverse developmental effects information contained in BASF's initial FYI submission. In addition, BASF was requested to provide the exact identity (including CAS Registry Number, if known) for the developmental fungicide. Further, BASF was asked to submit a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the rat oral teratology study that was cited in the company's initial FYI submission.

In response to EPA's written request for additional information, BASF submitted (FYI-OTS-0989-0653 S FLWP) an explanation of why the preliminary findings from the rat oral teratology study were not sent to EPA under TSCA Section 8(e). In addition, BASF provided the exact identity of the subject chemical (claimed as TSCA CBI) as well as summary information about the conduct and preliminary results from 1) the rat oral teratology study that was cited in the company's initial FYI submission, and 2) several ongoing rat and rabbit teratology studies of the subject chemical:

Rat Teratology Studies

"Because the . . . [rat oral teratology study cited in BASF's initial FYI submission] did not establish a NOAEL [(i.e., no-observed-adverse-effect-level)] for maternal toxicity[3], the protocol for that study was amended to specify that the study would be used as a range-finding study. A second rat teratology study with . . . [this triazole derivative] was then initiated by BASF AG in which dose levels of 0, 5, 15 and 45 mg/kg body weight/day were administered [by gavage]. The protocol for the second study was the same as the first, except that the skeletons and organs of the fetuses were to be examined microscopically.

[3] *According to FYI-OTS-0989-0653 S FLWP, "clear signs of maternal toxicity in the form of impaired food consumption and impaired body weight gain were observed at all three dose levels [(20, 60 and 180 mg/kg/day) in the rat oral teratology study cited in BASF's initial FYI submission]."*

"In the second [rat oral teratology] study, 15 mg/kg was established as a NOEL for maternal effects. At the 45 mg/kg level, again signs of maternal toxicity in the form of impaired food consumption and impaired body weight gain were observed. External examination of the fetuses has shown no increased incidence of malformations or any cleft palates. [Microscopic] examination of the fetal organs is underway and the skeletons are being prepared for examination."

Rabbit Teratology Studies

"In a range-finding teratology study with rabbits . . . [the triazole derivative] was administered orally by gavage during days 7 through 19 post-insemination at dose levels of 0, 50, 150 and 300 mg/kg body weight/day (5 animals per dose group). Maternal toxicity was demonstrated at the 150 and 300 mg/kg levels in the form of impaired food consumption and impaired body weight gain. Embryolethality was observed at the 150 and 300 mg/kg dose levels. No increased incidence of malformations, especially cleft palates, was observed in the 50 mg/kg dose group after external and soft tissue examinations of the fetuses.

"Based on the results from the range-finding study, a rabbit teratology main study with . . . [this triazole derivative] was initiated using [oral] dose levels of 0, 5, 20 and 80 mg/kg body weight/day (15 animals per dose group). Maternal toxicity was demonstrated in the form of impaired food consumption and impaired body weight gain at the 80 mg/kg dose level. Fetotoxicity was observed in the form of increased post-implantation losses only at the 80 mg/kg level. Again, no increased incidence of malformations, especially cleft palates, was observed in this teratology main study with rabbits. The skeletal examination [of the fetuses] has not been completed."

In FYI-OTS-0989-0653 S FLWP, BASF also provided a number of data tables from the cited rat and rabbit oral teratology studies. In addition, BASF stated that final reports from all of the teratology studies (2 in rats and 2 in rabbits) are expected to be finalized and forwarded to EPA by mid-1990.

With regard to reporting rationale, BASF stated that the company believed it was justified in submitting the developmental toxicity findings for this triazole derivative on an FYI basis because 1) the teratogenic effects were observed at maternally toxic dose levels, 2) the adverse developmental effects information was not "new" because such effects had been observed and reported for other triazole derivatives, and 3) the potential for exposure to the subject chemical was "minimal due to limited distribution to qualified researchers."

SUBMISSION EVALUATION

Taken alone or in combination, the reported study findings provide evidence for maternal/parental, developmental and/or reproductive toxicity after exposure to this triazole derivative.

Rat Teratology Studies (FYI submissions)

The rat studies demonstrated maternal toxicity (evidenced by a significant reduction in food consumption and body weight gain) after exposure to doses of 45 mg/kg/day or more. Developmental toxicity was also evident after exposure to 45 mg/kg or more. Further, exposure to 45 mg/kg resulted in a significant increase in resorptions, while increasing the dose to 180 mg/kg resulted in a significant increase in the incidence of cleft palate. At the time of reporting, the fetal skeletal evaluations had not been completed.

Rabbit Teratology Studies (FYI submissions)

The rabbit studies demonstrated maternal toxicity (evidenced by a significant reduction in food consumption and body weight gain) as well as developmental toxicity (evidenced by a significant increase in resorptions) after exposure to doses of 80 mg/kg or more. Again, the fetal skeletal evaluations had not been completed at the time of reporting.

Rat Reproduction Study (Section 8(e) submission)

Although this study was not completed at the time of reporting (the F_1A pups had just been weaned), the submitted preliminary results do provide evidence for reproductive and developmental toxicity. Parental toxicity (evidenced by a significant reduction in food consumption and body weight gain, and a significant reduction in fertility) was observed following dietary exposure to 1500 ppm. Developmental toxicity was observed after exposure to 30 ppm (the lowest dose tested) or more. Exposure to 300 ppm or more resulted in a significant increase in the length of gestation, a significant increase in stillbirths and concomitant decrease in live pups, and a significant decrease in postnatal survival; exposure to 30 ppm resulted in a significant increase in stillbirths.

In order to evaluate the overall significance of the reported toxicological findings, BASF should be asked to ensure that EPA receives full copies of the final reports from all of the cited studies.

CURRENT PRODUCTION AND USE

According to the BASF Corporation's TSCA Section 8(e) submission, this triazole derivative is currently being evaluated by BASF AG as a fungicide for which the BASF Corporation plans to apply for a registration under the U.S. Federal Insecticide, Fungicide and

Rodenticide Act (FIFRA). BASF also reported that, thus far, the company has only imported small amounts of the subject chemical from BASF AG for distribution to testing facilities.

COMMENTS/RECOMMENDATIONS

The following discussion addresses the Section 8(e)-applicability/reportability of the adverse developmental effects information that was presented in BASF's initial and followup FYI submissions (i.e., FYI-OTS-1288-0653 INIT and FYI-OTS-0989-0653 S FLWP):

> Under TSCA, the Agency can regulate certain activities involving chemical substances and mixtures. A substance that is manufactured, processed or distributed in commerce solely as a pesticide is excluded by Section 3 of TSCA from TSCA regulation. In accordance with EPA's TSCA Chemical Substance Inventory reporting regulations (43 FR 64585, December 23, 1977, Appendix A, Comments 37, 38 and 39), however, a chemical substance which is in the process of research and development (R&D) as a pesticide is subject to TSCA until the manufacturer or importer demonstrates intent to create a pesticide by submitting to EPA an application for an experimental use permit (EUP) or registration under FIFRA. It should be noted that the Agency affirmed this interpretation in the recent amendments to the TSCA Section 5 "Premanufacture Notification Rule" (51 FR 15098; April 22, 1986). Prior to the EUP or registration stages, therefore, the Agency treats such a substance as a "chemical substance" under the jurisdiction of TSCA, including Section 8(e) of TSCA.
>
> TSCA Section 8(e) states "any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."
> The preface to Part V of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence."
>
> With regard to the seriousness of the effect, Part V explains that EPA considers the types of health effects for which substantial risk information must be reported to include "any pattern of effects or evidence that the chemical substance or mixture can produce . . . birth defects or toxic effects resulting in death, or serious

or prolonged incapacitation." The information regarding these effects can be obtained directly or inferred from designed studies (e.g., studies in animals) as described in Part VI of the policy statement. Part VI explains also that a "person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."

With regard to the "fact or probability of its [(i.e., the serious effect's)] occurrence" criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., birth defects) are considered so serious that relatively little or no weight should be attached to the chemical's exposure in determining whether a risk is substantial. Further, EPA's response to Comment 31 in Appendix B of the Section 8(e) policy statement, as it pertains to a question on R&D chemicals, states that the occurrence of serious effects such as those described in Part V(a) of the Section 8(e) policy statement (e.g., birth defects) presuppose the exposure to the chemical substance and must be reported immediately to EPA under Section 8(e). Therefore, if a subject company obtains substantial risk information about a chemical substance during R&D of that chemical as a pesticide, reporting would be required under TSCA Section 8(e) if such information is obtained prior to the application for an EUP for, or registration of, that chemical as a pesticide under FIFRA (even though such information might be submitted to EPA at a later date).

The following discussion addresses the submitter's rationale for not reporting the subject findings under Section 8(e) of TSCA:

Section 8(e) of TSCA requires timely submission of evidence (including preliminary evidence) from animal studies that implicates the tested chemical as causing serious toxicologic effects (e.g., cancer, neurotoxicity, birth defects or other serious developmental effects). The decision to report the observance of such serious toxicological effects should not hinge in any way on a judgement of either the actual or potential exposure to the chemical or a judgement about the degree of relevancy of the findings to an overall assessment of human risk. In other words, the decision to report under Section 8(e) in many cases should be based simply on the observance of serious toxicologic effects.

Specifically with regard to the issue of developmental and maternal toxicity, the observance of a statistically or biologically significant increase in a teratogenic effect or other serious embryotoxic or fetotoxic effects (e.g., significant embryo or fetal lethality, spontaneous abortion) should be reported to EPA under Section 8(e)

regardless of the level of maternal toxicity observed in the study or the potential for exposure to the tested chemical substance.

While EPA agrees with BASF that a body of knowledge does exist for potential developmental and other toxic effects posed by exposure to triazole and several of the triazole derivatives, the observed developmental effects for the subject triazole derivative under the parameters of the performed studies were not known by EPA. Therefore, EPA considers BASF's findings to be "new" information for the purposes of Section 8(e) reporting.

Considering the preceding discussions, EPA has determined that the toxicological information in FYI-OTS-1188-0653 INIT and FYI-OTS-0989-0653 S FLWP is "new" information that reasonably supports the conclusion that the subject triazole derivative can cause teratogenic and other serious adverse developmental effects. As such, BASF's findings should have been submitted to the Agency formally under Section 8(e) of TSCA.

a) The Existing Chemical Assessment Division will inform BASF about EPA's decision regarding the Section 8(e)-applicability/reportability of the findings contained in FYI-OTS-1188-0653 INIT and FYI-OTS-0989-0653 S FLWP. BASF will be informed also that the Chemical Screening Branch has delivered these two FYI notices to the OTS Document Control Officer (DCO) for immediate processing and filing as supplemental Section 8(e) submissions to the present Section 8(e) submission (8EHQ-1089-0835 S INIT).

   BASF will be asked to ensure that EPA recieves a complete copy of the final report from each study that was cited in BASF's Section 8(e) and/or FYI submissions immediately upon BASF's receipt of the study report.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject triazole derivative.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and OCM/OPTS/EPA; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 14 1989 **APPROVED:** 11/15/89

SUBJECT: Status Report[1] **8EHQ-1089-0836**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

In its TSCA Section 8(e) submission, the CIBA-GEIGY Corporation reported that the subject chemical substance, Chimassorb 119 (CAS No. 106990-43-6), had been the subject of a TSCA Section 5 "Pre-Manufacture Notification" (PMN No. P-87-328) for which a "Notice of Commencement" (NOC) was filed with EPA on December 10, 1987. According to CIBA-GEIGY, Chimassorb 119 is N,N'''-[1,2-ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl]]-bis[N',N''-dibutyl-N',N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl-1,3,5-triazine-2,4,6-triamine.

SUBMISSION DESCRIPTION

The CIBA-GEIGY Corporation provided a complete copy of the final report from a 90-day feeding study of Chimassorb 119 (CAS No. 106990-43-6) in rats. CIBA-GEIGY's cover letter presents the following information about the conduct and results of this study:

> "In [the study], rats were fed diets containing 0, 150, 800, 3000, and 12000 ppm CAS No. 106990-43-6. The primary finding was an increased presence of phagocytic cells (foamy macrophages) in a number of organs such as, lymph

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

nodes, small and large intestine, liver, spleen, ovary, adrenal gland, and kidney. These tissue reactions lead to secondary histopathological findings such as inflammatory and necrotizing changes. In addition, signs of anemia were present along with [a] disturbance in liver and kidney function. The no-observable-effect-level (NOEL) for the increase in foamy macrophages was below 150 ppm (approximately 9.8 mg/kg BW/day). . . . ."

SUBMISSION EVALUATION

Immediately upon receipt, a complete copy of this Section 8(e) submission was sent by the Chemical Screening Branch to staff of the Chemical Control Division (CCD/OTS); CCD is responsible for EPA's "New Chemicals Program" (NCP) under Section 5 of TSCA. It should be noted also that EPA has received a number of Section 8(e) submissions on piperidinyl-based UV light stabilizers; in 1988, the Chemical Screening Branch prepared a "Chemical Hazard Information Profile" (CHIP) on several of these chemicals. With regard to the present Section 8(e) submission, the Chemical Screening Branch will review the data on Chimassorb 119 in context with the information contained in 1) the previously received Section 8(e) notices, and 2) the CHIP document on piperidinyl-based UV light stabilizers.

CURRENT PRODUCTION AND USE

In its TSCA Section 8(e) submission, CIBA-GEIGY reported that Chimassorb 119 is "an imported material at a very early stage of commercial development." In addition, CIBA-GEIGY reported that Chimassorb 119 has "been sold to two customers in total quantities of less than 1000 lbs., as a major component of a light stabilizer formulation for polymers." CIBA-GEIGY stated further that because "the material is identified on the label and Material Safety Data Sheet as a sensitizer, the recommended handling precaution of 'wear impervious gloves' should protect against dermal exposure." In conclusion, CIBA-GEIGY stated that "because a granular form of the material is sold, inhalation exposure [to Chimassorb 119] is not expected to be significant."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the Chemical Screening Branch will ask CIBA-GEIGY to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of the subject chemical substance.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV - 7 1989 **APPROVED:** 11/13/89

SUBJECT: Status Report[1] **8EHQ-1089-0837 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 4 of this status report)

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "alkyl trialkoxysilane."

SUBMISSION DESCRIPTION

The submitting company provided summary information regarding the conduct and preliminary results of several *in vivo* toxicity studies and one *in vitro* genotoxicity study of this alkyl trialkoxysilane.

In an acute toxicity study involving the oral administration of the subject chemical to rats at a single oral dose of from 1000 to 4000 mg/kg, the LD50 was reported to be approximately 2200 mg/kg (males and females combined) with the times to death ranging from 3 to 12

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

days. The principle toxic signs reported among animals receiving an oral dose of 2000 mg/kg and above were "diarrhea, kyphosis, red or brown staining of the fur in the urogenital area, sluggishness, prostration, and (at 6 to 13 days post-dosing) hind-limb paralysis to variable extents (characterized by a dragging motion of the limbs)." In addition, front limb paralysis was reportedly observed in one animal at 9 days post-dosing. According to the submitted summary, no clinical signs were apparent among those animals that received a dose of 1000 mg/kg. Histopathological examinations of tissues from the animals that died as well as those animals that survived reportedly showed kidney and nervous system lesions that were dose dependent in terms of severity.

In an acute toxicity study involving the oral administration of the subject chemical to rabbits at a single oral dose of from 1000 to 4000 mg/kg, the LD50 was reported to be approximately 2600 mg/kg (males and females combined). The clinical signs reportedly seen at 4000 mg/kg included "unsteady gait, diarrhea, red perineal stains, sluggishness, emaciation, and prostration." In addition, "convulsions" were reported for one animal at 7 days post-dosing. There were no signs of limb paralysis among the treated animals. Although histopathologic examinations are not yet completed, gross observations reportedly included discolored lung and kidneys in the animals that died or survived treatment and altered renal cortex in only those animals that died. The submitter noted that because this particular study had been conducted with non-starved rabbits, an additional oral toxicity study will be performed using starved animals.

In an acute occluded dermal toxicity study in which the subject chemical was applied at a dose of from 2.0 to 16.0 ml/kg to the shaven skin of rabbits, the LD50 was reported to be approximately 3730 mg/kg (males and females combined); the times to death ranged from 4 to 13 days. Among rabbits receiving a dose of greater than 2.0 ml/kg, the clinical signs reportedly included "sluggishness, prostration, emaciation and (in two animals) hind limb paralysis (at 7 and 12 days respectively); no clinical signs were observed in animals at the 2.0 ml/kg dose level. Gross examination showed discolored lungs and kidneys in the dead and sacrificed animals, and enlarged kidneys and blood in the urine of the dead animals; histopathological examinations are reported to be underway.

In primary eye and skin irritation studies in rabbits, the subject chemical reportedly produced "only minor transient conjunctivitis" following instillation of 0.1 ml into the conjunctival sac, but did not produce any evidence of "local injury or inflammation" after 4-hour occluded dermal contact with a dose of 0.5 ml.

In an acute inhalation study in which rats were exposed for 6 hours to a "substantially saturated vapor" of the subject chemical, no deaths or clinical signs were reportedly seen during exposure or during the 14-day post-exposure observation period. The submitted summary reports that no gross pathological effects were observed in this study.

In another inhalation study, 15 Fischer 344 male rats were exposed (whole body) to an aerosol of the subject chemical for 6 hours/day, 5 days/week for 4 weeks. According to the provided summary, "the average exposure concentration (gravimetrically determined) was 150 mg/m^3, and the average mass median aerodynamic diameter was 3 um." The results of this 4-week inhalation study were reported to be as follows:

> "Six animals died between days 2 and 17 post-exposure, and a further animal, in [a] moribund condition, was sacrificed on day 18. Signs of toxicity included hind limb paresis (days 15 to 24), emaciation, dehydration, rapid shallow breathing, and periocular and perinasal encrustation. Absolute body weights were decreased for the second, third, and fourth weeks. Neurobehavioral observations indicated a decreased rearing frequency, abnormal hind limb gait, and decreased mobility. Necropsy of [the] animals revealed mottled lungs and kidneys only. Histological procedures are yet to be conducted on [the] tissues removed at necropsy."

Finally, the submitted summary states that no evidence of mutagenic activity was seen in the presence or absence of exogenous metabolic activation in an Ames assay using Salmonella typhimurium (bacteria) strains TA98, TA100, TA1535, TA1537 and TA1538.

SUBMISSION EVALUATION

Most notable among the reported toxicological findings are the observed neurotoxic and nephrotoxic effects. An EPA evaluation of the overall significance of the reported toxicological findings should be possible upon the Agency's receipt of complete copies of all of the studies that were cited in the company's Section 8(e) submission.

It should be noted that immediately upon receipt, the Chemical Screening Branch transmitted a copy of the incoming Section 8(e) submission to staff of the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in their ongoing review of available toxicological and exposure data on organosilanes. It should be noted also that the Agency has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on organosilanes. In addition, the Chemical Screening Branch prepared (in 1986) a "Chemical Hazard Information Profile" (CHIP) that covered a number of organosilane chemicals.

CURRENT PRODUCTION AND USE (See NOTE on Page 4 of this status report)

In view of the submitting company's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use(s) of this alkyl trialkoxysilane will appear in this status report.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of statistical analyses, etc.) from each study cited in the company's TSCA Section 8(e) submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitting company will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to this alkyl trialkoxysilane. In addition, the submitting company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the open scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As was the case for the initial submission, the Chemical Screening Branch will forward full copies of all reported information to the Risk Analysis Branch for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE In a letter dated February 7, 1991 (8EHQ-0291-0837 SUPP), the Union Carbide Chemicals and Plastics Company withdrew its claim of confidentiality for the company's name and the exact identity of the subject chemical. According to this February 7, 1991 letter, the subject chemical is "1,10-bis-trimethoxysilyldecane" (CAS No. 122185-09-5). It should be noted also that Union Carbide reported in this supplemental letter that the company had "ceased R&D work with this chemical."

James J. Carr for Frank O. Kover
2/15/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV - 7 1989 **APPROVED:** 11/13/89

SUBJECT: Status Report[1] **8EHQ-1089-0838 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The 3M Company claimed the exact identity of the subject chemical substance to be TSCA Confidential Business Information (CBI); the Information Management Division (IMD/OTS) will be reviewing all of the incoming correspondence related to 3M's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, 3M reported non-confidentially that the subject chemical is a "hydrazide compound."

SUBMISSION DESCRIPTION

The 3M Company provided the following summary information about the conduct and preliminary results of an acute oral toxicity study of this hydrazide compound in rats:

> "[According to a verbal report received from the contract testing laboratory, the subject chemical caused] . . . temporary ataxia, defined by the lab as 'incoordination of muscular activity involving locomotion,' appearing at the 24-hour observation period in 5/5 male rats and 2/5 female rats after an oral dose of 5 g/kg. None of the animals died within the 14-day observation period of the single dose limit test."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

An evaluation of the overall significance of the reported findings should be possible upon EPA's receipt of a full copy of the final report from the subject acute oral toxicity study.

CURRENT PRODUCTION AND USE

In view of 3M's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use(s) of this hydrazide compound will appear in this report. 3M reported non-confidentially that the subject chemical is at the research and development (R&D) stage.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask 3M to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study cited in the company's Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, 3M will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported findings, and 2) to reduce or eliminate exposure to this hydrazide compound. In addition, 3M will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which 3M is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical substance.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this hydrazide compound.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 20 1989 **APPROVED:** 11/20/89

SUBJECT: Status Report[1] **8EHQ-1189-0839**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Olin Corporation provided the final report of a guinea pig skin sensitization study of a chemical identified only as "Poly-Tergent CS-1 Analogue." Olin's cover letter presents the following summary information about the conduct and results of this study:

> "Ten male Hartley guinea pigs were dosed topically with a 10% concentration of the subject chemical [substance]. Nine induction applications were administered over a three week period. The test animals were challenged with the same concentration and dose of the test chemical two weeks later at two sites, the original and a virgin site. Forty-eight hours after the first challenge, a second challenge was conducted in a manner identical to the first. Reactions to the skin were read at 6, 24 and 48 hours following each induction and challenge dose. The negative control group also consisted of 10 male Hartley guinea pigs. The animals in the control group were dosed topically with distilled water only during the induction phase. Following the induction phase, the control animals were challenged with a non-irritating concentration of the test chemical. The procedure for induction, challenge and observations in the control group was identical to

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> that used for the treatment group. Five of ten animals [in the treated group] exhibited a positive response at the six-hour observation following the first challenge . . . Nine of ten animals exhibited a positive response at the six-hour observation [point] following the second challenge. Based on the results from the exposure of the treatment group compared to the negative control group, the test chemical is judged [as] having the potential to cause allergic skin sensitization in humans."

In its submission, Olin also reported that the company concluded "that if used improperly, the subject chemical could present a substantial risk to health or the environment."

SUBMISSION EVALUATION

An EPA evaluation of the overall significance of the reported toxicologic findings should be possible upon the Agency's receipt of information on the exact identity of, and the CAS No. (if known) for, "Poly-Tergent CS-1 Analogue." [See **Note** on Page 3]

CURRENT PRODUCTION AND USE

According to information provided in the submitted final report, the subject chemical is an "experimental surfactant." Olin did not provide any additional information regarding the specific use(s) or production of this substance.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Olin to provide the exact identity of and CAS No. (if known) for "Poly-Tergent CS-1 Analogue."

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Olin will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported findings, and 2) to reduce or eliminate exposure to the subject chemical. In addition, Olin will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which Olin is aware or that Olin has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this experimental surfactant.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Note In a letter dated January 12, 1990 (8EHQ-0190-0839 FLWP), Olin informed EPA that 1) Poly-Tergent CS-1 Analogue is an "oxyalkylated linear alcohol-carboxylic acid adduct," and 2) no CAS No. has been assigned to the chemical.

1/26/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 26 1989 **APPROVED:** DDK 12/1/89

SUBJECT: Status Report[1] **8EHQ-1189-0840 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the submitter reported non-confidentially that the subject chemical is an "oxo-(substituted amino)acetic acid hydrazide." The submitter also reported non-confidentially that the chemical is the subject of a previous TSCA Section 5 Pre-Manufacture Notification (PMN No. 88-468).

SUBMISSION DESCRIPTION

The submitting company provided summary information regarding the conduct and preliminary results of a two-week study of the subject chemical administered orally at doses of 0, 10, 30, 100, 300 and 1000 mg/kg to male and female Sprague-Dawley rats. The submitting company reported that this two-week study was designed to determine the appropriate dose levels for a 90-day study. According to the submission, the company recently obtained the following results from the two-week study:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"1. [The] in-life responses were confined to instances of salivation at 1000 mg/kg (no clinical signs at 300 mg/kg). There were no effects on bodyweight increments or food intake at 1000 mg/kg.

"2. Minor reductions (<10%) in erythrocytic characteristics were noted at 1000 mg/kg. Erythrocyte morphology and leucocyte numbers were unaffected.

"3. An approximately two-fold increase in thyroid size was noted in females at 30, 100, 300 and 1000 mg/kg. Histopathological examinations of tissues demonstrated that the changes in thyroid weights were associated with loss of colloid, hypertrophy and hyperplasia. The thyroids of male animals were unaffected at all administered dosage levels."

In providing the thyroid-related findings to EPA, the submitter questioned the significance of those findings for the following reasons:

"1. There are many examples of naturally occurring materials, pharmaceuticals, agrichemicals and industrial chemicals that cause similar changes in the thyroid gland. As far as . . . [the company is] aware, these chemicals affect the thyroids in both sexes. Therefore, the response in females only is unique and may indicate that confounding variables are involved.

"2. There are no documented cases of hydrazine compounds causing thyroid effects. This suggests the possibility that the [obtained] results may be an artifact, and should be examined more closely in the [ongoing] 90-day subchronic toxicity study."

With regard to the ongoing 90-day study, the submitter reported that the study will involve "measurement of thyroid function and [an] assessment of reversibility [of effects]."

SUBMISSION EVALUATION

Immediately upon receipt, the Chemical Screening Branch sent a full copy of this Section 8(e) notice to the Chemical Control Division (CCD/OTS) which is responsible for the TSCA Section 5 New Chemicals Program (NCP).

CURRENT PRODUCTION AND USE

The submitter of the Section 8(e) notice stated non-confidentially that the subject chemical substance is a research and development (R&D) compound that is "being handled only by technically qualified individuals that are trained in handling substances that have not

been fully evaluated for health effects." The "sanitized" version of PMN No. 88-468, which was obtained from EPA's public files, states non-confidentially that the subject chemical substance is 1) an intermediate, and 2) a member of the "HALS" chemical family. It should be noted that the term "HALS" is an acronym typically used for "Hindered-Amine Light Stabilizer" compounds. It should be noted also that the Chemical Screening Branch prepared (in 1988) a "Chemical Hazard Information Profile" (CHIP) covering a number of HALS.

COMMENTS/RECOMMENDATIONS

The submitter of the Section 8(e) notice stated that the subject chemical's Material Safety Data Sheet (MSDS) will be revised to reflect the toxic effects observed in the two-week pilot study.

a) The Chemical Screening Branch will ask the submitter of the Section 8(e) notice to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, the results of gross/histopathological examinations, the results of statistical analyses, etc.) from the two-week pilot and 90-day subchronic toxicity studies cited in the company's Section 8(e) submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and/or exposure information, the Section 8(e) submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As was the case for the initial Section 8(e) submission, copies of all followup correspondence pertaining to the submission will be provided to CCD/OTS.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 20 1989 **APPROVED:** 11/30/89

SUBJECT: Status Report[1] **8EHQ-1189-0841**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

E. I. DuPont de Nemours & Company, Inc. provided the following summary information regarding the conduct and preliminary results of an acute dermal irritation study of tetra-n-butylphosphonium phenylphosphinate (TBPP; CAS No. unknown) in rabbits:

> "Approximately 200 mg/kg of body weight of TBPP was applied to the clipped, intact skin of six New Zealand white rabbits and held in place with gauze and rubber sheeting to retard evaporation and to keep the test material in contact with the skin. TBPP produced severe skin irritation with necrosis and death. Other clinical signs included lethargic behavior, incoordination of [the] head and front limbs, and convulsions."

SUBMISSION EVALUATION

An evaluation of the overall significance of the reported findings should be possible upon the Agency's receipt of a full copy of the cited acute dermal irritation study.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

CURRENT PRODUCTION AND USE

According to DuPont's Section 8(e) submission, TBPP is a research and development (R&D) chemical synthesized by the company. DuPont did not provide any information on the use(s) of TBPP nor was such information located in the secondary literature sources consulted by EPA. DuPont did report, however, that the company has "elected not to pursue TBPP on a commercial basis."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask DuPont to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute rabbit skin irritation study of TBPP cited in the submission. In addition, DuPont will be asked to provide the CAS No. (if known) for TBPP.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, DuPont will be asked to describe the actions that DuPont has taken or plans to take to notify workers and others about the reported information. In addition, DuPont will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which DuPont is aware or that DuPont has conducted, is conducting or plans to conduct that are designed to determine the toxicity of TBPP.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC - 7 1989 **APPROVED:** 12/12/89

SUBJECT: Status Report[1] **8EHQ-1189-0842 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The CIBA-GEIGY Corporation has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (TSCA CBI). The Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its TSCA Section 8(e) notice, CIBA-GEIGY stated non-confidentially that the subject chemical substance is a "substituted benzdioxolcarbonitrile."

SUBMISSION DESCRIPTION

CIBA-GEIGY provided the results of a preliminary embryotoxicity and teratogenicity study of this substituted benzdioxolcarbonitrile administered orally to presumed pregnant Sprague-Dawley rats at dose levels of 0, 100, 300, 1000 or 2000 mg/kg/day on days 6-15 of gestation. According to the submitted information, maternal toxicity (indicated by reduced body weight gain) was seen at all dose levels, and developmental toxicity (evidenced by incomplete ossification of the 5th and 6th sternebrae, 4th metacarpus and/or hyoid bone) was observed at 300 mg/kg/day and higher.

CIBA-GEIGY stated that the company plans to conduct a "definitive" teratology study of this substituted benzdioxolcarbonitrile.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

In submitting these findings to EPA under Section 8(e) of TSCA, CIBA-GEIGY stated that 1) "all of the delayed ossification effects were observed at maternally toxic dose levels," and 2) "this type of delayed bone ossification is not considered particularly serious by some toxicologists and is even discounted by others as a true teratogenic effect." CIBA-GEIGY stated also that "the doses chosen were of a sufficient magnitude (there was one fatality [among the dams] in the 2000 mg/kg group) that any significant embryotoxic/ teratogenic events would have been observed."

SUBMISSION EVALUATION

This submission provides evidence for maternal and developmental toxicity following exposure to the subject chemical substance. Maternal toxicity was observed in all treated groups and one dam in the highest dose group (2000 mg/kg) died. At 2000 mg/kg, there was a significant reduction in the mean maternal body weight on gestational days 9 and 15. In addition, there was a significant decrease in maternal body weight gain during the treatment period at all dose levels. There were no apparent clinical signs and the necropsy revealed no gross lesions.

With regard to developmental toxicity, there was a significant increase in the incidence of delayed ossification of the hyoid bone observed at 2000 mg/kg, while exposure to 1000 or 2000 mg/kg caused a significant increase in the incidence of delayed ossification of the 4th metacarpus. The exposure to 300 mg/kg or more resulted in a significant increase in the incidence of delayed ossification of the 5th and 6th sternebrae.

CHEMICAL USE/EXPOSURE INFORMATION

In view of the submitter's TSCA CBI claim, no information about the TSCA Chemical Substance Inventory status of the subject chemical will appear in this report. CIBA-GEIGY reported non-confidentially that this compound is a research and development (R&D) chemical that is being evaluated for use as a pesticide. According to the SUMMARY AND CONCLUSIONS section of the submitted non-confidential version of the teratology study report, the tested chemical "is known to possess fungicide properties."

COMMENTS/RECOMMENDATIONS

It is important to point out that it is inappropriate to assume that adverse developmental effects observed at maternally toxic dose levels result only from maternal toxicity. Both the mother and the fetus may be sensitive to the same dose; adverse effects on the mother may be reversible, while those experienced by the fetus can be permanent. It is equally important to note that while EPA agrees with CIBA-GEIGY that delayed skeletal ossification is not typically viewed as being as serious as some other adverse developmental effects, delayed ossification is considered by EPA to be a sensitive sign of developmental toxicity and should not be discounted. For the purposes of determining TSCA Section 8(e)

applicability, therefore, the observation of a biologically or statistically significant increase in delayed skeletal ossification (or another more serious adverse developmental effect), even if seen only in the presence of serious maternal toxicity, should be considered immediately for reporting under Section 8(e) of TSCA. EPA's longstanding position with regard to this matter is fully consistent with the March 16, 1978 Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110). Part V of EPA's Section 8(e) policy statement explains that the types of information considered by the Agency to be reportable pursuant to Section 8(e) include "any pattern of effects or evidence which reasonably supports the conclusion that the [tested] chemical substance or mixture can produce . . . birth defects or other toxic effects resulting in death, or serious or prolonged incapacitation." Part V explains also that the information concerning such serious effects can be obtained directly by observation of their occurrence or inferred from animal studies. Finally, it should be noted that EPA has received numerous Section 8(e) submissions based on animal studies in which serious developmental effects were observed at dose levels that resulted in extreme toxicity (e.g., lethality) in the dams.

a) The Chemical Screening Branch will ask CIBA-GEIGY to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of statistical analyses, etc.) from the "definitive" teratology study that the company plans to conduct.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, CIBA-GEIGY will be requested to describe the actions that CIBA-GEIGY has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, CIBA-GEIGY will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that CIBA-GEIGY has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of this substituted benzdioxolcarbonitrile.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical substance.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 30 1989 **APPROVED:** JDK 12/1/89

SUBJECT: Status Report[1] **8EHQ-1189-0843 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The CIBA-GEIGY Corporation has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's CBI claim. In the "sanitized" version of its Section 8(e) submission, the company reported non-confidentially that the subject chemical is a "halogenated benzoyl urea."

SUBMISSION DESCRIPTION

CIBA-GEIGY provided the following summary information regarding the conduct and preliminary results of a 3-month feeding study of the subject chemical in rats:

		Feeding level (rats) (ppm)	0	25	150	1500	15000
	Sex	No. of animals	20	10	10	10	20
Incidence of tonic-clonic seizure	Male		0/20	0/10	0/10	0/10	9/20
	Female		0/20	0/10	0/10	1/10	8/20

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

CIBA-GEIGY reported further that "in the control and highest dose group, ten (10) animals per sex were kept for a 4-week recovery period before sacrifice." CIBA-GEIGY also reported that "tonic-clonic seizures were observed in two males of the high dose group (15000 ppm) during the last week of the recovery period."

In its Section 8(e) notice, CIBA-GEIGY also provided the following summary information regarding the conduct and preliminary results of a 3-month feeding study of the subject chemical in mice:

		Feeding level (mice) (ppm)	0	1000	3000	9000
	Sex	No. of animals	10	10	10	10
Incidence of tonic-clonic seizure	Male		0/10	1/10	7/10	6/10
	Female		0/10	1/10	6/10	3/10

CIBA-GEIGY reported that "it is not clear from the preliminary information whether or not the tonic-clonic seizures noted in the mouse study occur only at the time of death."

SUBMISSION EVALUATION

An Agency evaluation of the overall significance of the reported neurotoxicologic findings should be possible upon receipt of full copies of the final reports from the 3-month feeding studies of this halogenated benzoyl urea in rats and mice.

CURRENT PRODUCTION AND USE

In view of the submitter's CBI claim, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this report. CIBA-GEIGY reported non-confidentially that the subject chemical was a research and development (R&D) compound being evaluated by the company for use as a pesticide.

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY reported that the Material Safety Data Sheet (MSDS) for the subject chemical was being updated to reflect the fact that tonic-clonic seizures had been observed in animal studies.

a) The Chemical Screening Branch will ask CIBA-GEIGY to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross/histopathological examinations, results of any statistical analyses, etc.) from the 3-month mouse and rat feeding studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, CIBA-GEIGY will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that CIBA-GEIGY has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC - 7 1989 **APPROVED:** 12/12/89

SUBJECT: Status Report[1] **8EHQ-1189-0844 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 4 of this status report)

The submitter has claimed its name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to these TSCA CBI claims. In the "sanitized" version of this TSCA Section 8(e) notice, it was reported non-confidentially that the subject chemical is an "alkyl halide."

SUBMISSION DESCRIPTION

The submitter provided the following summary information regarding the conduct and preliminary results of an inhalation teratology study of this alkyl halide in rabbits:

> "Pregnant rabbits were exposed to the test compound at 0, 20, 40 and 80 ppm via inhalation for 6 hours per day during the period of organogenesis (days 7-19). Severe clinical maternal toxicity was observed in the high dose exposed animals. However, clinical signs reversed upon cessation of exposure.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

". . . [The contract laboratory performing this study recently reported that] an increased incidence of missing gall bladder was observed on necropsy examination of the fetuses. The incidence in the high dose group was significantly different from the control group. [The] incidence in control vs. high dose groups was 1.1% vs. 8.2% of the fetuses, and 4.8% vs. 26.3% of the litters. Other malformations and total malformations were not significantly different from the control.

"Maternal endpoints of body weight and body weight gain were decreased in the high dose group females compared to control. Clinical signs of maternal toxicity were noted in the high dose females. There were no treatment related effects in pregnancy rates, pre-implantation loss, resorptions, litter size, fetal weights, fetal sex ratio, or gravid uterine weights.

"Skeletal malformations had not been tabulated at the time of [receipt of the contract laboratory's] oral report. Histopathology was completed on one fetus with missing gall bladder to confirm that the defect was not accompanied by other liver effects."

In providing these preliminary findings to EPA under Section 8(e) of TSCA, the submitter stated that "there is published literature linking missing gall bladder to heredity" and offered the following comments regarding interpretation of the reported findings:

"There is considerable doubt whether the malformation is compound related. This test was done using New Zealand white rabbits. In addition, the occurrence of missing gall bladder in this study is associated with a common male used for insemination. . . . [The submitter has] commissioned a mating test of the suspected male to determine the genetic linkage of this malformation. [In addition, the submitter has] commissioned a repeat of the high dose study."

In conclusion, the submitter stated its belief that a "combination of a positive mating test and the lack of an increased incidence of gall bladder in the repeat of the high dose [teratology] study will unequivocally demonstrate the malformation being reported in this [TSCA Section 8(e)] notice is hereditary and not test compound related."

SUBMISSION EVALUATION

This Section 8(e) submission provides evidence for both maternal and developmental toxicity after inhalation exposure to the subject chemical. Maternal toxicity (evidenced by a significant reduction in body weight/body weight gain and clinical signs (e.g., lethargy, right-sided head tilt, slight ataxia, and/or lateral recumbency))

was observed in the highest dose group (80 ppm). Developmental toxicity seen at 80 ppm was evidenced by an increased incidence of malformations (23/159 fetuses in 12/20 litters at 80 ppm versus 4/190 fetuses in 3/21 control litters). Much of the observed increase was due to a significant increase in the number of fetuses with no gall bladder.

An evaluation of the reported findings should be possible upon the Agency's receipt of a full copy of the final report from the subject inhalation teratology study as well as complete copies of the final reports from the repeat high dose teratology and mating studies cited in the submission. It is these latter two studies that the submitter believes will "unequivocally demonstrate" that the observed adverse developmental effects are hereditary and not related to exposure to the tested alkyl halide.

CURRENT PRODUCTION AND USE (See NOTE on Page 4 of this status report)

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use(s) of this alkyl halide will appear in this status report.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that the Agency receives a complete copy of the final report (including the actual experimental protocol, the results of gross and histopathological examinations, the results of any statistical analyses, etc.) from the rat inhalation teratology study, the repeat high dose rat inhalation teratology study, and the rat mating study cited in the submission.

   In view of EPA's general interest in company actions taken on a voluntary basis in response to chemical toxicity or exposure information, the submitter will be asked to describe the actions that have been taken or are planned to 1) notify workers and others about the reported data, and 2) reduce or eliminate exposure to this alkyl halide. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the submitter has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) The Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this alkyl halide.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE According to a "declassified" (no longer confidential) version of the initial TSCA Section 8(e) submission, the Methyl Bromide Industry Panel is the submitter and the subject chemical is methyl bromide (CAS No. 74-83-9).

James J. Vorr 6/4/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 11 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1189-0845**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Eastman Kodak Company provided the following summary information about the conduct of and preliminary findings from a 4-week rat oral toxicity study of (4-(1-methylbutoxy)-phenyl)hydrazine monohydrochloride (CAS No. unknown):

> "Groups of five male and five female rats were given doses of 0, 15, 45, or 135 mg/kg of the test compound in corn oil five days per week for four weeks. Treatment-related clinical signs were only seen in the 135 mg/kg animals. Significant alterations in hematology were observed at all dose levels for both sexes. Abnormalities included decreased red blood cell counts and altered red blood cell indices (increased mean corpuscular volume, increased mean corpuscular hemoglobin, and decreased mean corpuscular hemoglobin concentration). Red blood cell morphological abnormalities included alterations in size, shape, and staining characteristics. There was a dose-dependent increase in reticulocyte and Heinz body counts.
>
> "There was a dose-dependent increase in spleen weight in both sexes. Spleens were grossly darkened and enlarged. Histologically, there was increased extramedullary

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> hematopoiesis and hemosiderin deposition in spleens, kidneys, and livers. Other observations [(e.g., dose-related increases in bilirubin levels)] made during this study . . . [were described in a study summary included by Eastman Kodak in its submission]."

In providing these findings to EPA, Eastman Kodak stated that "a no-effect level for red blood cell toxicity was not obtained in this study; however, the effects observed in the 15 mg/kg groups were slight, suggesting that few or no toxic effects would be observed at doses less than 15 mg/kg." Eastman Kodak also noted that the adverse effects seen in the 4-week study "are consistent with known actions of substituted hydrazines."

Eastman Kodak also submitted the final results from a number of acute toxicity studies of the subject chemical. According to the provided summaries, the chemical was found to have oral LD50's of 544 mg/kg and 769 mg/kg in male and female rats, respectively, and the dermal LD50 in rats was reported to be in excess of 2000 mg/kg. Although in an acute guinea pig dermal irritation study, a single occluded dose of .5 g was reported to be only slightly irritating, an acute eye irritation study in rabbits showed the chemical to be severely irritating. The subject chemical was reported further to be negative in a guinea pig skin sensitization study.

Finally, Eastman Kodak submitted a copy of a Material Safety Data Sheet (MSDS) that had been updated to reflect the results of the company's 4-week rat oral toxicity study of the subject chemical substance.

USE AND EXPOSURE POTENTIAL

Eastman Kodak provided the following information about the use of and potential for exposure to the subject chemical:

> "This compound is a research and development chemical being pursued as a site-limited intermediate in a multi-step synthesis. None of the intermediate appears in the final product. The intermediate was originally designated as health hazards unknown - avoid all contact. Based on the acute toxicity testing, employees will be required to wear company-supplied clothing, gloves, face shield and safety glasses. In addition, employees will be required to wear respiratory protection when a potential for inhalation exposure exists. . . . ."

COMMENTS/RECOMMENDATIONS

Eastman Kodak stated that the company will 1) continue to evaluate employee exposure to the subject chemical, and 2) consider the need for additional toxicological testing of the compound.

a) The Chemical Screening Branch will ask Eastman Kodak to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 4-week toxicity study cited in the submission. In addition, Eastman Kodak will be asked to keep the Agency apprised of the nature and results of other toxicity or exposure studies the company conducts, or about which the company becomes aware, that pertain to the subject chemical.

b) The Chemical Screening Branch will review the reported information as part of the "FIRST REVIEW" phase in the Existing Chemical Program (ECP) in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC - 7 1989 **APPROVED:** 12/12/89

SUBJECT: Status Report[1] **8EHQ-1189-0846**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Chemical Manufacturers Association (CMA) Cumene Panel submitted preliminary results from an inhalation study in which cumene (CAS No. 98-82-8) vapor was administered at doses of 0, 100, 500 or 1200 ppm for 6 hours/day, 5 days/week for 13 weeks to male and female Fischer 344 rats. According to CMA, this study, which involved a neurotoxicologic evaluation, was conducted as part of the testing requirements under a TSCA Section 4 Test Rule (40 CFR 799.1285); the study co-sponsors are listed on page 3 of this status report. CMA stated that a final report of this study will be sent to EPA by the December 9, 1989 test rule deadline. CMA's Section 8(e) notice contained the following summary information about the study:

> "Ophthalmic findings, prior to sacrifice, noted focal nuclear cataracts in all groups of rats. [The] reported observations include focal nuclear cataracts in five of the twenty-one control group females and in one of the twenty-one control group males. In the males, the number of focal nuclear cataracts was increased at all exposure concentrations, with eleven of twenty rats exhibiting the cataracts at the uppermost concentration of [the] test material. In the females, there was an increased incidence of focal nuclear cataracts at the higher dose levels.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "Although focal nuclear cataracts in the Fischer 344 male rats were observed at each exposure level in a [cumene] treatment-related effect, the biological significance of these observations remains unclear as these same lesions were also noted in the untreated female and male control groups."

CMA also provided the following information regarding additional observations made during the study:

> "Neurotoxicological evaluations in [the cumene-]treated male rats have shown a statistically significant decrease in motor activities compared to control animals. These changes include a statistically significant decrease in ambulatory activity 23 to 25 hours after previous [vapor] exposures of 1200 and 500 ppm for weeks 4, 9 and 13, and a statistically significant decrease in total activity (including ambulatory, fine motor, and rearing activity) at 23 to 25 hours after previous exposure of 1200 ppm for Week 13. There were no motor activity changes observed in female rats at any exposure tested.
>
> "Although there were statistically significant changes in motor activity, no correlation could be made histologically. After comparable exposure, functional observation batteries were negative for both male and female animals, and no other significant effects in these studies have been observed. In addition to these findings, the following observations were also noted at one hour after a single six-hour exposure (but not at six and twenty-four hours after exposure):
>
> - gait abnormalities in males at 1200 ppm
> - decreased rectal temperature in males and females at 1200 ppm
> - increased activity in both sexes at 1200 ppm and in females only at 500 ppm."

USE AND EXPOSURE POTENTIAL

Information regarding the uses of and the potential for exposure to cumene is located in the proposed and final TSCA Section 4 Test Rules (50 FR 46104, November 6, 1985; 53 FR 28195, July 27, 1988; respectively).

COMMENTS/RECOMMENDATIONS

To date, EPA has received a number of TSCA Section 8(e) submissions from trade associations on behalf of their member companies. In the **COMMENTS/RECOMMENDATIONS** portion of the status report that was prepared by EPA in response to TSCA Section 8(e) submission number 8EHQ-0186-0587, the Agency reiterated its position with regard to

the Section 8(e) reporting obligations of trade associations and their member companies. It is important to note also that EPA has received several TSCA Section 8(e) submissions containing interim results of studies being conducted pursuant to Section 4 of TSCA. EPA's position regarding the relationship between TSCA Section 4 and Section 8(e) was reiterated in the **COMMENTS/RECOMMENDATIONS** portion of the status report that was prepared by the Agency in response to Section 8(e) submission number 8EHQ-0589-0797.

a) In view of EPA's general interest in actions taken on a voluntary basis in response to chemical toxicity/exposure data, CMA will be requested to describe the actions that it or its member companies have taken or plan to take 1) to notify workers and others about the reported findings, and 2) to reduce or eliminate exposure to cumene.

b) As was the case with the initial submission, the Chemical Screening Branch will immediately transmit all reported information to staff of the Test Rules Development Branch (TRDB/ECAD/OTS) for inclusion in their ongoing review of toxicologic and exposure data on cumene.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Study Co-Sponsors

Allied Signal Corporation
Aristech Chemical Company
Ashland Oil Company
Amoco Corporation
Champlin Refining & Chemicals, Inc.
Chevron Chemical Company
Coastal Eagle Pt. Oil Co., Inc.
Dow Chemical Company
Georgia Gulf Corporation
Koch Refining Company
Shell Oil Company
Texaco Chemical Company

DATE: OCT 26 1990 **APPROVED:** 11/6/90

SUBJECT: Status Report[1] **8EHQ-1189-0847 INIT** (Chevron)
8EHQ-1289-0847 SUPP (CIBA-GEIGY)
8EHQ-0290-0847 SUPP (Chevron)

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

TO: Frank D. Kover, Chief
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

In the initial TSCA Section 8(e) submission (8EHQ-1189-0847 INIT), Chevron International Oil Company, Inc. provided information with regard to an in vitro Chinese Hamster ovary (CHO) cell chromosomal aberration study of 2-(3,4-epoxycyclohexyl-5,5-spiro-3,4-epoxy)-cyclohexane-m-dioxane. In a supplemental Section 8(e) submission (8EHQ-0290-0847 SUPP), Chevron Environmental Health Center, Inc. reported that the test material was "Union Carbide Cycloaliphatic Epoxy Resin ERL-4234[2] . . . (CAS No. 3388-03-2)." Chevron's initial Section 8(e) submission presents the following summary information about the conduct and preliminary results of the company's study:

> "Preliminary evaluation of . . . [the results from this in vitro study] indicates that this compound produced a statistically significant increase in aberration-bearing cells without metabolic activation after 20 hours of continuous treatment and with metabolic activation at 14

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

[2] *Trademark of the Union Carbide Corporation (now the Union Carbide Chemicals and Plastics Company, Inc.)*

> and 20 hours after a 2-hour treatment. Treatment was at 75 to 300 ug/ml and 300 to 600 ug/ml without and with metabolic activation, respectively. The observed response was positive but not dose-responsive. A final report for this study has not yet been issued."

According to Chevron's initial Section 8(e) submission, the tested chemical substance is known by several names including: "Ba 42'579, Araldite[R] CY-175[3], Bakelite[R] ERL-4234[4] (or simply ERL-4234)." After being informed about Chevron's intention to file a Section 8(e) notice, the CIBA-GEIGY Corporation reported (8EHQ-1289-0847 SUPP) that Union Carbide's ERL-4234 "is similar in chemical composition to one of . . . [CIBA-GEIGY's] former products known as Araldite CY-175 (commercial name) which in turn was similar to Ba 42'579 (early R&D code designation)." [Note: According to the printed version of the Agency's initial TSCA Chemical Substance Inventory, the CAS No. for Araldite CY-175, Bakelite ERL-4234, and ERL-4234 is 26616-47-7 and refers to the homopolymeric form of the cyclo-aliphatic epoxy resin assigned CAS No. 3388-03-2.][5]

In the initial Section 8(e) notice, Chevron also submitted a copy of a September 19, 1969 final report entitled "Carcinogenicity of Ba 42'579, Ba 42'580 and Ba 42'581 in Dermal Application to Mice." The "INTRODUCTION" and "SUMMARY" sections of the submitted final report provided the following information about the conduct and results of preliminary dose range-finding and chronic mouse skin-painting studies that were performed by CIBA Limited (located in Basel, Switzerland) "to investigate the carcinogenicity of the three synthetic resins Ba 42'579, Ba 42'580 and Ba 42'581":

> "Preliminary studies [designed] to establish tolerance and dosages were conducted . . . using Chester Beatty stock mice. . . The findings indicated that the [3] test compounds were essentially non-irritant, and that thrice-weekly applications of 30% solutions in acetone would be tolerated. . . . [The chief laboratory investigator] recommended that each material should be applied at a concentration of 15% for the initial three weeks with subsequent increases in concentration to the maximum [dose] tolerated.

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[3] *"Araldite" is a CIBA-GEIGY Corporation trademark.*

[4] *"Bakelite" is a trademark of the Union Carbide Corporation (now the Union Carbide Chemicals and Plastics Company, Inc.)*

[5] *It is reasonable to assume that the commercial product consists primarily of unpolymerized monomeric material. Any homopolymer present is probably responsible for improving the properties of the commercial product (e.g., viscosity). Epoxy-function commercial products of this type usually consist of low molecular weight species that are readily available for further reaction with other products such as Bisphenol A-type resins.*

"In . . . [the chronic study, three groups (52/sex/group) of 'hysterectomy-derived, specific pathogen-free mice'] were painted three times per week on the shaved dorsal skin with [resin] solutions in acetone, (0.3 ml/mouse/ treatment) for a total of 52 weeks, followed by a 28 week observation period. [A fourth group of 52 males and 52 females served as untreated controls for the study.]

"Due to the severity of the local [dermal irritation] response to Ba 42'581 at the initial dose of 15%, and the resultant mortality, replacement mice, born within ±24 hours of the original stock, were obtained.

"A further two-fold reduction in the concentration of Ba 42'581 to 3.75% resulted in [an] improved tolerance. Ba 42'579 and Ba 42'580 were applied at 15% and were well tolerated throughout the [52-week] treatment period.

"The following reactions to treatment were noted:

"1. All mice treated with Ba 42'581 showed complete depilitation of the dorsal surface, which, in the majority of cases, extended beyond the treated area. Only the male members of this group showed signs of mild erythema and some scaling; this may, however, have been related in part to the pugnacity of those mice. During the observation period, hair growth gradually resumed in the females of this group, although there were no such improvement in the male survivors.

"2. Among mice treated with Ba 42'579 and Ba 42'580, no mortalities occurred which could be directly attributable to treatment. Mortalities among mice treated with Ba 42'581 were relatively numerous, particularly among [the] males; death was usually preceded by a general loss of condition, apparently related to treatment, superimposed by injury and infection arising from the pugnacious habit of these mice.

"3. Slightly inferior body weights were recorded for both sexes treated with Ba 42'579 and Ba 42'581.

"4. All three [synthetic resin] compounds produced a significant number of both benign and malignant tumors, whereas no epithelial tumors arose in the untreated control mice. Ba 42'581, dosed at one quarter the concentration of the other two compounds, clearly showed the greater tumorigenicity.

"5. The distribution of abscopal tumors appeared unrelated to treatment. [Abscopal 'denotes tumors arising at any site other than the area of painted skin.']

> "6. It may, therefore, be concluded that under the present [testing] conditions, Ba 42'579, Ba 42'580 and Ba 42'581 are carcinogens for mouse skin, with Ba 42'581 exhibiting greater activity than either of the other two compounds."

In its initial submission, Chevron also provided 1) a copy of a CIBA-GEIGY Corporation letter (dated May 25, 1977) informing the EPA Administrator that CIBA-GEIGY had "received information which supports the conclusion that Araldite CY-175 . . . is a suspect animal carcinogen," and 2) several enclosures that accompanied the May 25, 1977 letter to EPA, including:

- a copy of a form letter by which CIBA-GEIGY was notifying its ARALDITE CY-175 customers that the chemical was "a suspect animal carcinogen." This draft notification letter also states that Araldite CY-175 is a component of Xylok[R] Resin 235 NK-75[6], Xylok[R] Hardener 231 N-90 and Araldite[R] CY-185.

- a copy of a revised (May 23, 1977) CIBA-GEIGY Material Safety Data Sheet (MSDS) for Xylok Resin 235 NK-75, a formulated "Novolac-Type" resin solution containing ~75% Araldite CY-175, ~22% methyl ethyl ketone (CAS No. 78-93-3), and ~3% methyl isobutyl ketone (CAS No. 108-10-1). (This MSDS states that Araldite CY-175 is a "suspect animal carcinogen.")

In the initial TSCA Section 8(e) submission, Chevron also included a copy of a revised (March 14, 1989) MSDS for Hyjet[R] IV-A[7], which contains ~3% cycloaliphatic epoxy resin (CAS No. 3388-03-2), ~79% tributyl phosphate (CAS No. 123-73-8), ~12% trialkylphenyl phosphate (CAS No. 68937-41-7) and <7% other additives. The "ADDITIONAL HEALTH DATA" section of Chevron's Hyjet IV-A MSDS presents the following information about the product:

> ". . . [Hyjet IV-A] contains a cycloaliphatic epoxide additive [(CAS No. 3388-03-2)]. This ingredient caused cancer in the skin of mice when applied as a 15% solution in acetone. The epoxide was applied three times per week for a year and never removed. Since the acetone would quickly evaporate, this equates to continuous skin contact with 100% cycloaliphatic epoxide. As a result of this exposure, 15% of the treated mice developed skin cancer. . . . .

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[6] *"Xylok" is a CIBA-GEIGY Corporation trademark.*

[7] *"Hyjet" is a Chevron trademark.*

"Because of the international sale and use of Chevron Hyjet fluids, the label uses a risk phrase mandated by the European Economic Community (EEC). The label warning 'Possible Risk of Irreversible Effects' is intended to convey . . . [Chevron's] concern that prolonged and repeated skin contact with the [cycloaliphatic] epoxide can be harmful. It is . . . [Chevron's] belief that Chevron Hyjet IV-A can be worked with safely with no further precautions than would be required for [the use of] any aviation hydraulic fluid using similar base stocks."

In its supplemental Section 8(e) submission, Chevron provided an April 14, 1989 revised MSDS for Union Carbide Cycloaliphatic Epoxy Resin ERL-4234. The "HEALTH HAZARD DATA" section of the MSDS states that ERL-4234 "has been shown to be tumorigenic in mice by long-term repeated application to the skin." In addition, the "SPECIAL PRECAUTIONS" section of the ERL-4234 MSDS states that this chemical substance "causes cancer in laboratory animals."

In its supplemental Section 8(e) submission, CIBA-GEIGY provided copies of the following enclosures that reportedly accompanied the company's May 25, 1977 letter to the EPA Administrator:

- the product labels for Xylok Resin 235 NK-75, Xylok Hardener 231 N-90, and Araldite CY-185. Each of these product labels states "Prolonged or repeated contact of liquid or breathing of vapors or mists may cause delayed or serious injury." According to CIBA-GEIGY's May 25, 1977 letter, revised labels conforming to the Society of the Plastics Industry (SPI) "Class 6 Hazard Category" guidelines were being "prepared and affixed to all future shipments of these products by July 15, 1977." According to CIBA-GEIGY, the SPI Class 6 Hazard Category warning is as follows: "Suspected carcinogen in animals. The product can cause a carcinogenic response when applied topically to or inhaled by experimental animals."

- a revised (May 23, 1977) MSDS for CIBA-GEIGY's Xylok Hardener 231 N-90, a product containing ~50% Araldite CY-175, ~7% methyl ethyl ketone, and ~3% 2-methoxy ethanol (CAS No. 109-86-4). This MSDS states that Araldite CY-175 is a "suspect animal carcinogen."

- a revised (May 23, 1977) MSDS for CIBA-GEIGY's Araldite CY-185, a "modified cycloaliphatic epoxy resin" product containing ~70% Araldite CY-175. This MSDS also states that Araldite CY-175 is a "suspect animal carcinogen."

According to CIBA-GEIGY's supplemental TSCA Section 8(e) notice, "Araldite CY-175, per se, was withdrawn as an imported product in 1976" and "all use of Araldite CY-175" was discontinued in the company's other products in 1979. In addition, CIBA-GEIGY stated that the company "learned in 1976 that Ba 42'579 was prepared by a manufacturing process that changed significantly after 1968." CIBA-GEIGY reported further that the company has "never imported, manufactured, processed, or distributed . . . [the other two tested synthetic resins (Ba 42'580 and Ba 42'581)] in the United States."

In the supplemental TSCA Section 8(e) notice, CIBA-GEIGY stated that the 1969 chronic mouse skin-painting study final report had been in the company's files prior to the passage of TSCA in 1977. CIBA-GEIGY also stated that due to post-1968 manufacturing changes for Ba 42'579, "the relevance of the study reported in 1969 was questionable with respect to the product subsequently marketed as Araldite CY-175." In addition, CIBA-GEIGY stated that although the company has "not had occasion to reconsider this [1969] study for many years," CIBA-GEIGY's current evaluation of the study is as follows:

> ". . . . This was a poorly conducted study of limited value because only one dose was used and there was no vehicle control group. In addition, the dosing solution concentration was changed for about 1 month during the study. The results were limited to application site lesions that consisted of epithelial hyperplasia and tumors. There was no evidence of absorption, as demonstrated by the absence of systemic effects, including treatment related tumors. It is . . . [the company's] opinion that skin tumors limited to the application site in animals are not relevant to human health."

SUBMISSION EVALUATION

In Vitro Chromosomal Aberration Study

The submitted summary indicates that ERL-4234 produced chromosom aberrations in cultured mammalian cells. An EPA evaluation of tl overall significance of the findings should be possible when tl Agency receives a full copy of the final report.

1969 Chronic Skin-Application Study

Although there are a number of limitations of the 1969 study, the results clearly show that Ba 42'579 (as well as the other two test materials) produced a significant incidence of benign and malignant epithelial tumors when applied dermally 3 times per week for 1 year to the shaved dorsal skin of male and female mice; no epithelial tumors were observed in the untreated controls. While the Agency recognizes the fact that an acetone (vehicle) control group was not used in this study, it is important to point out that chronic application of acetone to the skin of mice has not been shown to

result in an oncogenic response. Therefore, it is highly unlikely that the tumors seen in the study were due to the vehicle. Further, it is important to note that only the Ba 42'581 dosage levels were changed (reduced) during the study due to the fact that this test material was not tolerated well by the mice; the dose levels of the other two compounds (Ba 42'579 and Ba 42'580) remained constant throughout the study.

COMMENTS/RECOMMENDATIONS

In contrast with CIBA-GEIGY's current opinion about the relevance of application site tumors in animal studies, EPA believes that statistically or biologically significant tumorigenic responses seen in animal studies (including exposure site-specific tumors) are relevant to assessing potential carcinogenic risks for humans.

Despite CIBA-GEIGY's assertion (in 8EHQ-1289-0847 SUPP) that the post-1968 manufacturing changes for Ba 42'579 led the company to question the relevance of the 1969 chronic dermal application study findings with respect to Araldite CY-175, it is quite apparent that, in May of 1977, CIBA-GEIGY believed those findings to be sufficiently relevant to Araldite CY-175 that they felt compelled to report the study outcome to the EPA Administrator and to notify others in writing that the company had done so.

Further, the 1969 chronic dermal application study findings appear to have been viewed by CIBA-GEIGY to some degree in the context of the actual statutory language of Section 8(e) of TSCA; the copy of CIBA-GEIGY's May 25, 1977 letter to the EPA Administrator states specifically that the company had recently "received information which supports the conclusion that Araldite CY-175 . . . is a suspect animal carcinogen." [EPA emphasis added] CIBA-GEIGY's interpretation that the 1969 study findings were significant is reflected in the content of their customer notification letters and the worker protection-related revisions that were made to MSDSs and product labels. Other companies (e.g., Union Carbide and Chevron) apparently interpreted the 1969 study findings in a similar manner because specific animal cancer-related revisions were also made to their MSDSs and product labels.

Although EPA has not located any record showing that CIBA-GEIGY's May 25, 1977 letter was ever received by the Agency, there is no reason to believe that the letter was not received. Further, it is important to point out that, in May 1977, EPA had not yet developed its Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978), nor had EPA developed a formal document receipt, tracking and filing system for incoming Section 8(e) notices or a mechanism for Agency followup to such notices.

Based on a review of the submitted information, and considering Chevron's apparent belief that EPA was not adequately apprised of the cancer findings from the 1969 chronic mouse dermal application

study, EPA believes that Chevron acted appropriately under the circumstances in formally submitting a complete copy of that final report to the Agency under Section 8(e) of TSCA.[8]

a) The Chemical Screening Branch will ask Chevron to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, data, the results of statistical analyses, etc.) from the in vitro chromosomal aberration study cited in the company's initial TSCA Section 8(e) submission.

   The Chemical Screening Branch will request CIBA-GEIGY to provide exact chemical names and CAS Registry Numbers (if known) for BA 42'580 and 42'581. (See **NOTE** below.)

b) As part of the initial phase of the OTS Existing Chemical Program (ECP), staff of the Chemical Screening Branch will screen the reported information to determine the need for further OTS assessment of the subject chemical substance(s) at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA. In addition, copies of this status report will be transmitted to the Environmental Assistance Division (EAD/OTS) for further distribution. Finally, copies of this status report will be sent also to Chevron, CIBA-GEIGY and Union Carbide.

NOTE In a followup response letter dated December 12, 1990 (8EHQ-1290-0847 FLWP), CIBA-GEIGY provided the following information about the chemical identities of BA 42'580 and BA 42'581:

BA 42'580 Spiro[1,3-dioxane-5,3'-[7]oxabicyclo[4.1.0]-heptane], 2-[2-[2-(oxiranylmethoxy)ethoxy]-ethyl]- (CAS No. 2155-38-6)

BA 42'581 7-Oxabicyclo[4.1.0]heptane, 3-[(oxiranyl-methoxy)methyl]- (CAS No. 10578-42-4)

James P. Carr for Frank O. Kover
1/2/91

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[8] *TSCA Section 8(e) states that "Any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information." (emphasis added)*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 13 1989 **APPROVED:** 12/2/89

SUBJECT: Status Report[1] **8EHQ-1189-0848 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The Eastman Kodak Company claimed the exact identity of the subject chemical substance to be TSCA Confidential Business Information (TSCA CBI). The Information Management Division will review all incoming correspondence related to the company's CBI claim. In the "sanitized" version of its Section 8(e) submission, Eastman Kodak reported non-confidentially that the subject chemical substance is a "substituted hydrazine."

SUBMISSION DESCRIPTION

Eastman Kodak provided a copy of the final report from an acute rat oral toxicity study in which the subject chemical was found to produce convulsions "at dose levels which did not result in other signs of systemic toxicity." In its cover letter, Eastman Kodak provided the following summary information regarding the conduct and results this study:

> "In an acute oral gavage toxicity study, oral LD50 values of 78 mg/kg and 55 mg/kg were calculated for male and female rats, respectively. All animals receiving doses of 156 mg/kg or more and some of those receiving a dose of 78 mg/kg died following administration of the test material. The remainder of the 78 mg/kg group and all

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> animals administered doses of 39 mg/kg survived the 14-day observation period and gained weight normally. Abnormal clinical signs, in all [of the] dose groups, were observed only on the day [the] animals were dosed.
>
> "At the 312 mg/kg and 156 mg/kg dose levels, abnormal clinical signs included slight to severe weakness, convulsions, tremors, and brown ocular discharges. At 78 mg/kg, abnormal clinical signs consisted of slight weakness and convulsions. At 39 mg/kg, all animals appeared clinically normal throughout the study.
>
> "The only significant necropsy lesion observed during this study was minimal necrosis of the mucosa of the glandular stomach in one female rat from the 156 mg/kg dose group.
>
> "The effects seen in this study are consistent with [the] known actions of substituted hydrazines. The No-Observed-Effect-Level (NOEL) for convulsions was 39 mg/kg."

Eastman Kodak also provided a Material Safety Data Sheet (MSDS) that was updated to reflect the reported toxicologic findings.

USE AND EXPOSURE POTENTIAL

In view of the submitter's CBI claim, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report. In its submission, Eastman Kodak provided the following information about the use of and potential for exposure to the subject chemical:

> "This compound is a research and development chemical being evaluated as a site-limited intermediate in a multistep synthesis. None of the intermediate appears in the final product. . . . [Eastman Kodak is] not aware of any adverse health problems associated with its synthesis or use to make the final chemical. The original health hazard evaluation of this intermediate resulted in a 'Health Hazards Unknown' rating. This rating is accompanied by a statement to employees to 'Avoid all contact.' . . . [Eastman Kodak personnel] will continue to handle the material in the same manner based on the new toxicology data. Employees will be required to wear Tyvek® suits, air hoods, gloves, and safety glasses when working with this material."

COMMENTS/RECOMMENDATIONS

In addition to updating the Material Safety Data Sheet to reflect the reported findings, Eastman Kodak stated that the company is currently evaluating the need for additional toxicological testing of the subject chemical.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Eastman Kodak will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Eastman Kodak is aware or that Eastman Kodak has conducted, is conducting or plans to conduct that are designed to determine the toxicological properties of the subject chemical.

b) As part of the "FIRST REVIEW" phase in the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at the present time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 19 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0849 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The Procter & Gamble Company (P&G) claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to P&G's TSCA CBI claim. In the "sanitized" version of its TSCA Section 8(e) submission, P&G reported non-confidentially that the subject chemical substance is a "substituted organic ammonium chloride."

SUBMISSION DESCRIPTION

P&G submitted a report from a pilot, range-finding developmental toxicity study of this substituted organic ammonium chloride in rats. The "SYNOPSIS" section of the submitted report presents the following information about the conduct and results of the study:

> "Mated female Charles River COBS^{R} CD^{R} rats, consecutively assigned to one control and three treatment groups of five animals each, were used in this range-finding study to determine dosage levels of . . .[the subject chemical] for a developmental toxicity study. Dosage levels of

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

500, 1000, and 1500 mg/kg/day were administered orally by gavage as a single daily dose on days 6 through 15 of gestation. The control group received the vehicle only, distilled deionized water, on a comparable regimen. The 500 and 1000 mg/kg/day groups were dosed at a volume of 10.0 ml/kg. The control group and the 1500 mg/kg/day group were dosed at a volume of 15.0 ml/kg. Uterine examinations were performed on all surviving females on gestation day 20.

"Maternal toxicity was apparent as shown by three deaths in the 1500 mg/kg/day group and body weight losses for the 1000 and 1500 mg/kg/day groups during the treatment period (gestation days 6-15) and inhibited body weight gains [on] days 16-20. Inhibited body weight gains were also evident for the 500 mg/kg/day group during the study beginning with gestation day 6.

"Developmental toxicity was evident at the 1000 and 1500 mg/kg/day dosage levels as increased post-implantation loss, including total litter resorptions at both levels and [a] reduced number of viable fetuses at the 1000 mg/kg/day dosage level. Based on these considerations, dosage levels of 200, 400 and 800 mg/kg/day have been suggested for a ['definitive, large-scale'] developmental toxicity study in rats with . . . [the subject chemical substance]."

In its Section 8(e) submission, P&G reported that the No-Observed-Effect-Level (NOEL) for developmental toxicity in the pilot study was 500 mg/kg/day.

USE AND EXPOSURE POTENTIAL

P&G stated non-confidentially that the substituted organic ammonium chloride is not listed on the public portion of EPA's TSCA Chemical Substance Inventory. In addition, P&G reported that the subject chemical is being evaluated solely for research and development (R&D) in the U.S. and has not been manufactured or processed for commercial distribution. P&G reported further that the "anticipated exposures to the subject chemical in . . . [P&G's] R&D efforts and in contemplated product applications are 5 to 6 orders of magnitude less than the 500 mg/kg/day NOEL." Finally, P&G reported that "in keeping with . . . [P&G's] standard procedure for handling all new chemical substances," P&G has handled and will continue to handle the subject chemical substance "with appropriate caution" in the company's laboratory.

COMMENTS/RECOMMENDATIONS

In its Section 8(e) submission, P&G stated that all P&G employees working with the subject chemical have been informed about the reported toxicologic findings.

a) The Chemical Screening Branch will ask P&G to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of statistical analyses, etc.) from the "large-scale developmental toxicity study" cited in P&G's submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, P&G will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which P&G is aware or that P&G has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 18 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0850**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Mobay Corporation provided a copy of a final report (written in German) from an acute oral toxicity/antidote study of O-ethyl-O-methylethyl-O-[2-(1,1-dimethylethyl)-pyrimidin-5-yl]-thionophosphorous acid ester (MAT 7484; CAS No. unknown) in female rats. According to Mobay, this study, which was conducted in West Germany by BAYER AG (Mobay's parent company), showed that MAT 7484 has an acute oral LD50 value of 1.3 mg/kg when tested alone. LD50 values ranging from 1.6 to 4.8 mg/kg were found when MAT 7484 was tested in combination with atropine sulfate or Pralidoxim (Protopam^{R}) or Obidoxim (Toxogonin^{R}) or atropine/Pralidoxim or atropine/Obidoxim.

USE AND EXPOSURE POTENTIAL

According to Mobay, MAT 7484 "is used in research and development activities with fewer than ten individuals potentially exposed to the technical material in preparation of the low active ingredient formulations for research."

COMMENTS/RECOMMENDATIONS

Mobay reported that the company is 1) informing its employees about the submitted toxicologic findings, and 2) reviewing the internal Mobay standards for handling MAT 7484 in the workplace.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure information, Mobay will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which Mobay is aware or that Mobay has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

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DATE: DEC 19 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0851 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this Status Report)

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "diaryl ether."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot teratology study of this diaryl ether in rabbits:

> "In this study, [the diaryl ether] was administered by gavage to 6 groups of mated female rabbits at dose levels of 0, 50, 100, 250, 500 and 750 mg/kg during gestation days 7-19. Surviving dams were sacrificed on gestation day 29. Fetuses were removed, weighed, sexed and examined for possible malformations.

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Six of seven females dosed at the 750 mg/kg/day level died during the study. Five of eight at 500 mg/kg/day also died. No mortality was observed at 250 mg/kg/day level although one dam died at 100 mg/kg/day. Significant body weight losses were noted at dosages of 250 mg/kg/day and above. No maternal toxicity was evident at [the] 100 mg/kg/day [dose level].

"Post-implantation loss, dead fetuses and late resorption were substantially increased at 250 mg/kg/day. [The] fetal weights were not affected and no significant malformations or variations were observed."

USE AND EXPOSURE POTENTIAL (See NOTE on Page 3 of this Status Report)

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report. The submitter did report non-confidentially, however, that this diaryl ether is being manufactured solely for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that the Agency receives a complete copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of statistical analyses, etc.) from the pilot teratology study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to this diaryl ether. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of the subject chemical substance.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE In an April 4, 1991 followup letter (8EHQ-0491-0883 S Followup Response), the submitting company reported non-confidentially that the diaryl ether which was cited in 8EHQ-1289-0851 S Initial and the diaryl ether which was cited in 8EHQ-0290-0883 S Initial are the same chemical substance. The reader's attention is directed to the status report that was prepared by EPA in response to 8EHQ-0290-0883 S Initial.

James T. Dorn 4/25/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 20 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0852 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Shell Oil Company submitted final reports from several acute animal toxicity studies of EPIKURE[R] 1061 (CAS No. 2716-10-1) and EPIKURE[R] 1062 (CAS No. 2716-12-3). In the cover letter to its TSCA Section 8(e) notice, Shell provided the following summary information about the conduct and preliminary results of acute oral LD50 studies of the subject chemicals in male and female rats:

> "After receiving 3150 or 5000 mg/kg of EPIKURE 1061 administered by gavage, microscopic examination revealed hepatic inflammation and mild liver damage in both sexes as well as testicular degeneration and atrophy in the surviving males. In a companion study, rats received a single oral dose of EPIKURE 1062 at a level of 5000 mg/kg. Examination at necropsy revealed reduced testes size and enlargement of the liver and spleen. Microscopic examination showed mild liver damage and severe tubular degeneration of the testes. A repeat [acute rat oral] study with EPIKURE 1062 at 5000 mg/kg also showed reduced testes size. No other results were reported in the repeat study. . . . ."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Shell also reported that "preliminary information from an ongoing study involving daily oral doses of EPIKURE 1062 tend to substantiate the findings of the . . . [acute oral toxicity studies being reported to EPA under Section 8(e).]"

According to the submitted final reports, both EPIKURE 1061 and EPIKURE 1062 were found to have rat oral LD50s of greater than 5000 mg/kg and rat dermal LD50s of greater than 2000 mg/kg. Although neither compound was reported to be irritating to rabbit skin after a 4-hour exposure, both materials were reported to cause slight to moderate conjunctival redness up to 24 hours after administration to rabbit eyes and a slight pain response immediately following eye exposure. Finally, neither compound was reported to exhibit any skin sensitizing potential in guinea pigs.

USE AND EXPOSURE POTENTIAL

According to a commercial non-confidential computerized data base (CAS ONLINE), the identities of the subject chemical substances are as follows:

CAS No. 2716-10-1 (EPIKURE 1061)	Benzenamine, 4,4'-[1,4-phenylenebis(1-methylethylidene)]bis-
CAS No. 2716-12-3 (EPIKURE 1062)	Benzenamine, 4,4'-[1,4-phenylenebis(1-methylethylidene)]bis[2,6-dimethyl-

Shell stated non-confidentially that EPIKURE 1061 and EPIKURE 1062 are being "manufactured, processed, and distributed in commerce under a TSCA Section 5(e) Consent Order which limits their use to specific applications." Shell also stated that the major use of these products to date "has been as intermediates in the production of Consent Order resins." Shell noted that "the Consent Order also specifies the types of protective equipment that must be used when handling these products." Finally, Shell reported that the "Consent Order requires informed consent letters to users, specific warning statements, and training for employees and contractors."

COMMENTS/RECOMMENDATIONS

Shell stated that in addition to considering other forms of hazard communication, the company is revising the current Material Safety Data Sheets (MSDSs) for EPIKURE 1061 and EPIKURE 1062 to reflect the reported toxicologic findings.

a) The Chemical Screening Branch will ask Shell to ensure that the Agency receives a complete copy of the final report (including the actual experimental protocol, the results of gross and histopathologic examinations, the results of statistical analyses, etc.) from the ongoing repeated-dose study of EPIKURE 1062 that was cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Shell will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which Shell is aware or that Shell has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical substances.

b) As was the case for the Shell's initial TSCA Section 8(e) notice, the Chemical Screening Branch will immediately send complete copies of all reported information to staff of the Chemical Control Division (CCD/OTS) for review and appropriate followup attention.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 19 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0853 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical substance is a "heterocyclic amide" and an "end-use active ingredient."

SUBMISSION DESCRIPTION

The submitting company reported that this heterocyclic amide was found to elicit a positive response in an Unscheduled DNA Synthesis (UDS) Mutagenicity Assay using cultured rat primary hepatocytes. According to the submitter, "an earlier conducted non-guideline, but scientifically valid, UDS assay gave [a] negative indication for mutagenic effects." Further, the submitter reported that "all other mutagenicity assays for this end-use active ingredient have given favorable negative results." Finally, the submitting company reported that "all other studies to date have not demonstrated any significant oncogenicity responses."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or specific use of this heterocyclic amide will appear in this status report. The submitter did report non-confidentially that the subject chemical is in the "Development Phase" and is handled in small quantities by laboratory and field personnel. The submitter also reported that "as an added precaution, laboratory personnel with possible exposure handle this material in a laboratory hood using good laboratory technique" and "field personnel use personal protective equipment during application trials."

COMMENTS/RECOMMENDATIONS

Although a positive *in vitro* genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risks posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicologic properties of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, data, results of statistical analyses, etc.) from the positive UDS assay cited in the company's submission. In addition, the company will be asked to submit full copies of the final reports from all of the other genotoxicity studies cited in the submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this heterocyclic amide.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemical Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
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TOXIC SUBSTANCES

DATE: DEC 21 1989 **APPROVED:** 12/21/89

SUBJECT: Status Report[1] **8EHQ-1289-0854 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company claimed its company name, the exact identity and the specific use of the subject chemical substance to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "heterocyclic amine."

SUBMISSION DESCRIPTION

The submitting company reported that this heterocyclic amine, when tested in an Ames Salmonella typhimurium (bacteria) mutagenicity assay, caused an "increase in the number of histidine revertants per plate" in strain TA1535 in the absence of exogenous metabolic activation. According to the submitting company, "increases were not induced in any of the other four [bacterial] tester strains."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or specific use of this heterocyclic amine will appear in this status report. In its Section 8(e) notice, the submitter reported non-confidentially that

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the subject chemical is "an isolatable process intermediate." In addition, the submitter reported that the "potential for exposure is low." Finally, the submitter reported that "personnel with possible exposure handle this material in a laboratory hood."

COMMENTS/RECOMMENDATIONS

Although a positive *in vitro* genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, data, etc.) from the *in vitro* mutagenicity study that was cited in the submission.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this heterocyclic amine.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemical Program (ECP), staff of the Chemical Screening Branch will "screen" the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: DEC 28 1989 **APPROVED:** 1/10/89

SUBJECT: Status Report[1] **8EHQ-1289-0855**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The American Cyanamid Company reported that the company recently received information about 2-hydroxy-4-methoxybenzophenone (CAS No. 131-57-7). Specifically, American Cyanamid stated that the company received National Toxicology Program (NTP) preliminary reports from 90-day feeding and dermal toxicity studies in mice and rats and a sperm morphology/vaginal cytology evaluation in rodents. According to American Cyanamid, the obtained reports "have not been reviewed by the NTP and may be considered extremely preliminary." Further, American Cyanamid stated that the company found it "difficult to interpret the [obtained] data." American Cyanamid did not provide any information with regard to the nature of the findings from any of the five (5) cited studies.

USE AND EXPOSURE POTENTIAL

American Cyanamid did not provide any information with regard to the use of or the potential for exposure to 2-hydroxy-4-methoxy-benzophenone. According to **CHEMCYCLOPEDIA 88** (a publication of the American Chemical Society (ACS)), the subject chemical substance is 1) a "light absorber for plastics and coatings," and 2) a "UVB sunscreen."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

COMMENTS/RECOMMENDATIONS

Assuming that 1) one or more of the obtained NTP reports contain information of the type required to be submitted to EPA pursuant to Section 8(e) of TSCA, and 2) the NTP did not formally release those reports or information from those reports or the conducted studies to the general public, American Cyanamid was correct in reporting those NTP studies/reports to EPA under Section 8(e) of TSCA. Further, American Cyanamid should be reminded that Part IX ("Reporting Requirements") of EPA's Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" March 16, 1978; 43 FR 11110) explains that a Section 8(e) notice should include a summary of the adverse effects being reported.

a) The Chemical Screening Branch will ask NTP for copies of all available reports pertaining to the subject studies.

   The Chemical Screening Branch will remind the American Cyanamid Company that a Section 8(e) submission should include a summary of the adverse effects being reported.

   In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity and/or exposure data, American Cyanamid will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the obtained findings, and 2) to reduce or eliminate exposure to the subject chemical. In addition, American Cyanamid will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which American Cyanamid is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemical Program (ECP), staff of the Chemical Screening Branch will review the studies in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 5 1990 **APPROVED:** 1/10/90

SUBJECT: Status Report[1] **8EHQ-1289-0856**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

E. I. DuPont de Nemours & Company, Inc. provided the following summary information about the conduct and preliminary results of chronic inhalation studies of vinyl fluoride (CAS No. 75-02-5) being performed pursuant to a TSCA Section 4 test rule:

> "Groups of approximately 95 male and female Crl:CD^{R} rats and 95 male and female Crl:CD-1^{R}(ICR)BR mice are being exposed to vinyl fluoride at design concentrations of 0 ppm, 25 ppm, 250 ppm or 2500 ppm. These studies were initiated in March, 1989; the study duration is 24 months for rats and 18 months for mice. While no significant observations have been noted in the rat study to date, a significant increase in mortality has been noted in male mice exposed to 2500 ppm of the test compound. When evaluated as a percent of the animals at risk in that group (i.e., the number of animals (60) designated for the terminal sacrifice), mortality was observed to be 35% at approximately 9 months into the study. A high incidence of gross liver and lung lesions has also been noted in those animals dying unscheduled deaths (either found

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

dead or sacrificed in extremis). In mice exposed to 2500 ppm vinyl fluoride, 10 of 24 had grossly observable liver masses, compared to 0 of 5 controls. Many of these masses were red and cystic and/or hemorrhagic. These gross observations are consistent with the diagnosis of hemangiosarcoma of the liver. The incidence of lung nodules was also increased in the 2500 ppm male mice group (10 of 24) versus controls (0 of 5). Consequently, it was decided that liver tissue collected from all mice dying unscheduled deaths be evaluated microscopically. [The] lung tissue from animals on test have not yet been evaluated microscopically.

"Microscopic evaluation of the livers has confirmed that the lesions are hemangiosarcomas. In the 2500 ppm male mice, the incidence of hepatic hemangiosarcoma was 11 of 18 compared to 0 of 3 in controls. Background incidence of this lesion, based on a previous study at [DuPont's] Haskell Laboratory, is approximately 5% in mice. Furthermore, the background lesions observed in controls usually occur later than approximately 500 days on test. The mean days on test for observation of liver tumors in the mice exposed to 2500 ppm vinyl fluoride is approximately 220 days. Hemangiosarcoma of the liver has also been observed in the following groups: 1 of 3 male mice exposed to 25 ppm vinyl fluoride, 1 of 3 female mice exposed to 250 ppm vinyl fluoride, and 2 of 8 female mice exposed to 2500 ppm vinyl fluoride. Thus, the high incidence of liver hemangiosarcoma, especially at the 2500 ppm level, and the early onset of the lesion at all levels, suggest the effect to be compound-related."

USE AND EXPOSURE POTENTIAL

Information on the uses and the potential for exposure to vinyl fluoride can be found in the documentation for the Section 4 test rule on vinyl fluoride, a chemical in the "Fluoroalkenes" category recommended for testing by the Interagency Testing Committee (ITC).

In the Section 8(e) submission, DuPont reported that the company "is the sole domestic manufacturer of vinyl fluoride" and presented the following information regarding workplace exposure:

"DuPont previously established an Acceptable Exposure Limit (AEL) for vinyl fluoride of 100 ppm (8 hour time-weighted average [(TWA)]. Workplace exposure, however, is routinely below 1 ppm. In light of [DuPont's] current findings, DuPont has reduced the existing AEL to 1 ppm (8 hour time-weighted average). DuPont has taken the necessary action to notify the appropriate employees of these [toxicological] results and ensure implementation of the reduced AEL."

COMMENTS/RECOMMENDATIONS

It is important to note that the Agency has received several TSCA Section 8(e) submissions containing interim results of studies being conducted pursuant to Section 4 of TSCA. EPA's position regarding the relationship between TSCA Section 4 and Section 8(e) reporting was reiterated in the **COMMENTS/RECOMMENDATIONS** portion of the status report prepared by the Agency in response to TSCA Section 8(e) submission number 8EHQ-0589-0797. It should be noted also that EPA has issued TSCA Section 8(a) and 8(d) information gathering rules for vinyl fluoride.

a) The Chemical Screening Branch will ask DuPont to ensure that EPA is kept abreast of all further significant findings from the company's ongoing chronic inhalation studies of vinyl fluoride in mice and rats.

b) As was the case for DuPont's initial TSCA Section 8(e) notice, the Chemical Screening Branch will immediately send complete copies of all reported information to the Test Rules Development Branch (TRDB/ECAD/OTS) for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 5 1990 **APPROVED:** 1/10/90

SUBJECT: Status Report[1] **8EHQ-1289-0857 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Eli Lilly and Company has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). The Information Management Division (IMD/OTS) will review all incoming correspondence related to this TSCA CBI claim. In the "sanitized" version of the submission, Eli Lilly reported non-confidentially that the subject chemical is an "indolocarbazole" that "has not been characterized."

SUBMISSION DESCRIPTION

Eli Lilly reported that preliminary results from an acute oral toxicity study in mice showed that the chemical has "a median lethal dose [of] less than 50 mg/kg." Eli Lilly submitted the following summary relating to the conduct and results of the study:

> "The acute toxicity of the compound administered orally to female CD-1 mice was evaluated. There were three animals in each of the three dose groups, and the animals received either 50, 500, or 2000 mg/kg of the compound. There were no survivors following a single oral dose of 50 mg/kg of this compound. All deaths occurred by Test Day 2. Antemortem signs of toxicity included ataxia, hypoactivity, lethargy, piloerection, ptosis, and tremors."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

In view of Eli Lilly's TSCA CBI claim, no information regarding the use of this indolocarbazole will appear in this status report. Eli Lilly did report non-confidentially, however, that 1) this indolocarbazole is a "research compound," and 2) less than 10 grams of the chemical have been manufactured thus far.

COMMENTS/RECOMMENDATIONS

In its submission, Eli Lilly stated that company employees have been informed about the acute toxicity of this indolocarbazole. In addition, Eli Lilly reported that the subject chemical substance was already labelled as being hazardous. Finally, Eli Lilly stated that a "gradient plate assay" for genotoxicity is being performed for this chemical.

a) The Chemical Screening Branch will ask Eli Lilly to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the acute oral toxicity study cited in the company's submission. In addition, Eli Lilly will be asked to ensure that the Agency receives a complete copy of the final report from the "gradient plate" assay cited also in the submission. Eli Lilly will be requested also to submit, if and when available, a full chemical characterization of the test material.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemical Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this indolocarbazole at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 5 1990 **APPROVED:** 1/10/90

SUBJECT: Status Report[1] **8EHQ-1289-0858 S**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "alkyl ketone."

SUBMISSION DESCRIPTION

The submitting company provided final results from three (3) oral (gavage) teratology studies of this alkyl ketone, two (2) in rats and one (1) in rabbits. The submitter's TSCA Section 8(e) cover letter presents the following summary information about the conduct and results of these studies:

> "In the first [rat] teratogenicity study, [alkyl ketone] dose levels were 0, 15, 45 and 135 mg/kg/day and in the second study, [alkyl ketone] dose levels were 0, 5, 10, and 135 mg/kg/day. In both studies, 24 pregnant female rats per dose level were dosed on days 7-16 (inclusive) of gestation. . . .

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "The conclusion from these two [rat] studies is that [this alkyl ketone] was teratogenic [(vertebral defects)] and that a clear no-effect level for vertebral defects was not determined. The no-effect level for fetotoxicity was 5 mg/kg/day."
>
> "[In the rabbit study,] twenty rabbits per dose level were dosed on days 7-19 (inclusive) of gestation at dose levels of 0, 15, 45, or 135 mg/kg/day. [The alkyl ketone] was considered not to be teratogenic in this study. [The chemical] was fetotoxic at 135 mg/kg/day, as assessed by increases in the incidence of minor defects and skeletal variants. [The alkyl ketone] was embryolethal at 45 and 135 mg/kg/day; the no-effect level for embryolethality was 15 mg/kg/day."

The submitter also reported that the company had recently received the following additional information regarding this alkyl ketone:

> "Longterm studies in both rodent and non-rodent species have successfully completed their in-life phases, with the study data still under evaluation. [The] preliminary results from the two year mouse oncogenicity study indicate [that] there is a low incidence of liver cell tumors. This finding seen at study termination is in the highest dose group (1000 ppm) only. The study data have not yet been fully validated; therefore, it would be premature to give definitive tumor incidences at this stage. Study reports are in preparation. There is no evidence of oncogenicity from the other species tested and no indication that [the alkyl ketone] has a potential for genotoxicity from the battery of <u>in vitro</u> tests completed to date."

Finally, the submitter stated that the company has "requested that a review of all toxicological studies involving this chemical be undertaken" and that EPA will be "advised as additional information is obtained."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information about the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this report. According to the submitting company, "trained employees use appropriate protective equipment" when working with the chemical.

COMMENTS/RECOMMENDATIONS

The submitting company reported that an employee briefing on the reported findings is in preparation.

a) The Chemical Screening Branch will ask the company to submit complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from the longterm studies that were cited in the company's Section 8(e) submission. In addition, the company will be asked to submit full copies of the final reports from the genotoxicity studies cited also in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions the company has taken or plans to take to reduce or eliminate exposure to the subject chemical. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of this alkyl ketone at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 5 1990 **APPROVED:** 1/10/90

SUBJECT: Status Report[1] **8EHQ-1289-0859**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Branch Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Halocarbon Products Corporation provided a complete copy of the final report from a study "designed to assess the toxic effects and determine the median lethal concentration of QC2 when administered by inhalation as a gas to three groups of Sprague-Dawley CD^R rats (5/sex/group) for four hours [at mean analytical concentrations of 0.60, 2.1, and 5.2 mg/l air]." According to Halocarbon, QC2 is a mixture of "volatile compounds present in crude, polymerized bromotrifluoroethylene." In addition, Halocarbon reported that the QC2 mixture is comprised of ~90% bromotrifluoroethylene and ~10% "low boiling compounds." Halocarbon's cover letter presents the following summary information about the results of the company's acute inhalation study:

> "At the highest level of [QC2] exposure (5.2 mg/l), the only clear responses included labored breathing and salivation followed by death. At 2.1 mg/l, the animals showed transient adverse responses and weight loss followed by recovery. Exposures at 0.60 mg/l were unremarkable. The calculated LC50 = 2.7 mg/l."

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USE AND EXPOSURE POTENTIAL

Halocarbon did not provide any information with regard to the use of or the potential for exposure to QC2 or its constituents.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request Halocarbon to submit information regarding the exact chemical identity (including CAS No., if known) for each constituent of the tested QC2 mixture.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Halocarbon will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to QC2 or its constituents. In addition, Halocarbon will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Halocarbon is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to QC2 or its constituents.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further OTS assessment of QC2 or its constituents at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be provided to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 9 1990 **APPROVED:** James F. Darr 1/17/90

SUBJECT: Status Report[1] **8EHQ-0190-0860 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitter has claimed the company name to be TSCA Confidential Business Information (CBI). The Information Management Division will review all incoming correspondence related to this CBI claim.

SUBMISSION DESCRIPTION

The submitter provided the final results of an acute inhalation study "designed to assess the toxic effects and determine the median lethal concentration of ['the products obtained from the pyrolysis of polybromotrifluoroethylene'(CAS No. 55157-25-0)] when administered by inhalation as a vapor to Sprague-Dawley CD^{R} rats (5/sex/group) for four hours [at doses of 0.50, 2.4, or 4.9 mg/l air]." The submitter's cover letter contained the following summary information regarding the results of this study:

> "Within hours of [the] exposure, signs of toxicity such as labored breathing or gasping followed by death were noted at 4.9 and 2.4 mg/l. At 0.50 mg/l, [the] signs of toxicity persisted for up to 21 days without complete recovery. These animals also showed weight losses for up to 14 days after [the] exposure before showing some recovery. The calculated LC50 = 0.88 mg/l."

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USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use(s) of or the potential for exposure to the tested material, nor was such information located in the secondary literature sources that were consulted by EPA.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be asked to describe the actions the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate any exposure to the tested material. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the tested material.

b) The reported information will be reviewed by the Chemical Screening Branch as part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP) in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JAN - 9 1990 **APPROVED:** James F. Darr 1/11/90

SUBJECT: Status Report[1] **8EHQ-0190-0861 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The CIBA-GEIGY Corporation has claimed the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to this CBI claim. In the "sanitized" version of its Section 8(e) notice, CIBA-GEIGY stated non-confidentially that the subject chemical is a "substituted polycyclic lactone" for which the company "has requested the specific chemical name and CAS registry number . . . from the Chemical Abstracts Services . . ."

SUBMISSION DESCRIPTION

CIBA-GEIGY provided preliminary findings from a range-finding rat teratology study of the subject chemical substance. According to the company, "presumed pregnant rats were dosed with 0, 1, 10, 50 or 100 mg/kg of the test material." CIBA-GEIGY did not provide any information regarding the route of exposure and the gestation days on which dosing occurred. CIBA-GEIGY stated that "maternal toxicity indicated by reduced weight gain was observed at [both] the 50 and 100 mg/kg dose levels." In addition, CIBA-GEIGY reported that the chemical "produced [fetal] gastroschisis" at the maternally toxic doses of 50 and 100 mg/kg.

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USE AND EXPOSURE POTENTIAL

CIBA-GEIGY stated that this substituted polycyclic lactone "is a research and development compound being evaluated for pesticidal purposes . . . under the supervision of technically qualified personnel [who are] knowledgeable in handling potentially hazardous chemicals."

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY stated that all of its workers who currently handle this substituted polycyclic lactone are being apprised of the reported toxicologic findings. In addition, CIBA-GEIGY stated that these workers are being reminded "that this is an experimental compound and should be handled in such a manner as to minimize or prevent any exposure." Finally, CIBA-GEIGY reported that the company plans conduct a "definitive teratology study" for the subject chemical.

a) The Chemical Screening Branch will request CIBA-GEIGY to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the range-finding and definitive teratology studies cited in the submission. CIBA-GEIGY will be asked also to submit the exact name and CAS No., when available, for the subject chemical.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to chemical toxicity/exposure data, CIBA-GEIGY will be requested to provide copies of any Material Safety Data Sheets and labels that have been revised to reflect the reported toxicologic findings. In addition, CIBA-GEIGY will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which CIBA-GEIGY is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicologic properties of the subject chemical.

b) The reported information will be reviewed by staff of the Chemical Screening Branch as part of the "FIRST REVIEW" phase of the Existing Chemicals Program (ECP) in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN - 9 1990 **APPROVED:** James F. Darr 1/11/90

SUBJECT: Status Report[1] **8EHQ-0190-0862 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. The company reported non-confidentially that the subject chemical is an "alkoxy aryloxy nitrobenzene."

SUBMISSION DESCRIPTION

The submitting company reported that "preliminary results obtained from a pilot rat teratology study suggest that [this alkoxy aryloxy nitrobenzene] may produce substantial developmental toxicity in the presence of only slight to moderate maternal toxicity." The company provided the following summary information about the conduct and preliminary results of the study:

> "In this study, [the alkoxy aryloxy nitrobenzene] was administered by gavage to 6 groups of 8 mated female rats at dose levels of 0, 25, 100, 250, 500 and 1000 mg/kg/day during gestation days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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"All [of the] animals survived until scheduled C-section. Maternal body weight gain was reduced at ≥250 mg/kg/day and possibly also at 100 mg/kg/day but not in a clear dose-related manner. Increases in post-implantation loss and decreases in fetal weight were noted at ≥100 mg/kg/day but again the changes at ≥250 mg/kg/day were not dose-related and the effects at 100 mg/kg/day were minimal. The increased post-implantation loss and decreased fetal weights were probably largely responsible for the decreased maternal weight gain, particularly during the latter parts of gestation. External malformations were noted in 1, 3 and 2 fetuses (1, 2 and 2 litters) from the 100, 250, and 500 mg/kg/day groups, respectively. No malformations were noted in the controls or at 25 or 1000 mg/kg/day."

USE AND EXPOSURE POTENTIAL

The submitting company stated non-confidentially that the chemical is being manufactured solely for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of any statistical analyses, etc.) from the cited pilot study.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as corporate actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported toxicologic findings. In addition, the submitter will be requested to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will review the reported information to determine the need for further assessment of the chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JAN 30 1990 **APPROVED:** James F. Darr 2/1/90

SUBJECT: Status Report[1] **8EHQ-0190-0863**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Upjohn Company provided a full copy of an epidemiology draft report in which the preliminary assessment of three recently identified bladder cancer cases in workers in their North Haven, Connecticut plant indicates "that there may be an elevated risk of bladder cancer in the plant population." Upjohn reported that this study was undertaken to assess the significance of the these recently identified bladder cancer cases and "to determine the availability of information and feasibility of conducting a study on employees at [the North Haven] plant where diamine products, including 3,3'-dichlorobenzidine (CAS No. 91-94-1), [benzidine, CAS No. 92-87-5; ortho-dianisidine, CAS No. 119-90-4; and ortho-tolidine, CAS No. 119-93-7] were produced between 1945 and 1989." According to the submitted report, the "production of dianisidine ceased in 1974 and the last batch of ortho-tolidine was made in 1977. Dichlorobenzidine operations were terminated at the plant in 1989." Both the production and sale of benzidine were reportedly terminated in 1965.

Upjohn reported that "one cancer incidence study has already been conducted on workers employed before 1965 when benzidine was pro-

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duced. That study indicated a statistically significant association between exposure to diamines and bladder cancer." The following summary information is from this previously published report:

> "Meigs et al. [1986] published a report on a historical cohort study of essentially all NHFC (North Haven Fine Chemical) plant workers (n = 984) who had been employed for at least 1 day between plant start-up in 1945 and May 31, 1965 . . . For males only, there was a non-significantly elevated standardized incidence ratio (SIR) of 1.34 for all malignant cancer sites (except non-melanoma skin) and a significantly increased SIR of 3.43 for malignant bladder [tumors] (observed/expected = 8/2.3, CI (confidence internal): 1.48-6.76). The mean latent period was 21 years for those individuals developing bladder tumors."

In Appendix E of its submission, Upjohn discussed the preliminary assessment of the three recently detected bladder cancer cases in workers hired after 1965. Upjohn reports that "these cases are of interest because the plant terminated benzidine production and sales in 1965 and after that date, exposures [at the North Haven plant] would have been limited to 3,3'-dichlorobenzidine, ortho-dianisidine or ortho-tolidine." The standardized incidence ratio for this preliminary study was reported to be 5.09 (observed/expected = 3/0.589; 95% confidence interval = 1.02-14.88).

USE AND EXPOSURE POTENTIAL

Upjohn reported that 3,3'-dichorobenzidine was always the principal diamine produced at the North Haven plant and that it no longer produces any diamine products. The **Condensed Chemical Dictionary** (10th Edition) states that the diamines cited in this submission may be used as components of dyes and pigments and as chemical intermediates for various applications.

COMMENTS/RECOMMENDATIONS

In its submission, Upjohn reported that when the final report is completed, the company will design follow-up studies and activities to determine what association exists between diamine exposure and the observed incidence of bladder cancer.

a) The Chemical Screening Branch will ask Upjohn to ensure that EPA receives a complete copy of the final report (including the actual study protocol, results of any statistical analyses, etc.) from the epidemiological study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Upjohn will be asked to describe the actions the company has taken or plans to take to

notify workers and others about the reported findings. Upjohn will be asked also to provide copies of such notification(s).

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical(s) at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Reference

Meigs, J.W. et al. "Bladder Tumor Incidence Among Workers Exposed to Benzidine: A Thirty-Year Follow-Up" JNCI, 1986; 76:1-8.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: FEB 13 1990 **APPROVED:** James F. Darr 2/13/90

SUBJECT: Status Report[1] **8EHQ-0190-0864**

FROM: Jacqueline T. Favilla, Biologist J. T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Goodyear Tire and Rubber Company submitted "a copy of an interim report issued by the National Institute for Occupational Safety and Health (NIOSH)." This report describes a NIOSH Health Hazard Evaluation (HHE) of bladder cancer incidence among workers at Goodyear's plant in Niagara Falls, N.Y. Although Goodyear states in its cover letter that it "has assisted NIOSH in the collection of data used in this study ... this is an interim report by NIOSH, rather than a final report, and Goodyear reserves the right to draw its own conclusion from the data." The following information is provided in the submission regarding the occurrence of bladder cancer among workers:

> "In February, 1988, a representative of the Oil, Chemical, and Atomic Workers (OCAW) International Union requested that NIOSH conduct a Health Hazard Evaluation of ... [the Goodyear Niagara Falls chemical manufacturing plant]. The union requested this evaluation because eight cases of bladder cancer had been reported between 1973 and 1988 among current and former employees of the plant. The union believed that these workers had been exposed to ortho-toluidine [CAS No. 95-53-4], a suspect bladder carcinogen.

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"In response to this request, NIOSH investigators visited the plant ... [and] identified bladder cancer cases from records of the company, the union, and the New York State Cancer Registry. The number of bladder cancer cases observed among Goodyear workers was compared to the number expected based on New York State incidence rates. The study was restricted to the time period 1973 through 1988 because New York State Cancer Registry records were thought to be relatively complete during that time period.

"There were 14 cases of bladder cancer observed and 3.54 expected based on New York State incidence rates among the 1749 individuals ever employed at the plant. The ratio of observed to expected cases (also known as the Standardized Risk Ratio or SIR) of 3.95 was found to be highly statistically significant (p=0.00002) indicating that this risk was very unlikely to have occurred by chance. There were 8 cases observed and 1.20 (SIR=6.64; p=0.00004) expected among 795 workers ever employed in an area of the plant where workers were definitely exposed to o-toluidine and aniline [CAS No. 62-53-3]. There were 4 cases observed and 1.05 expected (SIR=3.81; p=0.02) among workers considered to have possible exposure to o-toluidine and aniline because they worked in maintenance, janitorial/yard and shipping departments. The SIR among 681 workers considered "probably unexposed" was not significantly different from 1.00. Therefore, the excess risk of bladder cancer is associated with exposure to o-toluidine and aniline."

In the letter transmitting the HHE to Goodyear, NIOSH explained that the completed evaluation is "an interim, rather than a final report" because NIOSH "would like to conduct a more extensive evaluation of exposure to o-toluidine and aniline among current workers before completing the Health Hazard Evaluation. In addition to the Health Hazard Evaluation report, which will complete the investigation of the bladder cancer excess at the plant, [NIOSH] will analyze the mortality experience of the workers and report this separately."

NIOSH also reported that this "interim report is being distributed ... to management and union officials and to public health agencies ... [as well as] investigators at the Mt. Sinai School of Medicine who have assisted in the study."

USE AND EXPOSURE POTENTIAL

In the submission, it was reported that both o-toluidine and aniline are "premix chemicals" used in the production of Wingstay 100, an antioxidant that is utilized mainly at Goodyear plants. Aniline is also a "premix chemical" utilized in the production of Morfax, a rubber accelerator that is manufactured and commercially marketed by Goodyear.

The **Condensed Chemical Dictionary** (10th edition) lists the uses of o-toluidine as "textile printing dyes, vulcanization accelerator, organic synthesis" and the aniline uses include rubber accelerators and antioxidants, pharmaceuticals, petroleum refining, herbicides, and fungicides.

The **1989 National Toxicology Program Fifth Annual Report on Carcinogens Summary** provides the following production information on o-toluidine:

> "In 1986, there were three producers of o-toluidine and one producer of o-toluidine hydrochloride. No production volumes are available for o-toluidine hydrochloride; however, the Chem Sources USA directory identified 12 suppliers in 1986 (Chem Sources, 1986). In 1983, U.S. production of o-toluidine was between 11 and 21 million pounds; the Chem Sources USA identified 34 companies as suppliers of o-toluidine in 1983 (EPA ETD, 1984)."

The June 19, 1989 issue of the "Chemical and Engineering News" estimates the 1988 production volume of aniline to be in excess of one billion pounds.

COMMENTS/RECOMMENDATIONS

It should be noted that in December of 1987, the above referenced bladder cancers were the subject of a "For Your Information" (FYI-AX-0188-0266 Sequence E) report submitted by the Oil, Chemical and Atomic Workers International Union. Follow-up actions taken by the Chemical Screening Branch (CSB) at that time determined that an evaluation was being conducted by NIOSH. CSB requested that all interested parties keep EPA apprised of further developments.

It should be noted also that the Interagency Testing Committee (ITC) recommended aniline for testing under Section 4 of TSCA; a Testing Consent Order has been signed (53 FR 31804). Further, o-toluidine was the subject of a Chemical Hazard Information Profile (CHIP) prepared in 1984 by CSB. Finally, the Agency has published TSCA Section 8(d) information gathering rules covering aniline and o-toluidine.

In the summary of the Health Hazard Evaluation, NIOSH recommended that the following actions be undertaken by Goodyear: 1) assess current exposures to o-toluidine and aniline; 2) notify current and former workers about the risk; 3) establish a bladder cancer screening program for current and former workers; and 4) continue to monitor bladder cancer incidence in the cohort.

a) The Chemical Screening Branch will ask Goodyear to ensure that EPA receives a complete copy of the final Health Hazard Evaluation prepared by NIOSH, as well as the full report (including the actual study protocol, results of statistical analyses, etc.) on the mortality experience among workers at the Niagara Falls plant.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Goodyear will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. Goodyear will be asked to provide copies of such notifications.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemicals at this time.

As was the case with the initial submission, staff of the Chemical Screening Branch will send full copies of all reported information to TRDB/ECAD/OTS for inclusion in the ongoing TSCA Section 4 review of aniline.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: FEB 14 1990 **APPROVED:** James F. Darr 2/16/90

SUBJECT: Status Report[1] **8EHQ-0190-0865 S**

Judith M. Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (Also see NOTE on Page 3 of this status report.)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "heterocyclic substituted acetanilide."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot rabbit oral teratology study of this heterocyclic substituted acetanilide:

> "[In this study, the test compound] was mixed with corn oil and administered daily by gavage at dose levels of 0, 15, 30, 60, 120 and 240 mg/kg/day to 6 groups of 7 artificially inseminated female New Zealand White rabbits during gestation days 7 through 19. All surviving animals were sacrificed on gestation day 29.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"One treatment-related death was seen in each of the 120 and 240 mg/kg/day treatment groups. Two additional deaths occurred at 240 mg/kg/day but were due to mechanical injury. Abortions occurred in 3/6, 4/6, and 2/3 of the gravid females at 60, 120 and 240 mg/kg, respectively. Abortions were not observed in lower dose groups. As a result, the number of gravid females examined at necropsy were 3, 2 and 1 at dose levels of 60, 120 and 240 mg/kg, respectively. Clinical observations observed only at the high dose included head tilt, ataxia, prostrate and lethargic animals.

"Severe body weight losses were observed at dose levels of 60 mg/kg and above throughout the treatment period. No effects on body weight were observed at dose levels of 15 and 30 mg/kg/day.

"Necropsy findings possibly related to treatment were observed at dose levels of 60 mg/kg and above. Liver weights were increased at dose levels of 60 mg/kg and above.

"The single surviving gravid female in the 240 mg/kg/day group had total litter resorption. No post-implantation loss was observed in the two animals observed at 120 mg/kg/day or at dose levels of 60 mg/kg and below. Fetal weights were decreased at 60 and 120 mg/kg/day. No treatment-related effect was observed on post-implantation loss or fetal weight at 15 and 30 mg/kg/day.

"One aborted fetus and one fetus at cesarean section in the 60 mg/kg/day group and 3 aborted fetuses at 120 mg/kg/day had the malformation, dome shaped head. A determination as to whether this is a developmental effect is difficult because the morphology of the cranium can be altered mechanically by the abortion process. No malformations or variations were observed at dose levels of 15 and 30 mg/kg day."

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that this heterocyclic substituted acetanilide is being manufactured exclusively for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the pilot teratology study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to this heterocyclic substituted acetanilide. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE The reader's attention is directed to the status report prepared by EPA in response to 8EHQ-0190-0869 S.

James T. Barr 6/28/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: FEB 14 1990 **APPROVED:** James F. Darr 2/14/90

SUBJECT: Status Report[1] **8EHQ-0190-0866 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The CIBA-GEIGY Corporation has claimed the product trade name as TSCA Confidential Business Information (CBI). In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject product is a 40% aqueous solution of 2-propenoic acid, sodium phosphinate polymer, produced from a CBI % mixture by weight of acrylic acid and sodium hypophosphite (CAS No. 71050-62-9). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims.

SUBMISSION DESCRIPTION

CIBA-GEIGY provided the following summary information regarding the conduct and preliminary results of a 90-day oral gavage study of the subject product in the rat:

> "The test material was administered daily by gavage to Sprague-Dawley rats for 8 weeks at dose levels of 100 (group 2), 500 (group 3), and 2500 mg/kg (group 4). Dose groups consisted of 40 animals (20 M/20F). Control (group 1) and top dose (group 4) contained additional animals (M/F) to be kept for a 4 week treatment free period.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Treatment related signs of osteomalacia associated with hyperphosphaturia and calciuria developed in animals of both sexes by week 8 of the study. No significant changes are apparent in blood calcium and phosphate concentrations. . . . ."

According to CIBA-GEIGY, this 90-day study is being conducted in France for CIBA-GEIGY's parent company (CIBA-GEIGY Limited of Basel, Switzerland). CIBA-GEIGY also stated that the final report for the study is expected in the second half of 1990.

USE AND EXPOSURE POTENTIAL

CIBA-GEIGY stated, "This product is used in water treatment applications for calcium (scale) control in boilers." CIBA-GEIGY also reported that although the product is manufactured in the United States, all of the product is exported to the United Kingdom. CIBA-GEIGY reported further that a similar product, which is a 50% aqueous solution of the same active ingredient, is manufactured and sold in the U. S. Additionally, CIBA-GEIGY stated that the company submitted a TSCA Section 5 "Pre-Manufacture Notification" (PMN No. P89-853) for "Bellasol S 45/S 49, the sodium salt of the chemical substance in question." (Immediately upon receipt of this CIBA-GEIGY Section 8(e) submission, the Chemical Screening Branch sent a complete copy of the submission to the Chemical Control Division (CCD/OTS), which is responsible for implementing EPA's TSCA Section 5 New Chemicals Program (NCP).)

COMMENTS/RECOMMENDATIONS

In its submission, CIBA-GEIGY Corporation reported that the company will revise its label and Material Safety Data Sheet to reflect these new findings and notify its workers and customers.

a) The Chemical Screening Branch will ask CIBA-GEIGY to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 90-day study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, CIBA-GEIGY will be requested to describe the actions the company has taken or plans to take to reduce or eliminate exposure to 2-propenoic acid, sodium phosphinate polymer. In addition, CIBA-GEIGY will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. Further, CIBA-GEIGY will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which CIBA-GEIGY

is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject product and/or 2-propenoic acid, sodium phosphinate polymer.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical/product at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and CCD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: FEB 14 1990 **APPROVED:** David R. Williams 2/14/90

SUBJECT: Status Report[1] **8EHQ-0190-0867**

Judith M. Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Eastman Kodak Company provided the following information about the conduct and results of an acute oral toxicity study of N-ethyl-2-hydroxy-5-nitrobenzenemethanamine (CAS No. 71130-60-4) in rats:

> "Groups of five male and five female rats were administered single doses of 5000, 2500, 1250, 625, or 312 mg/kg of the test article. The clinical symptomatology following the exposures was generally indicative of absorption and excretion of the test article (color changes in the excreta or body surface staining) or non-specific in nature (reduced feces, weakness, or convulsions prior to death).
>
> "After a dose of 5000 mg/kg, abnormal clinical signs consisted of weakness and urine discoloration by the test article. All animals died within four hours of dosing. Terminal or agonal convulsions were observed in two of five male rats, but none of the female rats, two hours after dose administration. Because the animals were in distress, showing signs of moderate weakness just prior

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> to the convulsions, it was not possible to determine whether the convulsions were due to the test article or whether they were due to hypoxia. Nonetheless, the convulsions occurred only at a dose level which was approximately four times the estimated acutely lethal median dose level. Deaths were also observed after doses of 2500 mg/kg (10/10 animals), 1250 mg/kg (6/10 animals), or 625 mg/kg (1/10 animals), but not at a dose level of 312 mg/kg. No convulsions were observed at doses below 5000 mg/kg."

The oral LD50 values for male and female rats in this acute oral study were estimated by Eastman Kodak to be 1165 mg/kg and 1014 mg/kg, respectively.

Eastman Kodak also provided summary information from previously conducted studies indicating that the test compound caused slight skin irritation in an acute skin irritation study and moderate irritation in an eye irritation study. The acute dermal LD50 was reported to be greater than 1 g/kg. Finally, the company provided a copy of the Material Safety Data Sheet (MSDS) for the subject chemical.

USE AND EXPOSURE POTENTIAL

The submitter reported that "this chemical is a low volume intermediate used to manufacture a photographic chemical. None of the intermediate appears in the final chemical." In addition, the company reported that:

> "Good general ventilation is used in all manufacturing processes and supplementary local exhaust ventilation and/or respiratory protection is used if needed. This material is manufactured as an acetone-wet cake. Employees wear a full face cartridge respirator if needed, and aprons, gloves, and safety glasses with side shields. Then the material is dried. Employees wear a half or full face cartridge respirator with dust prefilter and safety glasses with side shields when discharging the dryer."

COMMENTS/RECOMMENDATIONS

In its submission, Eastman Kodak reported that the company has reviewed their "current handling precautions" and they "are deemed to be adequate." In addition, Eastman Kodak has reported that they are evaluating the need for further testing.

It should be noted that typically, neurotoxic effects observed in dying animals are not, in and of themselves, considered by EPA to be reportable under Section 8(e) of TSCA. This appears to be the case for the present Eastman Kodak submission. It is important to point out that in many cases, already reportable data regarding extremely or highly toxic (lethal) substances will be accompanied

by information concerning observed neurotoxic effects. In short or long term exposure studies in which serious neurotoxic signs and symptoms (e.g., convulsions, sleep induction, paralysis and other serious signs of motor dysfunction, narcosis, serious behavioral dysfunction) are observed in non-moribund animals, however, EPA believes that specific reporting of the neurotoxic effects should take place.

a) In view of EPA's interest in company actions taken on a voluntary basis in response to new chemical toxicity/ exposure data, Eastman Kodak will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0190-0868 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "N-arylcyclic imidate".

SUBMISSION DESCRIPTION

The submitting company provided a cover letter and the final report of a range-finding rat teratology study. The following summary information is drawn from both the cover letter and the Summary section of the final report. The cover letter states:

> The test material "was administered daily by gavage to 6 groups of mated female rats at dose levels of 0, 50, 125, 250, 500, and 1000 mg/kg/day during gestation days 6-15."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All dams survived until scheduled sacrifice. Decreased maternal weight gain was evident only in the high dose animals during the first 3 days of dosing. No malformations were noted in fetuses from any dose level but a slight increase in post-implantation loss and decrease in fetal weights were noted at 1000 mg/kg/day."

The Summary of the final report states:

"Clinical signs of toxicity were slight at [lower dose levels] and moderate at a dose level of 1000 mg/kg/day. A reduced group mean body weight gain occurred in the 1000 mg/kg/day group during the first three days of compound administration. Mean body weights in this group were lower than the control throughout the study period. Thyroid gland and liver weights were increased in the 250, 500, and 1000 mg/kg/day groups.

"Fetal effects noted in this study consisted of a moderately reduced mean fetal body weight and an increased postimplantation loss in the 1000 mg/kg/day group. No external fetal malformations or variations were noted in this study.

"In conclusion, findings...indicated that a dose level of 1000 mg/kg/day would produce some degree of maternal and developmental toxicity but would not be considered excessive for a definitive developmental toxicity study."

It should be noted that EPA has received other TSCA Section 8(e) notices on compounds identified generically as N-arylcyclic imidates. The reader's attention is directed to the status reports prepared by EPA in response to 8EHQ-0989-0827 S and 8EHQ-0989-0828 S.

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or uses of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that this N-arylcyclic imidate "is currently an R&D material." The submitter also stated, "The selected route of administration was oral because this is a possible route of exposure for the general human population."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to provide the exact chemical name for the subject chemical.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical

toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 3 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0190-0869 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (First see NOTE on Page 3 of this status report)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "heterocyclic substituted aryl diester".

SUBMISSION DESCRIPTION

The submitting company provided a cover letter and the final report of a range-finding rat teratology study. The following summary information regarding the conduct and results is drawn from both the cover letter and the Summary and Results and Conclusions sections of the final report. The cover letter states:

> The test material "was administered daily by gavage at dose levels of 0, 50, 100, 200, 400, and 800 mg/kg/day to 6 groups of 8 mated female rats during gestation days 6 through 15."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All treated groups had decreased body weight gain for the full treatment period (days 6-16) ranging from 20% at 50 mg/kg/day to 127% at 800 mg/kg/day..."

"There were no treatment-related effects on maternal gross necropsy findings or organ weights. There were no treatment-related effects on post implantation loss, number of viable fetuses, numbers of implantation sites and corpora lutea and sex ratios."

"There were no treatment related external fetal malformations at any dose level."

The Summary of the final report states:

"Survival was 100% at all dose levels. Moderate clinical signs of toxicity were observed at a dose level of 800 mg/kg/day and similar findings were occasionally observed at a dose level of 400 mg/kg/day."

"In conclusion, maternal toxicity was expressed by inhibited body weight gain at all dose levels and was excessive at dose levels of 400 mg/kg/day and above. ....No NOAEL (no observable adverse effect level) was observed for maternal toxicity."

The Results and Conclusion of the final report states:

"Mean fetal weights were severely decreased in the 100, 200, 400 and 800 mg/kg/day groups when compared to the control group. Mean fetal body weight was slightly decreased in the 50 mg/kg/day group, however, it was within the range of the WIL historical control data."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or uses of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that the heterocyclic substituted aryl diester "is an experimental material that is currently being evaluated in R&D." The submitter also stated, "The selected route of administration was oral because this is a possible route of exposure for the general human population."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the

reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE In a letter dated April 11, 1990, the submitting company reported non-confidentially that the subject chemical is actually a "heterocyclic substituted acetanilide" for which a previous Section 8(e) notice (8EHQ-0190-0865 S) was submitted. The reader's attention is directed to the status report prepared by the Agency in response to this previous submission.

James T. Darr 6/28/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0190-0870 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (First see NOTE on Page 3 of this status report.)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "heterocyclic enamine".

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a gavage pilot rat teratology study:

> The test material "was administered by gavage to 6 groups of 8 mated female rats at dose levels of 0, 50, 100, 250, 500, and 1000 mg/kg/day during gestation days 6-18."

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Mortality occurred in 2 out of 8 animals at 1000 mg/kg/day. Substantial weight losses were noted at 1000 mg/kg/day during gestation days 6-9. Slight weight losses during this same interval were noted at 500 mg/kg/day. Abnormal clinical signs were noted at 1000, 500 and possibly 250 mg/kg/day. A dose-related increase in liver weights (~43% to 2.7-fold) was noted at all dose levels. Implantation loss was not affected at any dose level but there appeared to be a slight decrease in fetal weights at 1000 mg/kg/day. In addition, 5 fetuses from 3 litters at 1000 mg/kg/day exhibited external malformations. There was a single fetus each with umbilical hernia, omphalocele, exencephaly, cephalocele and a tail defect. There was also one control fetus that exhibited an umbilical hernia."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or uses of the subject chemical will appear in this status report. The submitter stated nonconfidentially that, "The material is currently being manufactured exclusively for R&D purposes."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the oral pilot rat teratology study cited in the submission. In addition, the submitter will be requested to provide the exact chemical name for the subject chemical.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE In a letter dated April 11, 1990, the submitting company reported non-confidentially that the subject chemical is actually an "N-aryl-cyclic imidate" for which a previous Section 8(e) notice (8EHQ-0989-0827 S) was submitted. The reader's attention is directed to the status report prepared by EPA in response to this previous submission.

James T. Carr 6/28/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: **APPROVED:** James F. Darr 2/16/90

SUBJECT: Status Report[1] **8EHQ-0190-0871 S**

Judith M. Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 2 of this Status Report)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "ethoxylated alkyl amine."

SUBMISSION DESCRIPTION

The submitting company provided the final report of a pilot rat teratology study of this ethoxylated alkyl amine. The submitter's cover letter presents the following summary information regarding the conduct and results of this study:

> "In this study, [the test compound] was administered by gavage to 6 groups of mated female rats at dose levels of 0, 25, 50, 100, 200, and 400 mg/kg/day during gestation days 6-15.
>
> "Maternal toxicity was noted only at the highest dose tested; decreased body weight gains and the deaths of 5 out of 8 dams were recorded. Fetotoxicity was also

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

observed only at the high dose level. This was manifested by a decreased mean fetal body weight (approximately 14%) and a slightly increased post-implantation loss. Microphthalmia and/or anophthalmia was detected in 2 fetuses (from the same litter) in the high dose group. This malformation is normally seen at a low incidence in control animals. However, the significance of the finding in this study is unclear because of the small numbers of litters and fetuses examined."

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that this ethoxylated alkyl amine "is an inert ingredient in a pesticide formulation."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets/labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to this chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

NOTE In a non-CBI, March 27, 1990 followup letter (8EHQ-0490-0871 FLWP), the Monsanto Company stated that its initial submission was no longer TSCA CBI. According to the "declassified" initial submission, the subject chemical is "Ethoxylated tallow amines" (CAS No. 61791-26-2).

James P. Farr 12/18/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 5 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0872 S**

Judith M. Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The CIBA-GEIGY Corporation claimed the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, CIBA-GEIGY reported non-confidentially that the subject chemical substance is a "substituted polycyclic dione."

SUBMISSION DESCRIPTION

CIBA-GEIGY provided the following summary information regarding the conduct and preliminary results of a range finding teratology study in rats:

> "Presumed pregnant rats were dosed with 0, 125, 250, 500, 750, or 1000 mg/kg of test material. Signs of maternal toxicity included deaths (at 1000 mg/kg only) and decreased maternal body weight and body weight gains (>500 mg/kg). Four of eight females treated with 1000

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

mg/kg died by day 12 of gestation. Of the four surviving animals, three were pregnant. However, only one of these surviving dams had viable implants (5 viable fetuses in a total of 17 implantations). Four out of the five surviving fetuses from that single dam had phalanges which were fused, reduced, or missing. This effect was confined to the distal portion of the forepaws. Similar findings were not observed in fetuses from the 750 mg/kg group in which maternal toxicity was also severe, nor in fetuses from any other treated group. The fetal effects noted are considered to be secondary to the excessive maternal toxicity observed in the 1000 mg/kg group."

USE AND EXPOSURE POTENTIAL

CIBA-GEIGY reported non-confidentially that this compound "is a research and development compound being evaluated for pesticidal purposes." Further, these evaluations "are being conducted under the supervision of technically qualified personnel, knowledgeable in handling potentially hazardous chemicals." CIBA-GEIGY stated that the compound does not have a CAS registry number, to the best of their knowledge.

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY stated that all workers who currently handle this compound are being notified of the reported toxicologic findings. In addition, CIBA-GEIGY reported that these workers are being reminded "that this is an experimental compound and should be handled in such a manner as to minimize or prevent any exposure." Finally, CIBA-GEIGY reported that the company plans to conduct a definitive teratology study.

In this submission, CIBA-GEIGY asked for EPA guidance "on whether developmental effects seen at maternally lethal doses (versus maternally toxic doses) are [Section] 8(e) reportable." It is EPA's position that statistically or biologically significant increases in teratogenic or other serious embryotoxic or fetotoxic effects (e.g., significant embryo or fetal lethality, spontaneous abortion) should be reported under Section 8(e) regardless of the level of maternal toxicity (including lethality) seen in the study.

a) The Chemical Screening Branch will ask CIBA-GEIGY to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the range finding teratology study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical

toxicity data, CIBA-GEIGY will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0873 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemicals as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aromatic amine".

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a chronic toxicity/carcinogenicity study in rats:

> "For two years test animals were fed ad libitum feed dosed with 0.0, 0.02%, 0.16% and 0.32% of the test article."
>
> "Malignant and benign tumors were observed in both control and high dose groups. The incidence and distribution of tumors were similar to those known to

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

occur spontaneously in male and female rats of this strain and age. In the case of female mammary gland tumors, there were increased benign tumors in the control group and increased malignant tumors in the high dose group. The increase in malignant tumors was statistically significant at $P<0.05$, not at $P<0.01$. Both types of tumors were present in both groups."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or uses of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the 2 year study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 1 1990 **APPROVED:** James F. Darr 3/2/90

SUBJECT: Status Report[1] **8EHQ-0290-0874 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "substituted guanidinium aryl sulfonate."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot rat reproduction study of this substituted guanidinium aryl sulfonate.

> "[In this study, the test compound] was mixed in the diet and fed to 4 groups of 10 male and 10 female Sprague Dawley rats at dose levels of 0, 100, 300, and 750 ppm. Treatment was for 4 weeks prior to mating and throughout the mating, gestation and lactation periods. Following 4 weeks of treatment, animals were paired on a one male to one female basis. All animals were observed daily for

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

viability and gross signs of toxicity. Pups were examined and weighed on the day of delivery and on days 4, 7, 14, and 21 of lactation. All animals (F_0 and F_1) were sacrificed on lactation day 21. F_0 animals received a gross necropsy. F_1 animals were examined externally.

"Body weight gain was severely decreased compared to control in both F_0 males and females at 750 ppm after 13 weeks of treatment. Body weight gain was also decreased in males (-12%) and females (-26%) at 300 ppm.

"The number of matings leading to pregnancy was decreased at 750 ppm. Due to the effect on mating performance, only 5/10 females produced a litter at 750 ppm. One female at 750 ppm subsequently lost her litter. Litter size was reduced at birth at 750 ppm. An increase in pup mortality both pre-birth and from birth to weaning was observed at 750 ppm. Mean pup weights were lower than controls throughout the pre-weaning period. No effects on mating performance, pup survival, or pup weight were observed at doses below 750 ppm."

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that this substituted guanidinium aryl sulfonate is being manufactured exclusively for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has

conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0875 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject product constituents as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported nonconfidentially that the subject product is "MILC phosphate ester-based hydraulic fluid." The submitter also reported that this hydraulic fluid has been given the military designation, MIL-H-19457C or MILC.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of an oral reproductive study in rats:

> "The assessment of the reproductive performance of Fischer 344 rats given daily, oral doses of MILC was done by a continuous breeding protocol."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Dose levels were 0.56, 1.12, and 1.68 g/kg/day.

"Male and female rats were given a single, daily, oral dose of the test material...beginning 7 days prior to pairing, continuing for the following 63-day breeding period (Phase I), and through a 28-day postbreeding interval."

"There was a decreased number of litters in groups exposed to MILC after the 63-day breeding period. Following the 28-day postbreeding interval a crossover mating (Phase II) was performed to determine the affected sex. There was no break in the dosing regimen between Phases I and II....The cohabitation period was for 8 days during which males and females were dosed with either vehicle or test material. After cohabitation, females continued to receive either vehicle or test material for the duration of a 28-day postcohabitation."

"The preliminary results indicate that the oral administration of high dose levels of MILC appeared to cause infertility in female rats and possibly in male rats."

The submission also reported summary information regarding an oral reproductive study in male and female rats using the described continuous breeding protocol. While the test material is not disclosed nonconfidentially, the submitter reported, "the daily oral administration of 0.40gm(0.3ml)/kg/day caused infertility in male rats, but not females."

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the potential for exposure to MILC. Other than that the tested product is an hydraulic fluid, the submitter did not provide any information regarding the specific uses of MILC.

COMMENTS/RECOMMENDATIONS

It should be noted that immediately upon receipt of this Section 8(e) notice, the Chemical Screening Branch provided a full copy of the submission to the Test Rules Development Branch (TRDB/ECAD) for inclusion in their ongoing review of phosphate esters.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the two rat oral reproductive studies cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the product or its constituent(s). The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the product or its constituent(s).

b) As in the case of the initial submission, the Chemical Screening Branch will provide copies of any reported information to TRDB/ECAD.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 5 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0876**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

ICI Americas Inc. has submitted a copy of a manuscript entitled "Animal Models for Predicting Hypersensitivity Reactions to Small Molecules" that has reportedly been accepted for publication in **Immunotoxicology and Immunotoxicity of Metals.** In the submission cover letter, ICI Americas reported that this "manuscript describes method development on an animal model for predicting respiratory allergy." The ICI Americas submission also included a data table outlining the serological, pulmonary and dermal responses of guinea pigs injected intradermally with methylene diphenyldiisocyanate (MDI; CAS No. 101-68-8). According to ICI Americas, the data indicate "that MDI injected intradermally in quinea pigs can elicit a sensitization reaction including a pulmonary response as measured by respiratory rate." ICI Americas also stated that although it is well known that inhalation of MDI can induce pulmonary sensitization in exposed animals and humans, the "animal data on intradermal injections indicate new information regarding route of exposure."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

The **Condensed Chemical Dictionary** (10th Edition) states that MDI is used to prepare polyurethane resins and spandex fibers and to bond rubber to rayon and nylon.

COMMENTS/RECOMMENDATIONS

Immediately upon receipt, the Chemical Screening Branch provided a full copy of this TSCA Section 8(e) notice to the Risk Analysis Branch (RAB/ECAD/OTS) for inclusion in its ongoing review of MDI and other diisocyanates. It should be noted that the Chemical Screening Branch prepared a "Chemical Hazard Information Profile" (CHIP) on MDI in 1984. Further, MDI is the subject of Section 8(d) and 8(c) information gathering rules.

In its Section 8(e) notice, ICI Americas reported that the provided information was also being submitted to EPA under Section 8(d) of TSCA. The following discussion pertains to the relationship between the TSCA Section 8(e) and Section 8(d) reporting obligations. The Section 8(e) reporting requirement applies to any "substantial risk" information obtained during the conduct of a study the final report of which is required ultimately to be submitted to EPA under Section 8(d) of TSCA. For example, EPA has received a number of Section 8(e) submissions concerning interim results of studies "listed" under Section 8(d) as being underway. The Section 8(e) reporting that took place in such instances occurred because a Section 8(e) obligation was incurred before submission of the final report of the study was required under Section 8(d). In other words, if the required reporting pursuant to Section 8(d) occurs prior to or coincidental with the incurring of a Section 8(e) requirement, the information does not need to be submitted also to the Section 8(e) docket. The purpose of this particular exemption is not to change substantially the Section 8(e) obligation, but is designed merely to avoid requiring duplicative reporting except in those cases where timeliness considerations are paramount.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, ICI Americas will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, ICI Americas will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will continue to forward all reported information to the Risk Analysis Branch for inclusion in their ongoing evaluation of MDI as well as other diisocyanates.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA, RAB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0877**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Technical Assessment Systems, Inc. (TAS), on behalf of the Albright & Wilson Company, Ltd., provided the following summary information regarding the conduct and preliminary results of an oral gavage teratology study in rabbits:

> "Tetrakishydroxymethylphosphonium sulfate (THPS; Cas No. 55566-30-8) has been produced for approximately 20 years. No reported incidents of adverse heath effects have been encountered by Albright & Wilson, Ltd. during this period."
>
> "New information regarding developmental toxicity in laboratory animals has become available....Specifically ...reduced weight and an increased incidence of eye and limb defects were observed in the offspring of dams treated at the highest dose (60 mg/kg/day, from day 7 to day 19 of gestation). These effects on offspring occurred in the presence of marked maternal toxicity, characterised by weight loss and reduced food intake.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"At lower dose levels (i.e., 6 or 18 mg/kg/day), variations were within the expected range and were not attributed to treatment with the test article."

According to the submission, a range-finding study of THPS has also been conducted in pregnant rabbits dosed by gavage at doses up to and including 80 mg/kg/day. According to the submitter, "Although evidence of maternal toxicity was found in that study, it was reported that there were no apparent adverse effects on fetal values and no external fetal abnormalities."

USE AND EXPOSURE POTENTIAL

According to information contained in previous TSCA Section 8(e) submissions, THPS is used in the manufacture of flame retardants for textiles and has recently been shown to have biocidal activity.

COMMENTS/RECOMMENDATIONS

In its submission, TAS reported that Albright & Wilson will notify customers of this new information on THPS product labels and MSDS. In addition, Albright & Wilson is planning to undertake a similar rabbit teratology study with a chemically related product, tetrakishydroxymethylphosphonium chloride (THPC; CAS No. 124-64-1).

It should be noted that the Agency has received other Section 8(e) submissions on THPS and THPC. The reader's attention is directed to the status reports prepared by EPA in response to 8EHQ-0780-0369 and 8EHQ-0689-0804.

a) The Chemical Screening Branch will ask Albright & Wilson to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the two rabbit oral teratology studies of THPS cited in the submission. In addition, the submitter will be asked to provide, when available, the full copy of the final report of the rabbit teratology study on THPC, now in the planning stage.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Albright & Wilson will be requested to describe the actions that the company has taken or plans to take to reduce or eliminate exposure to THPS. Albright & Wilson will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Albright & Wilson will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Albright &

Wilson is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to THPS.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of THPS and THPC at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 7 1990 **APPROVED:** James F. Darr 3/6/90

SUBJECT: Status Report[1] **8EHQ-0290-0878**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD

TO: James F. Darr, Section Head
Chemical Risk Identification Section/CSB/ECAD

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted complete copies of the final reports from pilot and definitive teratology studies of the following four chemical substances in rats:

Diethylaniline (CAS No. 91-66-7)

N-Isopropylaniline (CAS No. 768-52-5)

Isopropylamine (CAS No. 75-31-0)

O,O-Dimethyl ester of phosphorochloridothioic acid
(Methyl PCT; CAS No. 2524-03-0)

Monsanto also provided summaries describing the conduct and results of the definitive teratology studies; these summaries are found on pages 1 and 2 of the attachment to this status report. It should be noted that in providing these summaries to the Agency, Monsanto pointed out that the summaries are not all-inclusive and may not highlight all of the adverse effects observed in the studies.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information with regard to the uses of, and the potential for exposure to, the subject chemicals. According to the **Condensed Chemical Dictionary** (10th Edition), the chemicals have the following uses:

Diethylaniline

"Organic synthesis; dyestuff intermediate."

N-Isopropylaniline

"Dyeing acrylic fibers; chemical intermediate."

Isopropylamine

"Solvent; intermediate in synthesis of rubber accelerators, pharmaceuticals, dyes, insecticides, bactericides, textile specialities, and surface-active agents; de-hairing agent; solubilizer for 2,4-D acid."

Methyl PCT

"Intermediate for insecticides, pesticides, fungicides; oil and gasoline additives; plasticizers; corrosion inhibitors; flame retardants; flotation agents."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received another TSCA Section 8(e) submission on diethylaniline. The reader's attention is directed to the status report prepared by the Agency in response to TSCA Section 8(e) submission number 8EHQ-0282-0430.

It should be noted also that EPA has received other Section 8(e) submissions on N-isopropylaniline. The reader's attention is directed to the status report prepared by the Agency in response to Section 8(e) submissions 8EHQ-1287-0702 and 8EHQ-1287-0703.

Finally, it should be noted that EPA has received TSCA Section 8(e) and "For Your Information" (FYI) submissions on, and prepared (in 1982) a "Chemical Hazard Information Profile" (CHIP) for the O,O-dimethyl ester of phosphorochloridothioic acid (methyl PCT). The reader's attention is directed to this CHIP as well as the status report prepared by EPA in response to TSCA Section 8(e) submission number 8EHQ-0381-0387; the reader's attention is directed also to FYI submission number FYI-OTS-0683-0249 et seq.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans

to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. Monsanto will be asked to submit copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that Monsanto has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) The reported information will be reviewed by staff of the Chemical Screening Branch as part of the "FIRST REVIEW" phase of the Existing Chemicals Program (ECP) in order to determine the need for further OTS assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

ATTACHMENT

-1-

TSCA 8(e) Audit
Summary Memo

Compound: Diethylaniline

Study No: BD-85-125

Study Type: Rat Teratology

Results have been obtained from a rat teratology study with diethylaniline. In this study, diethylaniline was administered by gavage to 4 groups of mated female rats at dose levels of 0, 50, 250, and 500 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

At 500 mg/kg, 5/29 dams died and there was a statistically significant reduction in maternal body weight gain. Body weight gain was reduced at 50 and 250 mg/kg but these differences were not statistically significant. A statistically significant increase in late resorptions and a statistically significant decrease in fetal weights were observed at 500 mg/kg.

[See NOTE number 1 on page 3 of this attachment.]

TSCA 8(e) Audit
Summary Memo

Compound: N-Isopropylaniline

Study No: IR-83-295

Study Type: Rat Teratology

Results have been obtained from a rat teratology study with N-Isopropylaniline. In this study, N-isopropylaniline was administered by gavage to 4 groups of mated female rats at dose levels of 0, 30, 100 and 350 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

At 350 mg/kg, 2/25 dams died and maternal body weight gain was reduced. Statistically significant increases in post implantation loss and dead fetuses, and a statistically significant decrease in fetal weight were observed at 350 mg/kg. A statistically significant increase in fetal malformations was observed at 350 mg/kg.

[See NOTE number 2 on page 3 of this attachment]

ATTACHMENT (Continued)

-2-

TSCA 8(e) Audit
Summary Memo

Compound: Isopropylamine

Study No: ML-86-400

Study Type: Rat Teratology

Results have been obtained from a rat teratology study with isopropylamine. In this study, isopropylamine was administered via inhalation to 4 groups of mated female rats at dose levels of 0, 50, 500 and 1000 mg/m^3. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

Statistically significant reductions in maternal body weight gains were observed at 500 and 1000 mg/m^3. Resorptions were statistically increased at 500 mg/m^3 but not at 1000 mg/m^3. The lack of dose response for this parameter indicates that the effect was not treatment related. One skeletal variation was increased at 1000 mg/m^3 compared to control. This skeletal variation was an example of reduced ossification which may not adversely affect survival or health.

TSCA 8(e) Audit
Summary Memo

Compound: Methyl PCT

Study No: ML-84-378

Study Type: Rat Teratology

Results have been obtained from a rat teratology study with Methyl PCT. In this study, Methyl PCT was administered via inhalation to 4 groups of mated female rats at concentrations of 0, 5, 20, and 80 mg/m^3 during gestation days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

A statistically significant reduction in maternal body weight gain and a statistically significant reduction in fetal weight were observed at 80 mg/m^3.

[See NOTE number 3 on page 3 of this attachment]

ATTACHMENT (Continued)

-3-

NOTES

1. Diethylaniline

The "ABSTRACT" section of the final report states, "At the high-dose level, the incidence of fetuses with unossified sternebral elements (particularly the fifth and sixth sternebrae) was increased suggestive of a retardation in ossification."

2. N-Isopropylaniline

According to the "SYNOPSIS" section of the final report, the malformations seen in the study involved "primarily bent ribs, scapulae and limb bones."

3. Methyl PCT

The "ABSTRACT" section of the final report states that adverse implantation or very early resorption effects were observed at 20 and 80 mg/m^3.

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 8 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0879 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "halo alkyl substituted aryl diester."

SUBMISSION DESCRIPTION

The submitting company provided a cover letter and the final report of a dose range-finding rat teratology study. The following summary information regarding the conduct and results is drawn from both the cover letter and the Summary and the Discussion and Conclusions sections of the final report. The cover letter states:

> The test material "was administered by gavage to 6 groups of mated female rats at dose levels of 0, 50, 100, 200, 400 and 800 mg/kg/day during gestation days 6-15."

The Summary of the final report states:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Mortality was 100% at a dose level of 800 mg/kg/day. Clinical signs of toxicity and a statistically significant group mean body weight loss during the initial three days of compound administration were observed at this dose level."

"Postimplantation loss in the 400 mg/kg/day group was slightly higher than in the control group, however, one female in this treated group had a completely resorbed litter. At a dose level of 400 mg/kg/day, an umbilical herniation of the intestines was seen in two fetuses in the litter....Mean thyroid gland weights were increased in the 200 and 400 mg/kg/day groups and mean liver weights were increased in a numerical trend in the 50, 100, 200 and 400 mg/kg/day groups. No other signs of maternal or fetal toxicity were observed at any dose level."

The Discussion and Conclusions of the final report states:

"Clinical signs of an adverse treatment-related effect and a moderate group mean body weight loss during the initial three days of compound administration were observed in the 400 mg/kg/day group."

"Findings...indicated that a dose level of 400 mg/kg/day caused moderate maternal toxicity."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or uses of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that, "The material in question is currently being manufactured exclusively for R&D purposes."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be

asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 16 1990 **APPROVED:** James F. Darr 3/26/90

SUBJECT: Status Report[1] **8EHQ-0290-0880 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this status report)

The submitting company has claimed its company name and the exact identity of the subject chemicals as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company stated non-confidentially that the subject chemicals are a "substituted diisocyanate polymer" and a "carbocyclic diisocyanate." The submitter also stated non-confidentially that these particular generic names were accepted by EPA when the original Pre-Manufacturing Notices (PMNs) were submitted to the Agency under Section 5 of TSCA.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information with regard to the conduct and preliminary results of repeated dose inhalation studies in rats and mice:

> "Groups of rats and mice (5/sex/species/group) were exposed by inhalation 6 hrs/day, 5 days/week for 4 weeks to three aerosol concentrations of [the substituted diisocyanate polymer] in butyl acetate. Target adduct

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

aerosol concentrations were 50, 150 and 500 mg/m^3. Corresponding measured butyl acetate concentrations were 110, 315 and 1122 mg/m^3. Controls were exposed to butyl acetate alone (1055 mg/m^3). [The carbocyclic diisocyanate monomer] concentrations were estimated to be 25, 75, and 250 ppb due to its presence at 0.5% in the adduct.

"The preliminary results show dose related increased lung weights in both species. Microscopic examinations have been conducted only on controls and high dose animals. These show interstitial pneumonia and accumulation of macrophages in the lung of the high dose animals which was not seen in controls. No significant changes were reported in the nasal passages or larger airways. There were no other treatment-related effects for the various end-points evaluated.

"[Toxicologic information] developed on the [carbocyclic diisocyanate] monomer shows that it causes lesions in the nasal passages but not in the lower respiratory tract. The lesions in the present study are at a different site than those in the monomer study. 3M and Union Carbide have submitted information under 8(e) (8EHQ-0387-0659) on butyl acetate aerosol. . . . ."

The submitter reports that the observed effects "may be due to butyl acetate/aerosol particulate exposure." The submitter also reported that the company will determine whether further actions are necessary after completion of the microscopic examination of the respiratory tract tissues from the present study of rats and mice.

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use(s) of or the potential for exposure to the tested materials.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from all of the studies on the monomer and polymer compounds cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the

reported information, and 2) to reduce or eliminate exposure to the subject chemicals. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to the Agency or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As was the case for the initial submission, the Chemical Screening Branch will provide a full copy of all reported information to the Chemical Control Division (CCD/OTS); CCD is responsible for administering the OTS Section 5 "New Chemicals Program" (NCP). As part of the "FIRST REVIEW" phase of the OTS "Existing Chemicals Program" (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE According to the "declassified" (i.e., no longer confidential) version of the initial submission, the submitting company is the American Cyanamid Company and the subject chemicals are:

- 1,3-bis[1-isocyanato-1-methylethyl]benzene (Monomer) (CAS No. Unknown)

- 1,3-bis[1-isocyanato-1-methylethyl]benzene/trimethylolpropane adduct (Polymer) (CAS No. 94857-19-9)

James D. Darr 6/4/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 30 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0290-0881 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "cyclohexanedione."

SUBMISSION DESCRIPTION

The submitting company provided a cover letter, an overview report, and six final reports listed below:

1. An Overview of Teratogenicity Studies in the Rat
2. Teratogenicity Study in the Rat
3. Teratogenicity Study in the Rat, Revised
4. Second Teratogenicity Study in the Rat

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

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5. Second Teratogenicity Study in the Rat, Revised

6. Teratogenicity Study in the Rabbit

7. First Supplement to Teratogenicity Study in the Rabbit.

The following information regarding the conduct and results of these studies is drawn from summaries provided by the submitter:

> "Rat Teratology Pregnant rats were orally dosed at 7-16 days of gestation with 0, 3, 30, 300 mg/kg/day. Severe maternal toxicity was observed at 300 mg/kg/day as an increase in maternal deaths and decreases in body weight, food consumption, and general condition. Maternal toxicity was not observed at 3 or 30 mg/kg/day. Fetotoxicity at 300 mg/kg/day was observed as an increase in intrauterine deaths and a decrease in live fetuses, fetal weight and fetal ossification. A decrease in ossification was also observed at 30 mg/kg/day. Teratogenic effects were observed at 300 mg/kg/day as an increase in the incidence of slight vertebral changes. These changes may have been secondary to the severe toxicity observed at this dose level; however, experience with this structural alteration led to the conclusion that it is a compound-related effect.
>
> "In a second teratology study in rats, pregnant rats were orally dosed at 7-16 days of gestation with 0, 0.5, 1, 3, or 200 mg/kg/day. At 200 mg/kg/day there was significant maternal toxicity observed as an increase in maternal deaths, a decrease in body weight gain and food consumption, and an increase in the incidence of abnormal clinical signs. Fetotoxic effects were also noted at 200 mg/kg/day as a decrease in fetal weight and ossification. As in the previous study, there was an increase in slightly misshapen vertebrae that was considered to be a compound-related teratogenic effect. No maternal toxicity, fetotoxic, or teratogenic effects were noted at 0.5, 1, or 3 mg/kg/day.
>
> "When these studies (Reports 2 and 4) were first read, any fetuses with a direct connection between adjacent vertebrae were recorded as having a defect while slightly misshapen vertebrae were ignored. Following additional experience with defects of this type, it was considered that these misshapen vertebrae formed part of a continuum of change and the skeletons were re-assessed for this defect (Reports 3 and 5).

In "An Overview of Teratogenicity Studies in the Rat" it is also stated:

"The overall conclusion from both experiments is that treatment with the cyclohexanedione is associated with reduced foetal weight and reduced foetal ossification at doses which produce frank maternal toxicity. This is considered indicative of a foetotoxic effect. The dysmorphogenesis, seen only at a dose of 300mg/kg/day, is probably secondary to the severe maternal toxicity caused by an inappropriately high dose level, and may represent an extreme foetotoxic response. The slight foetotoxicity seen at 30mg/kg/day may also be maternally mediated though no overt signs of toxicity were seen in dams receiving this dose."

"A dose of 3mg/kg/day was established as a no-effect level in these studies."

The summaries provided by the submitter continue:

"Rabbit Teratology Although the cyclohexanedione was not teratogenic in this study, (Reports 6 and 7), we are submitting the information to aid you in assessing the overall teratogenic potential of this compound.

"Pregnant rabbits were dosed at 7-19 days of gestation with 0, 2.5, 20, or 100 mg/kg body weight/day. At 100 mg/kg/day, an increased incidence of abortion, late intrauterine deaths, decrease in the number of live fetuses, and increase in the incidence of preimplantation losses were noted. These changes were accompanied by decreases in maternal body weight gain and food consumption. No embryo- or fetotoxic effects were noted at 2.5 or 20 mg/kg/day. No teratogenic effects were seen at any dose level.

"Subchronic Toxicity Two subchronic rat studies were conducted. In a 28-day study, rats were fed diets containing 0, 50, 250, 1250 or 5000 ppm. At 5000 ppm there were decreases in body weight gain, food consumption and slight increases in relative liver and testicular weights. Hepatic changes were indicative of an adaptive physiologic response to the presence of the cyclohexanedione. There was an increase in epididymal spermatids, and an increase in spermatid "debris" in the testes.

"In a 90-day rat study, rats were fed diets containing 0, 50, 250, 2500 ppm cyclohexanedione. At 2500 ppm there were decreases in body weight gain and food consumption, small changes in biochemical and hematological parameters, slight increases in liver weight, and slight decreases in kidney weight. The no-effect level in this study was judged to be 250 ppm.

"Two dog studies were conducted. In a 90-day dog study, dogs were orally dosed with 0, 0.5, 5, or 50 mg/kg/day. At 50 mg/kg/day, there were slight hepatic, adrenal, and hematological changes. The no-effect level in this study was judged to be 5 mg/kg/day.

"In a 1-year study, dogs were dosed orally with 0, 0.5, 5, or 50 mg/kg/day. At 50 mg/kg/day, changes were observed in the liver and the adrenals. Liver weight increases were accompanied by histological evidence of fatty change. Adrenal weight was increased and accompanied by marked vacuolation. Changes in clinical parameters included an increase in plasma alanine transaminase and reduced plasma protein indicative of hepatic toxicity. Also observed at 50 mg/kg/day were reductions in plasma cholesterol and triglycerides. At 5 mg/kg/day one dog had evidence of fatty change in the liver accompanied by increases in alanine transaminase activity. The no-effect level for this study was judged to be 0.5 mg/kg/day.

"Chronic Toxicity In a lifetime feeding study, hamsters were fed diets containing 0, 250, 2500, 7500 ppm. At 7500 ppm, kidney weights were decreased in females and liver and testes weights were increased in males.

"Histologically, there was an increase in the incidence of lipofuscin deposition in the kidneys. There were no compound-related increases in the incidence of tumors in this study. The no-effect level was judged to be 2500 ppm.

"A long-term mouse feeding study was not conducted with this cyclohexanedione since the hamster was judged to be a more appropriate species to test for long-term effects.

"Also, our parent company has informed us that there was a compound-related increase in the incidence of Leydig cell tumors in a long term rat study. We are trying to obtain a copy of the study report.

"Mutagenicity The cyclohexanedione was not mutagenic in two Ames assays, a micronucleus study, an L51784 mouse lymphoma study, or a cytogenicity study."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that, "This chemical is an experimental pesticide that has been field tested at several of our test farms. Trained employees use appropriate protective equipment when working with test materials at these sites."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 30 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0290-0882**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Amoco Oil Company provided the following summary information with regard to formation and detection of polychlorinated dibenzo-para-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) at and near the company's Yorktown, Virginia, refinery:

> "Last year, the oil industry became aware and informed EPA that polychlorinated dibenzo-para-dioxins and polychlorinated dibenzofurans were being generated during the reactivation of the catalyst from the catalytic reformer processing unit. In some refineries, water is used to scrub the off-gases, and the dioxins and furans have been detected in the scrubber water. This water is treated in the refinery water treatment facilities prior to discharge. In an effort to characterize our refinery waste water streams and to determine if these compounds were being discharged into the environment, Amoco recently analyzed water samples from various points in our Yorktown refinery and one sample of water from the York River upstream from the refinery for dioxins and furans.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"One grab sample was taken at each location. Published EPA methods were used to analyze the samples for dioxins and furans. As expected, polychlorinated dioxins and furans were detected in the scrubber water (sample: "Reformer Spray Tur"). This water is combined with other process water and treated at the refinery's water treatment plant prior to discharge to the York River. The discharge to the York River, sample 001 effluent, contained 0.351 parts per trillion (ppt) total furans and 0.483 ppt total dioxins. None of the most toxic species, 2,3,7,8 TCDD, was found in the discharge water. The refinery draws its process water from the York River, upstream from the refinery. A sample of this intake water was also analyzed and found to contain 0.461 ppt of dioxins. 2,3,7,8 TCDD was not found in this sample nor were any furans detected."

Amoco's submission also contained some analytical data on water samples from process water and waste water streams from various points in Amoco's Yorktown refinery.

USE AND EXPOSURE POTENTIAL

Other than that the refinery waste water streams are discharged after treatment into the York River, Amoco did not provide any information on the potential for exposure to the subject chemicals.

COMMENTS/RECOMMENDATIONS

In the submission Amoco stated that these data would also be provided to EPA's Region 3 Office and to the State of Virginia.

The Agency has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on halogenated dibenzodioxins and dibenzofurans.

a) The Chemical Screening Branch will ask Amoco to ensure that EPA is kept apprised of all further significant findings from the company's additional studies into the reported matter.

Additionally, Amoco will be asked to provide the date on which and to whom at EPA (including title and office) the cited notice of PCDD/PCDF detection was given "last year" to the Agency.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to chemical toxicity/exposure information, Amoco will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to PCDD/PCDF. In addition, Amoco will be asked

to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Amoco is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the exposure to PCDD/PCDF.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and Region 3; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 16 1990 **APPROVED:** James F. Darr 3/26/90

SUBJECT: Status Report[1] **8EHQ-0290-0883 S**
8EHQ-0390-0883 S SUPP

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this Status Report)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. The "sanitized" versions of these Section 8(e) notices identify the subject chemical substance non-confidentially as a "diaryl ether."

SUBMISSION DESCRIPTION

In its initial Section 8(e) notice, the submitting company provided the following summary information about the conduct and preliminary results of a rat teratology study conducted on this diaryl ether:

> " In this study, [the test compound] was administered by gavage to 4 groups of 25 mated female rats at dose levels of 0, 50, 250, 1000 mg/kg/day during gestation days 6-16. Dams were sacrificed on gestation day 20. Fetuses were removed, weighed and sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> "Body weight gains were similar in all dose-groups. High-dose dam liver weights were statistically increased. Both fetus and litter incidence of renal papilla(e) not developed and/or distended ureter(s) were increased in a dose-related fashion; these fetal observations were not statistically significant."

In the supplemental TSCA Section 8(e) submission, the company stated that "verbal reports from the testing laboratory indicate that these [fetal] effects were nearly all unilateral, slightly distended ureters." In the supplemental submission, the company also provided the following information about additional results from this rat teratology study:

> "The incidence of rudimentary 14th rib(s) was increased in a dose-related manner and this finding was [found to be] statistically significant for litters at the high-dose. Occurrences of 14th full rib(s) were also seen in mid- and high-dose fetuses, although those observations were not statistically significant."

USE AND EXPOSURE POTENTIAL (See NOTE on Page 3 of this Status Report)

The submitter reported non-confidentially that this diaryl ether is manufactured exclusively for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received several TSCA Section 8(e) notices on compounds identified as "diaryl ethers." The reader's attention is directed to the "Status Reports" prepared by EPA in response to these other Section 8(e) notices (8EHQ-0988-0751 S, 8EHQ-1289-0851 S, and 8EHQ-0290-0888 S). (See NOTE on following page.)

a) The Chemical Screening Branch will ask the company to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the rat teratology study cited in the submissions.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity data, the submitter will be asked to describe the actions that the company has taken or plans to take 1) to notify workers and/or others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all

studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE In an April 4, 1991 followup letter (8EHQ-0491-0883 S Followup Response), the submitting company stated non-confidentially that the diaryl ether which was cited in 8EHQ-0290-0883 S Initial and the diaryl ether which was cited in 8EHQ-1289-0851 S Initial are the same chemical substance. The reader's attention is directed to the status report that was prepared by EPA in response to 8EHQ-1289-0851 S Initial.

James T. Barr 4/25/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 6 1990 **APPROVED:** James F. Darr 3/8/90

SUBJECT: Status Report[1] **8EHQ-0290-0884**
8EHQ-0290-0884 SUPP

FROM: Jacqueline T. Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The ARCO Chemical Company provided summary information about the conduct and preliminary results of a 9-day probe inhalation study in rats and an oral developmental toxicity probe study in rabbits; both studies involved exposure to isopropanol (CAS No. 67-63-0). In a supplemental submission, Exxon Chemical Americas provided summary information from the rabbit probe study cited in ARCO's submission. Both of the submitters noted that they are members of the Chemical Manufacturers Association (CMA) Isopropanol Panel, the sponsor of the studies. The studies were initiated to establish appropriate dose levels for other toxicity studies to be conducted in accordance with a TSCA Section 4 final test rule on isopropanol (54 FR 43252, October 23, 1989).

The initial submission provides the following summary information regarding these probe studies:

Rat Study

> ". . . Five CD rats per sex per group were exposed to either 0, 1,000, 5,000, 10,000 or 15,000 ppm of isopropanol vapor for 6 hours/day for a total of nine exposures in 12 days. All surviving animals were sacri-

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

ficed on day 12. At that time, a gross necropsy was performed and a histopathological examination was conducted on livers and kidneys from the groups exposed to the two lowest isopropanol concentrations and on the control group.

". . . Results of that evaluation indicated that only [the] males exposed to isopropanol vapors exhibited an unexpected kidney effect: hyaline droplet nephropathy. Four of five males exposed to 1000 ppm and five of five males exposed to 5,000 ppm of isopropanol were noted having this finding."

Rabbit Study

". . . [Pregnant] rabbits were given isopropanol solution by gavage on gestational days 6 through 18 [at doses of 0, 312.5, 625, or 1250 mg/kg/day at a dosing volume of 2.0 ml/kg] and all survivors were sacrificed on gestational day 30.

". . . Preliminary results indicated that these pregnant rabbits appeared to be more sensitive to the lethal effects of isopropanol than . . . expected.

"Based on the assumption that rabbits sacrificed when moribund in this probe study would have died on test, these animals plus animals which did die were used to calculate a repeated dose oral LD50 value. This value was estimated to be 585 mg/kg/day with a 95% confidence interval of 443 to 772 mg/kg/day. This LD50 represents an 8-fold lowering of this parameter as compared to the acute oral LD50 (4830 mg/kg) reported in non-pregnant rabbits."

USE AND EXPOSURE POTENTIAL

According to the **Condensed Chemical Dictionary** (10th edition), isopropanol uses include manufacture of acetone and its derivatives, manufacture of glycerol and isopropyl acetate, solvent, deicing agent for liquid fuels, preservatives, and lotions. For more detailed information regarding the uses of and exposure potential to isopropanol, the reader's attention is directed to the proposed TSCA Section 4 test rule (53 FR 8368, March 16, 1988).

COMMENTS/RECOMMENDATIONS

In their respective submissions, both companies reported that they will provide information to supplement these probe study summaries when such information becomes available. It should be noted here that EPA has published a TSCA Section 8(d) information gathering rule covering isopropanol.

The following discussion pertains to the relationship between TSCA Section 8(e) reporting and the reporting of results from studies required to be conducted under Section 4 of TSCA. The Section 8(e) reporting requirement applies to any "substantial risk" information obtained during a study being conducted under Section 4 unless the information at the time it is obtained is required to be reported under Section 4. To date, the Agency has received many Section 8(e) notices concerning the interim results of studies conducted under Section 4. The Section 8(e) reporting that takes place in these cases typically occurs when a Section 8(e) obligation is incurred before reporting of the study finding/report is required under Section 4. In other words, if other required reporting occurs before or coincidental with a Section 8(e) reporting obligation, the information does not have to be submitted under Section 8(e). The purpose of this exemption is not to change substantially the Section 8(e) obligation, but is designed merely to avoid duplicative reporting except in cases where timeliness considerations are paramount.

a) The Chemical Screening Branch will ask the submitters to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from the rat and rabbit probe studies cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitters will be requested to describe the actions that they have taken or plan to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitters will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As was the case with the initial and supplemental submissions, staff of the Chemical Screening Branch will send full copies of all reported information to TRDB/ECAD/OTS for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAR 15 1990 **APPROVED:** James F. Darr 3/16/90 OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0290-0885**

FROM: Jacqueline Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Crompton & Knowles Corporation, U.S.A., provided the following summary information regarding an incident that occurred at its Tertre, Belgium plant:

> ". . . A plant worker at the Belgium facility was transporting a pallet of drums containing Reactive Black 5 [(CAS No. 17095-24-8)] on a tow motor when a drum of the dye fell off the pallet resulting in the worker being exposed to the dust of this dye. The worker experienced an asthmatic attack, left the area and went outside the plant for air. He was sent to the hospital and was absent from work for one day. He returned to his previous job but has been restricted from working with the dye.
>
> "At present, Crompton & Knowles, U.S.A., has no additional information concerning the worker, the nature and extent of his allergies or the medical determination made at the time of the incident. We are reporting this information to EPA because the incident . . . appears to confirm other data in the literature which implicates Reactive Black 5 as a human respiratory sensitizer."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

According to the **Colour Index** (3rd edition), Reactive Black 5 is used for "dyeing cellulose." Reactive Black 5 is listed on the non-confidential version of EPA's TSCA Chemical Substance Inventory.

COMMENTS/RECOMMENDATIONS

The summary information, as provided in this submission, is not sufficient to permit EPA to make a determination at this time regarding the TSCA Section 8(e)-applicability/reportability of the described incident.

a) Crompton & Knowles will be asked to keep EPA apprised of the health status of the exposed worker.

The Chemical Screening Branch will ask Crompton & Knowles to ensure that the Agency receives copies of any medical evaluations of the exposed worker or reports generated by the company designed to determine the health status of the exposed worker.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Crompton & Knowles will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the Reactive Black 5. Crompton & Knowles will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Crompton & Knowles will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Crompton & Knowles is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 14 1990 **APPROVED:** James F. Darr 3/14/90

SUBJECT: Status Report[1] **8EHQ-0290-0886**

FROM: Jacqueline Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Unocal Corporation provided the following information regarding the conduct and preliminary results of a proportionate mortality (PMR) study of hematopoietic cancer deaths and an investigation of a possible cluster of multiple myeloma cases among petroleum and pipeline workers:

> "Existing company records were utilized for the PMR study. All known company death certificates were assembled to create the . . . mortality database . . . [for] deaths occurring between 1976 and 1985 inclusive. . . . Cause of death proportions for Oil and Gas (O&G) division were compared with cause of death proportions for the rest of the company. In certain analyses, deaths for Pipeline (P/L) workers were included with O&G deaths. Comparisons were made also to the cause of death proportions among U.S. adult males for 1980 . . .
>
> "There were 2458 deaths available for study, with 70 due to hematopoietic cancers. . . Almost every comparison in the hematopoietic cancers has a proportionate mortality ratio (PMR) greater than 1.00, indicating a

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

possible association between having worked O&G or P/L assignments and dying of these cancers. The comparisons with the U.S. males are statistically significant at p .05 as indicated by confidence limits where both the upper and lower limits are greater than 1.00 . . .

"The PMR for all hematopoietic cancers combined was 2.03 (confidence limits: 1.23-3.35) when O&G was compared with the rest of Unocal and the proportionate cancer mortality ratio (PCMR) was 2.09 (1.28-3.43) for the same comparison . . .

"The second analysis consisted of an investigation of an apparent cluster of five multiple myeloma cases among Oil and Gas employees who had been ascribed to [the] Ardmore, Oklahoma Oil and Gas field. One of these was included in the current PMR analysis. Upon initial investigation, it appears that the Ardmore office was a district office and that the employees in question worked in different locations and had different jobs . . .

"In summary, the weight of the evidence of all the studies performed to date suggests limited evidence of an association between death due to hematopoietic cancers and working Oil and Gas and Pipeline assignments."

COMMENTS/RECOMMENDATIONS

Unocal reported that it is examining the feasibility of conducting a scientifically valid case-control study of the relationship between hematopoietic cancer deaths and petroleum and pipeline workers. Also, Unocal is now conducting a further, more detailed evaluation of the five multiple myeloma cases.

a) The Chemical Screening Branch will ask Unocal to ensure that EPA receives a full copy of the final report of the PMR study (including the actual study protocol, results of statistical analyses, etc.) as well as the full final report of the investigation of the cluster of multiple myeloma cases that were cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Unocal will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the reported findings at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 30 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0290-0887 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "substituted acetic acid ester."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a pilot rat teratology study:

> "Preliminary results...indicate that the compound may produce some developmental toxicity. In this study, substituted acetic acid ester was administered by gavage to 6 groups of mated female rats at dose levels of 0, 10, 80, 100, 200 and 600 mg/kg/day during gestation days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"At [a] dose level of 200 mg/kg/day, the number of viable fetuses were decreased, the mean resorptions were increased and the mean fetal body weights were decreased. At the high dose (600 mg/kg/day), female mortality was 80%."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report. The submitter stated nonconfidentially that, "The material in question is currently being manufactured exclusively for R&D purposes."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the pilot teratology study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 16 1990 **APPROVED:** James D. Darr 3/26/90

SUBJECT: Status Report[1] **8EHQ-0290-0888 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "diaryl ether."

SUBMISSION DESCRIPTION

The submitting company provided the final report of a pilot rat teratology study conducted with this diaryl ether. The SUMMARY section from this report presents the following summary information regarding the conduct and results of this study:

> "[The test compound] was admixed in Mazola^{R} corn oil and administered orally by gavage to five groups of eight bred Sprague Dawley COBS^{R} CD^{R} rats once daily from gestation days 6 through 15. Dosage levels of 25, 50, 100, 300 and 600 mg/kg/day were selected based on the

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

results of a preliminary range-finding toxicity study. For comparative purposes, a concurrent control group, also composed of eight bred females, was dosed with Mazola^{R} corn oil on a comparable regimen at 5 ml/kg/day.

"One animal in the 600 mg/kg/day group died on gestation day 11. Survival was 100% in all of the other study groups. Clinical observations which could be related to the administration of [the test compound] were noted in in the 300 and 600 mg/kg/day groups. Maternal body weight gains were severely reduced in the 600 mg/kg/day group during the treatment and post-treatment periods. In the 300 mg/kg/day group, mean body weight gain was moderately reduced the last portion of the treatment period and was severely reduced thereafter. Mean spleen and liver weights were statistically elevated in the 300 and 600 mg/kg/day groups when compared with the control group; in addition, kidney weights were slightly elevated in the 600 mg/kg/day group. The mean spleen weights were slightly elevated but not statistically significant at the 50 and 100 mg/kg/day levels. Severe embryolethality and severely reduced mean fetal weights occurred at dose levels of 300 and 600 mg/kg/day. No external malformations or developmental variations were seen in any of the treated groups."

USE AND EXPOSURE POTENTIAL

The submitting company stated non-confidentially that this diaryl ether has only been prepared for research and development (R&D) purposes.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received several TSCA Section 8(e) notices on compounds identified as "diaryl ethers." The reader's attention is directed to the "Status Reports" prepared by EPA in response to these other Section 8(e) notices (8EHQ-0988-0751 S, 8EHQ-1289-0851 S, and 8EHQ-0290-0883 S).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers and/or others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to

describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR - 3 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0290-0889 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "substituted acetanilide."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of both a range-finding teratology study and the follow-up teratology study in rats:

> "Pilot Rat Teratology Study. Results have been obtained from a pilot rat teratology study with the substituted acetanilide. In this study, the substituted acetanilide was administered by gavage to 6 groups of mated female rats at dose levels of 0, 150, 300, 600, 1000 and 1500 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external malformations and variations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All dams died or were sacrificed in extremis at dose levels of 600 mg/kg/day and above. One dam died at 150 and at 300 mg/kg/day. No deaths occurred in the control group. Total resorptions were slightly increased at 300 mg/kg/day."

Follow-up Rat Teratology Study. "In this study, the substituted acetanilide was administered by gavage to 4 groups of mated female rats at dose levels of 0, 40, 120, and 400 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

"Maternal body weight gain was slightly reduced compared to control at 400 mg/kg. An increase in resorptions and decrease in fetal body weight were observed at 400 mg/kg. A slight increase compared to control in the visceral malformation, distended renal pelvis, was observed at 400 mg/kg."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that, "The chemical has been made exclusively for R&D purposes and is no longer active."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received other TSCA Section 8(e) notices on compounds identified generically as substituted acetanilides. The reader's attention is directed to the status reports prepared by EPA in response to 8EHQ-0390-0896 S and 8EHQ-0390-0897 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company took to notify workers/others about the reported information. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that were revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company conducted to determine the toxicity of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 30 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0290-0890 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "acetophenone oxime."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of both a range-finding teratology study and the follow-up teratology study in rats:

> "In a pilot rat teratology study acetophenone oxime was administered by gavage to 7 groups of mated female rats at dose levels of 0, 5, 10, 20, 40, 80 and 160 mg/kg/day during gestation days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighted, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Maternal body weight gains were statistically reduced at 160 mg/kg and slightly reduced at 80 mg/kg. An increase in clinical observations was observed at dose levels of 20 mg/kg and above. An increase in post implantation loss (due to early resorptions), an increase in fetal lethality and a decrease in fetal body weight were observed at 160 mg/kg. Late resorptions were increased at 80 mg/kg. An increase in fetal anasarca was observed at 160 mg/kg and equivocally increased at 80 mg/kg.

"In a follow-up rat teratology study, acetophenone oxime was administered by gavage to 4 groups of mated female rats at dose levels of 0, 5, 30 and 60 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

"Maternal body weight gains were slightly reduced at 30 and 60 mg/kg. A statistically significant increase in post implantation loss and a statistically significant decrease in fetal body weights compared to control were observed at 60 mg/kg. Skeletal variations were statistically increased at 30 and 60 mg/kg. However, the variation increased at 30 mg/kg was an example of reduced ossification which may not adversely affect survival or health. Fetal malformations were statistically increased at 60 mg/kg."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report.

The submitter stated nonconfidentially that the acetophenone oxime is "an obsolete R&D chemical."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received another TSCA Section 8(e) notice on a compound identified generically as acetophenone oxime. The reader's attention is directed to the status report prepared by EPA in response to 8EHQ-1287-0708.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company took to notify workers/others about the reported information. The submitter will be asked also to provide copies of

Material Safety Data Sheets and labels that were revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company conducted to determine the toxicity of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: [illegible] 9 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0290-0891 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "aryl alkyl ether."

SUBMISSION DESCRIPTION

The submitting company provided the final report of a pilot rat teratology study of this aryl alkyl ether. The submitter provided the following summary information regarding the conduct and results of this study:

> " [The test compound was] administered by gavage to 6 groups of mated female rats at dose levels of 0, 25, 50, 100, 175 and 300 mg/kg/day during gestations days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

" A statistically significant reduction in maternal body weight gain compared to control was observed at 300 mg/kg. An increase in clinical observations were reported at dose levels of 100 mg/kg and higher. A non-statistical increase in post implantation loss was observed at 300 mg/kg/day. One fetus in one litter at 300 mg/kg had the external malformation, microphthalmia, versus none in the control. However, this type of malformation occurs spontaneously in this strain of rat and the relation of this single incidence to treatment could not be determined."

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that this aryl alkyl ether is a research chemical.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a TSCA Section 8(e) notice on a compound identified as an alkyl aryl ether. The reader's attention is directed to the status report prepared by EPA in response to this previous Section 8(e) notice (8EHQ-1188-0771 S).

a) In view of EPA's interest in effective and appropriate hazard and risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity data, the submitter will be asked to describe the actions that the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR - 7 1990 **APPROVED:** James F. Darr 3/6/90

SUBJECT: Status Report[1] **8EHQ-0290-0892**

David R Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD

TO: James F. Darr, Section Head
Chemical Risk Identification Section/CSB/ECAD

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted complete copies of the final reports from in vivo toxicity studies of the following four chemical substances:

2,3-Dichloropropene (CAS No. 78-88-6)

1,1,2,2,3-Pentachloropropane (CAS No. 16714-68-4)

Carbonyl Sulfide (CAS No. 463-58-1)

O,O-Dimethyl ester of phosphorochloridothioic acid (Methyl PCT; CAS No. 2524-03-0)

Monsanto also provided summaries describing the conduct and results of the performed studies; the submitted summaries are located in the four page attachment to this status report. It should be noted that in providing these summaries to the Agency, Monsanto pointed out that the summaries are not all-inclusive and may not highlight all of the adverse effects observed in the studies.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information about the uses of, or the potential for exposure to, the subject chemical substances. The **Merck Index** (10th Edition) presents the following information about the use of 2,3-dichloropropene:

2,3-Dichloropropene

"Together with 1,2-dichloropropane, [1,3-dichloropropene] and related chlorinated hydrocarbons in the so-called DD Mixture [used] as a soil fumigant."

The **Condensed Chemical Dictionary** (10th Edition) has the following information about the uses of carbonyl sulfide and Methyl PCT:

Carbonyl Sulfide

"Synthesis of thio organic compounds."

Methyl PCT

"Intermediate for insecticides, pesticides, fungicides; oil and gasoline additives; plasticizers; corrosion inhibitors; flame retardants; flotation agents."

No information with regard to the use(s) of or the potential for exposure to 1,1,2,2,3-pentachloropropane was found in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

It should be noted that a number of "For Your Information" (FYI) notices on 2,3-dichloropropene have been received by the Agency; the reader's attention is directed to the following FYI files: FYI-OTS-0784-0330, FYI-OTS-0485-0396, and FYI-OTS-0786-0499. Considering that EPA published a TSCA Section 8(d) information gathering rule on this chemical (52 FR 16022; May 1, 1987), the Chemical Screening Branch provided a complete copy of the present Section 8(e) submission to the Office of Solid Waste (OSW/OSWER), the EPA office for which the Section 8(d) rule was written.

It should be noted also that EPA has received TSCA Section 8(e) and "For Your Information" (FYI) submissions and prepared (in 1982) a "Chemical Hazard Information Profile" (CHIP) on the O,O-dimethyl ester of phosphorochloridothioic acid (methyl PCT). The reader's attention is directed to this CHIP as well as the status reports prepared by EPA in response to TSCA Section 8(e) submission numbers 8EHQ-0381-0387 and 8EHQ-0290-0878; the reader's attention is also directed to FYI-OTS-0683-0249 et seq.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Monsanto will be requested to

describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. Monsanto will be asked to submit copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that Monsanto has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) The reported information will be reviewed by staff of the Chemical Screening Branch as part of the "FIRST REVIEW" phase of the Existing Chemicals Program (ECP) in order to determine the need for further OTS assessment of the subject chemicals at this time. Any information received on 2,3-dichloropropene will be sent also to OSW/OSWER/EPA for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

TSCA 8(e) Audit
Summary Memo

Compound: 2,3-Dichloropropene

Study no.: BD-78-125

Study type: One Generation Rat Reproduction Study

Results have been obtained from a one generation rat reproduction study on 2,3-Dichloropropene. In this study, 2,3-dichloropropene was administered via inhalation to 3 groups of rats at dose levels of 0, 1 and 5 ppm prior to mating, and throughout gestation and lactation. The effects of treatment on litter size, pup birth weight and postnatal weight gain and pup survival were determined.

Male fertility was slightly decreased at both treatment concentrations. Pup survival was decreased at 5 ppm for days 1-4 postpartum.

TSCA 8(e) Audit
Summary Memo

Compound: 1,1,2,2,3-Pentachloropropane

Study no.: BD-83-48

Study type: Pilot Rat Teratology

Results have been obtained from a pilot rat teratology study with 1,1,2,2,3-pentachloropropane. In this study, pentachloropropane was administered by gavage to 6 groups of mated female rats at dose levels of 0, 50, 100, 150, 250 and 350 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external malformations and variations.

All dams died or were sacrificed *in extremis* at 250 and 350 mg/kg/day and 3/5 dams died at 150 mg/kg/day. Maternal body weight gains were moderately reduced at 150 mg/kg/day and slightly reduced at 100 mg/kg/day. Fetal body weights were slightly reduced compared to control at 150 mg/kg/day.

Study No.: BD-83-303

Study Type: Rat Teratology

Results have been obtained from a rat teratology study with pentachloropropane. In this study, pentachloropropane was administered by gavage to 4 groups of mated female rats at dose levels of 0, 20, 50 and 125 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

Maternal body weight gain was statistically reduced compared to control at 125 mg/kg. A statistically significant reduction in fetal body weight was observed at 125 mg/kg. Visceral and skeletal variations and visceral malformations were increased at 125 mg/kg.

TSCA 8(e) Audit
Summary Memo

Compound: Carbonyl Sulfide

Study no.: ML-83-316

Study type: One Generation Rat Reproduction Study

Results have been obtained from a one generation rat reproduction study on carbonyl sulfide. In this study, carbonyl sulfide was administered via inhalation to 4 groups of rats at dose levels of 0, 10, 60 and 182 ppm prior to mating, and throughout gestation and lactation. The effects of treatment on litter size, pup birth weight and postnatal weight gain and pup survival were determined.

A statistically significant reduction in male fertility was observed at the high dose of 182 ppm. Pup survival was slightly decreased at 182 ppm on days 0-4 postpartum.

TSCA 8(e) Audit
Summary Memo

Compound: Methyl PCT

Study no.: MR-82-88

Study Type: Dominant Lethal Assay

Methyl PCT was administered via gavage once daily for 5 days to 3 groups of 10 male Sprague-Dawley rats at dose levels of 7.5, 25 and 75 mg/kg/day. A control group of 10 male rats received the vehicle corn oil only. Each male was cohoused with two virgin females for 5 day mating periods each week for 7 weeks following treatment. The females were sacrificed 14 days from the mid-week of cohousing and the number of corpora lutea and live and dead implants were determined.

The mean number of implantations was significantly reduced at 75 mg/kg/day on weeks 4 and 5 post treatment and at 7.5 mg/kg/day on week 5. Preimplantation losses were significantly increased at 75 mg/kg/day on weeks 4 and 5 and at 7.5 mg/kg/day on week 5. The number of dead implants was significantly increased at 75 mg/kg/day on weeks 3 and 6, at 25 mg/kg/day on weeks 1 and 5, and at 7.5 mg/kg/day on weeks 3 and 6. The number of live implants per female were significantly reduced at 75 mg/kg/day on week 5, at 25 mg/kg/day on week 1 and at 7.5 mg/kg/day on week 5.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 28 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0290-0893**

FROM: Jacqueline T. Favilla
Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In its cover letter, the Amoco Chemical Company provided the following summary information regarding the conduct and results of two acute toxicity studies on tertiary butyl ethylbenzene (CAS No. 37871-12-8) in rabbits:

> "Tertiary butyl ethylbenzene was applied at a dose of 2 g/kg of body weight to the shaved backs of five male and five female rabbits. The test article was left in contact with the skin for 24 hours and then removed. The rabbits were observed during this time and for 14 days thereafter.
>
> "In the first study, five animals displayed slight tremors of the hindlimbs and/or forelimbs upon movement during the post-exposure observation period. Tremors were not observed when the animals were at rest. The initial observation of hindlimb tremors was made in one female rabbit, 30 hours after test article administration. Subsequently, the same observation was noted in three male and one female rabbit on the 8th day of the post-exposure period. Also on the eighth day, tremors of the

[1] This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.

> forelimbs were observed upon movement in the female rabbit that persisted until the end of the study in all but one animal whose tremors were observed on days 8 through 11. No histopathology was performed.
>
> "In the second study, four animals (two male and two female [rabbits]) displayed slight tremors of the hindlimbs upon movement. As in the previous study, no tremors were observed when the animals were at rest. One male exhibited the tremors on day 5 only and the other male displayed tremors on days 9 and 10 only. The two females exhibited tremors upon movement from day 4 until the end of the study.
>
> "Since the original observation was confirmed in the second study, we now conclude that tertiary butyl ethylbenzene possesses neurotoxic activity."

The "Summary" section of the final report from the first study provides the following additional information regarding the results of the dermal toxicity of t-butyl ethylbenzene:

> "No deaths occurred during the study. Therefore, the acute median lethal dermal dose (LD50) was estimated to be greater than 2 g/kg of body weight.
>
> ". . . Dermal irritation (i.e., edema, erythema and/or eschar formation) was observed within the application site of all rabbits following unwrapping. Eschar formation, hardening, cracking and/or bleeding of the application site skin was also noted in most rabbits during the study. New or repaired skin was evident in some rabbits, but complete recovery from all signs of dermal irritation was seen in only two rabbits by the end of the study . . ."

It should be noted that the final report of the first acute rabbit dermal toxicity study, as well as the final report from an acute inhalation toxicity study in rats, was the subject of a recent "For Your Information" (FYI) submission (FYI-OTS-0290-0740). The cover letter to this FYI notice provides the following summary regarding the conduct and results of the acute inhalation study:

> "Five male and five female rats were exposed by nose only for four hours to 4.9 mg/l of the test material. No deaths or clinical signs were observed during the 14 day observation period."

USE AND EXPOSURE POTENTIAL

The Amoco Chemical Company did not provide any information regarding the use of or the potential for exposure to t-butyl ethylbenzene, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its Section 8(e) submission, the Amoco Chemical Company reported that it is incorporating the information obtained from the acute rabbit dermal toxicity studies into the Material Safety Data Sheet and label for t-butyl ethylbenzene.

a) The Chemical Screening Branch will ask Amoco to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the second acute rabbit dermal toxicity study cited in the company's Section 8(e) submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Amoco will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Amoco will be asked also to provide copies of the Material Safety Data Sheet and label that have been revised to reflect the reported findings. In addition, Amoco will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Amoco is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to t-butyl ethylbenzene.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 29 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0290-0894**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

EM Industries, Inc. provided the following summary information regarding the preliminary results of guinea pig skin sensitization assays performed on a liquid crystal material, 4-pentylphenyl 4-methoxybenzoate (CAS No. 38444-13-2):

> "Preliminary results of Magnusson-Kligmann Maximization tests performed on this material indicated an 85% (17/20) rate of sensitization in guinea pigs for the pure substance and a rate of sensitization for liquid crystal mixtures containing 4-pentylphenyl 4-methoxybenzoate proportional to the concentration of 4-pentylphenyl 4-methoxybenzoate in the mixture."

EM Industries, Inc. expressed a concern that individuals exposed to respirable mists of 4-pentylphenyl 4-methoxybenzoate may be at risk of developing respiratory hypersensitivity. The submitter further stated that:

> "Hypersensitivity resulting from the action of a sensitizer on the skin can range from mild to serious, but for the most part is restricted to dermal phenomena:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

itching, rashes, redness, swelling. Such allergies are somewhat limited in extent and severity and usually subside a relatively short while after removal of the sensitizing agent ointments and medications can be applied with relative ease.

"Respiratory allergies, on the other hand, are generally regarded as serious conditions and can be life threatening if of sufficient severity. They are generally difficult to treat and even a short reaction of moderate severity can result in serious consequences, either direct (such as passing out from lack of oxygen) or indirect (such as an accident precipitated by dizziness or panic). Moreover, if the reaction is severe, the resulting condition could be debilitating."

USE AND EXPOSURE POTENTIAL

EM Industries, Inc. provided the following information regarding the uses and potential for exposure to 4-pentylphenyl 4-methoxybenzoate:

"Traditional use of this material by itself or in mixtures for closed liquid crystal display units, regardless of sensitization potential does not represent substantial risk to human health, however, new information regarding the use of this and other liquid crystal materials in cosmetic and spray applications indicates that exposures to materials such as these are likely to be greater than existing EPA estimates and may be of a nature previously unrecognized by the assessment staff at the U.S. EPA. While cosmetic applications are not subject to TSCA, the use of this material in thin films for visualization may present heretofore unassessed hazard.

"If this material by itself or in a mixture is spray applied to an article (with an artists air brush) as has been performed for purposes of research and development, the mist formed could travel and present an inhalation hazard. If the material is as potent a sensitizer in humans as in guinea pigs, a proportion of individuals exposed to sufficient amounts via inhalation of respirable mists and with sufficient frequency may run the risk of developing respiratory hypersensitivity of some sort."

COMMENTS/RECOMMENDATIONS

a) **The Chemical Screening Branch will ask EM Industries, Inc. to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the sensitization assays cited in the submission.**

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, EM Industries, Inc. will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. EM Industries, Inc. will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, EM Industries, Inc. will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAR 29 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0390-0895 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "pyridine carboxylate."

SUBMISSION DESCRIPTION

The submitting company provided the final reports from pilot rat and rabbit teratology studies, and a developmental toxicity/ teratology study in rabbits. The submitting company also provided the following summary information regarding the conduct and results of the these toxicity studies:

Pilot Rat Teratology Study

> "In this study, [the test compound] was administered by gavage to 6 groups of mated female rats at dose levels of 0, 25, 50, 100, 200 and 400 mg/kg/day during gestation

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

"At 400 mg/kg/day, 5/8 dams died, body weight gain was significantly reduced compared to control and clinical observations were increased. An increase in post implantation loss which was not statistically significant and a slight reduction in fetal body weight were observed at 400 mg/kg/day."

Pilot Rabbit Teratology Study

"[The test compound] was administered by gavage to 6 groups of artificially inseminated female rabbits at dose levels of 0, 100, 250, 500, 750 and 1000 mg/kg/day. Surviving dams were sacrificed on gestation day 29. Fetuses were removed, weighed, sexed and examined for external malformations.

"Maternal deaths were observed in 4/7, 3/7 and 5/7 dams at 500, 750 and 1000 mg/kg respectively. Abortions, reduced body weight gain and clinical observation related to treatment occurred in dams at dose levels of 250 mg/kg and higher. As a result of deaths and abortions in the 750 and 1000 mg/kg groups, there were no surviving pregnant females at the scheduled necropsy. Fetal body weights were severely reduced at 500 mg/kg and slightly reduced at 500 mg/kg and slightly reduced at 250 mg/kg."

Rabbit Teratology Study

" In this study, [the test compound] was administered by gavage to 4 groups of artificially inseminated female rabbits at dose levels of 0, 10, 75 and 175 mg/kg/day. Surviving dams were sacrificed on gestation day 29. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

"Abortions occurred in 0/20, 2/20, 1/20 and 1/20 dams at 0, 10, 75 and 175 mg/kg/day respectively. Maternal body weight gains were decreased compared to control at 175 mg/kg/day. Post implantation loss was increased at 75 mg/kg/day, but not at 175 mg/kg/day. Fetal body weights were slightly reduced at 175 mg/kg/day, but were within historical control range. A statistically significant increase in one skeletal variation was observed at 75 and 175 mg/kg/day. The response for this skeletal variation did not follow a dose-related pattern and the incidences at both dose levels were within historical control range.

A non-statistically significant increase in one malformation (carpal flexure) was observed at 175 mg/kg/day. The incidence for this malformation at 175 mg/kg/day was outside of historical control range."

USE AND EXPOSURE POTENTIAL

According to the **OBJECTIVE** section of the pilot rabbit teratology study, " the selected route of administration [for this study] was oral since this is the potential route of human exposure." The submitter did not provide any additional information regarding the use(s) of or the potential for exposure to this chemical.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received several TSCA Section 8(e)notices on compounds identified as "pyridine carboxylates." The reader's attention is directed to the "Status Reports" prepared by EPA in response to these other TSCA Section 8(e) notices (8EHQ-1287-0707 S and 8EHQ-0288-0716 S).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: APR - 3 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0390-0896 S**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the generic name of the subject chemical is "Substituted Acetanilide I."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of both a pilot teratology study and the follow-up teratology study in rats:

> "In the pilot rat teratology study the substituted acetanilide was administered by gavage to 6 groups of mated female rats at dose levels of 0, 10, 50, 250, 750 and 1000 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external malformations and variations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All dams died or were sacrificed in extremis at 1000 mg/kg/day and 4/5 dams died at 750 mg/kg/day. Maternal body weight gains were moderately decreased at 750 mg/kg/day and slightly decreased at 250 mg/kg/day. Early resorptions were increased at 750 mg/kg/day. The data at 750 mg/kg/day was from one female which had a total litter resorption.

"In the rat teratology study...the same material was administered by gavage to 4 groups of mated female rats at dose levels of 0, 30, 100 and 300 mg/kg/day. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

"Maternal body weight gains were slightly reduced at 300 mg/kg. A statistically significant decrease in fetal body weights compared to control was observed at 300 mg/kg."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received other TSCA Section 8(e) notices on compounds identified generically as Substituted Acetanilides. The reader's attention is directed to the status reports prepared by EPA in response to 8EHQ-0290-0889 S and 8EHQ-0390-0897 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: APR - 3 1990 **APPROVED:** James F. Darr 4/3/90

SUBJECT: Status Report[1] **8EHQ-0390-0897 S**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the generic name of the chemical is "Substituted Acetanilide II."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of both a pilot teratology study and the follow-up teratology study in rats:

> "In a pilot rat teratology study the substituted acetanilide was administered by gavage to 6 groups of mated female rats at dose levels of 0, 50, 150, 300, 600 and 1200 mg/kg/day during gestation days 6-15. Surviving dams were sacrificed on gestation day 20. Fetuses were removed, weighed, sexed and examined for possible external malformations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All dams died at 1200 mg/kg and 2/5 died at 600 mg/kg. A severe reduction in maternal body weight gain was observed at 300 mg/kg and a slight reduction in body weight gain was observed at 150 mg/kg. A non-statistically significant increase in post implantation loss was observed at 300 and 600 mg/kg/day.

"In a follow-up rat teratology study, the substituted acetanilide was administered by gavage to 4 groups of mated female rats at dose levels of 0, 50, 200 and 400 mg/kg/day. On gestation day 20 surviving dams were sacrificed. Fetuses were removed, weighed, sexed and examined for external, visceral and skeletal malformations and variations.

"Maternal body weights were moderately decreased at 400 mg/kg/day. A non-statistically significant decrease in fetal body weights was observed at 400 mg/kg/day. Dwarfism was observed in 5 fetuses in one litter at 400 mg/kg/day vs. 0 in the control. The report stated that single litters with multiple fetuses with dwarfism have been seen in historical controls."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received other TSCA Section 8(e) notices on compounds identified generically as Substituted Acetanilides. The reader's attention is directed to the status reports prepared by EPA in response to 8EHQ-0290-0889 S and 8EHQ-0390-0896 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company

has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAR 30 1990 **APPROVED:** James F. Darr 3/30/90

SUBJECT: Status Report[1] **8EHQ-0390-0898**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

E. I. DuPont de Nemours & Company, Inc. provided the following summary information regarding the conduct and preliminary results of a single-dose rat gavage study on 4,4'-(1,3-phenylenebis-(oxy)bisbenzenamine [RODA; CAS No. 2479-46-1]:

> "This study was conducted to determine whether RODA is potentially retinotoxic.
>
> "In this study, male albino rats were exposed to RODA by gavage at dosages of 130, 200, 310, 460, 690 and 1000 mg/kg using 1-4 rats per dose level. After 1 and 8 days post exposure, rats from the 130, 200, 310 460 and 1000 mg/kg groups were examined for funduscopic changes by indirect ophthalmoscopy. All rats surviving the 14-day postexposure observation period were killed and the eyes processed for histopathologic examination by light microscopy.
>
> "The results of this study showed that RODA is slightly toxic (approximate lethal dosage = 690 mg/kg) by gavage. The ophthalmoscopic examinations revealed a pale fundus,

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seen initially 1 day after treatment at 1000 mg/kg and in most rats at dosages of 130 mg/kg or greater 8 days after exposure. Additional ophthalmoscopic changes were found in the rats administered 460 and 1000 mg/kg RODA. At 460 mg/kg, ophthalmologic changes included unilateral subcapsular and posterior cortical cataract, posterior synechiae, incomplete mydriasis, and small globe; these changes may have been due to a preexisting lesion not noted at the time of dosing. At 1000 mg/kg, bilateral linear corneal opacities (possibly due to corneal drying) were found ophthalmoscopically. Upon microscopic examination, bilateral retinopathy, characterized by retinal pigment epithelium hyperplasia, disruption of retinal photoreceptor inner and outer segments and retinal arcade/rosette formation were found at dosages of 130 mg/kg or greater; no no observable effect level was demonstrated. Although only a few animals were used in this study, the severity of the retinal lesions did not appear to be dose related. Based on these results, we conclude that RODA is retinotoxic in rats."

USE AND EXPOSURE POTENTIAL

RODA is a research and development chemical within Du Pont. No other information was provided regarding the use of or the potential for exposure to RODA.

COMMENTS/RECOMMENDATIONS

EPA has received other Section 8(e) notices on compounds found to cause retinopathic effects in animals. As an example, the reader's attention is directed to the status report prepared by the Agency in response to Section 8(e) submission number 8EHQ-1085-0571.

a) The Chemical Screening Branch will ask Du Pont to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the oral gavage study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Du Pont will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Du Pont will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Du Pont will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the

published scientific literature) about which Du Pont is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the "FIRST REVIEW" phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will review the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 7 1990 **APPROVED:** James F. Darr 6/7/90

SUBJECT: Status Report[1] **8EHQ-0390-0899**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The P Q Corporation provided the following summary information regarding the conduct and final results of acute toxicity bioassays for daphnid and for rainbow trout with tetramethylammonium silicate, CAS No. 56982-91-3:

> "A sample of The P Q Corporation tetramethylammonium silicate was tested for potential lethality to . . . (Rainbow Trout (Salmo gairdneri)). The 96-hour [Toxic Level] TL50 was calculated to be greater than 100 mg/l.
>
> "A sample of The P Q Corporation tetramethylammonium silicate was tested for potential lethality to . . . (Daphnia magna). The 48-hour TL50 was calculated to be 3.4 mg/l (upper limit 4.1 mg/l - lower limit 2.8 mg/l)."
>
> [NOTE: According to further data provided by the company in an addendum to the initial submission, the daphnid 48-hour TL50 value was recalculated to be approximately 1.55 mg/l, and the rainbow trout 96-hour TL50 was recalculated to be approximately 45.7 mg/l.]

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

The P Q Corporation did not provide any information regarding the use of or the potential for exposure to tetramethylammonium silicate, nor was such information located in The Condensed Chemical Dictionary (10th edition) consulted by EPA.

COMMENTS/RECOMMENDATIONS

The preface to Part V of EPS's March 16, 1978 TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110) provides general guidance regarding the Section 8(e)-reportability of effects observed in aquatic toxicity studies. Part V(b)(3) of the policy statement provides the following specific guidance regarding the results of such studies:

> "['The Agency considers effects for which substantial risk information must be reported to include'] any non-trivial adverse effect, heretofore unknown to the [EPA] Administrator, associated with a chemical known to have bioaccumulated to a pronounced degree or to be widespread in environmental media." [emphasis added]

Based on professional judgement and in the absence of evidence to the contrary, EPA does not believe that tetramethylammonium silicate will bioaccumulate. Further, the P Q Corporation did not provide, nor has EPA located, any information to suggest that this chemical substance has been found to be widespread in any environmental media. Therefore, it is EPA's opinion that in the absence of such supplemental and supporting information, the data showing that tetramethylammonium silicate is moderately toxic to certain aquatic species does not appear to warrant formal reporting to EPA under Section 8(e) of TSCA.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, The P Q Corporation will be requested to describe the actions that the company has taken or plans to take to reduce or eliminate environmental aquatic exposure to the subject chemical. The P Q Corporation will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, The P Q Corporation will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the environmental exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 3 1990 **APPROVED:** James F. Darr 4/5/90

SUBJECT: Status Report[1] **8EHQ-0390-0900**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Methyl Tertiary Butyl Ether Health Effects Testing Task Force submitted summary interim results from a chronic inhalation study in which methyl tert-butyl ether (MTBE; CAS No. 1634-04-4) is being administered to F-344 rats and CD-1 mice for 18 months. According to the MTBE Task Force, the study was initiated as a result of a TSCA Section 4 Testing Consent Agreement for MTBE (40 CFR 799.5000; 53 FR 10391; March 31, 1988). The Section 8(e) notice contained the following summary information about the study:

> "Fifty animals per species per sex are [being] exposed to concentrations of 8,000; 3,000; 400 and 0 ppm. . . No mortality has been seen in the rats of either sex. However, the mortality in the female and male mice is now 12 and 18 percent respectively in the 8,000 ppm exposure group. Five male mice in the 8,000 ppm group and 1 male mouse in the 400 ppm group have been found dead and were noted to have obstructive uropathy. A further male mouse at the 8,000 ppm level, currently living, has a distended bladder which is indicative of the same condition. No incidence has been observed in the unexposed (control)

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

> animals nor in the female mice of any exposure group. This obstructive uropathy is believed [to be] due to physical matter blocking the urethral canal (known to be narrower in the male mouse than in the female), rather than due to an infection since histopathology from the kidneys and other tissues appears to be normal. Additionally, the urine samples from one of the deceased animals is within the normal range in terms of protein content, specific gravity and lack of occult blood.
>
> "Historically, this obstructive uropathy or dysuria has been found particularly in unexposed male mice of this CD-1 strain (Maita et al., 1988). The incidence of obstructive uropathy observed in this study appears to occur earlier when compared to other studies and may be due to a possible exacerbation of this condition by the high exposure to MTBE."

A list of the companies sponsoring this chronic inhalation study of MTBE can be found on page 3 of this status report.

USE AND EXPOSURE POTENTIAL

Information regarding the uses of and the potential for exposure to MTBE is located in the final TSCA Section 4 Testing Consent Order on methyl tert-butyl ether (53 FR 10391, March 31, 1988).

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a number of "For Your Information" (FYI) submissions on MTBE. MTBE is also the subject of TSCA Section 8(a) and 8(d) information gathering rules.

A discussion regarding the Section 8(e) reporting obligations of trade associations and their member companies can be found in the **COMMENTS/RECOMMENDATIONS** section of the status report prepared by EPA in response to Section 8(e) submission number 8EHQ-0186-0587.

Immediately upon receipt, the Chemical Screening Branch provided a full copy of this TSCA Section 8(e) notice to the Test Rules Development Branch (TRDB/ECAD/OTS) for inclusion in its ongoing review of MTBE. It is important to point out that the Section 8(e) reporting requirement applies to any substantial risk information obtained during a study conducted under Section 4 of TSCA unless such information, when obtained, is otherwise required to be submitted to EPA under Section 4 of TSCA. To date, EPA has received a number of TSCA Section 8(e) notices containing interim results of studies conducted under Section 4 of TSCA. The Section 8(e) reporting that takes place in such instances occurs typically before reporting of the information is required under Section 4. If required reporting under Section 4 occurs before or coincidental with an obligation to report under Section 8(e), the information

does not need to be submitted also under Section 8(e). The purpose of this exemption is not to change substantially the Section 8(e) reporting obligation, but is merely to avoid duplicative reporting except in those cases in which the timeliness of such reporting is paramount.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the MTBE Health Effects Testing Task Force will be requested to ask the study sponsors to describe for EPA the actions that the companies have taken or plan to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to MTBE. The MTBE Health Effects Testing Task Force will be requested also to ask the study sponsors to provide to EPA copies of MTBE Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will send copies of all reported information to TRDB/ECAD/OTS for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Reference

Maita, K., et al. (1988) Mortality, Major Cause of Morbundity, and Spontaneous Tumors in CD-1 Mice. Toxic. Path., 16:340-347.

Sponsoring Companies

Amoco Corporation
ARCO Chemical Company
Exxon Chemical Company
Sun Refining and Marketing Company
Texaco Chemical Company

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY - 7 1990 **APPROVED:** James F. Darr 5/7/90

SUBJECT: Status Report[1] **8EHQ-0390-0901** and **8EHQ-0390-0902**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In 8EHQ-0390-0902, Exxon Chemical Americas provided the following summary information regarding the conduct and final results of hematotoxicity and genotoxicity studies of 1,3-butadiene (CAS No 106-99-0) in mice and hamsters:

> "1,3-Butadiene...has been previously reported as a carcinogen in rodents and is classified by the International Agency for Cancer Research as a Class 2B. 1,3-butadiene has been shown to cause bone marrow effects in mice but not the rat. To further understand the range of species susceptibility for this target organ, Exxon conducted simultaneous exposures of mice and hamsters to a concentration of 1,3-butadiene (1,000 ppm in air, for six hours on each of two consecutive days) that was known to produce hematotoxicity and micronuclei increase in mice. 1,3-butadiene genotoxicity has not been previously evaluated in the hamster.
>
> "As expected, under these identical conditions, 1,3-butadiene produced substantial hematotoxicity and an 11.2-fold increase in micronuclei formation ($p < 0.01$) in the $B_6C_3F_1$ mouse. By comparison, no statistically significant

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

hematotoxicity (only a small downward trend) and a marginal increase in micronuclei ($p < 0.05$) were seen in the Syrian hamster. The negative (air) control responded in an appropriate manner. When compared to the negative control (air), a 1.4 fold increase in the number of micronuclei was observed for the hamster; in mice the response was a 11.2 fold increase. Thus under the conditions of this study 1,3-butadiene was clastogenic in both species, however, it is substantially less toxic to hamster bone marrow than to the mouse and it is only marginally genotoxic to the hamster.

"This is a further indication of a species difference in the response to 1,3-butadiene, as already evidenced by existing metabolism data for different species. Based on the above study and other studies in the literature, the mouse is the most sensitive species to 1,3-butadiene. In terms of bone marrow response and clastogenic activity, the mouse is substantially greater than the hamster, with no response for the rat or primate."

In 8EHQ-0390-0901, Exxon Chemical Americas provided the following summary information regarding the conduct and final results of hematotoxicity and genotoxicity studies of isoamylene (CAS No 26760-64-5) in mice. Isoamylene is a branched chain monoolefin existing as two isomeric forms, 2-methyl-2-butene (CAS No 513-35-9) and 2-methyl-1-butene (CAS No 563-46-2):

"As part of a study of structure-activity relationship, Exxon conducted a micronucleus assay in the mouse by the inhalation route. 1,3-butadiene was used as a positive control. Isoamylene produced a dose-related statistically significant increase in the micronucleus formation in bone marrow (which is a measure of clastogenic activity) and a dose-related significant decrease in the mean per cent of polychromatic erythrocytes (which is a measure of toxicity). Hence in this in vivo assay, isoamylene was toxic and clastogenic in mouse bone marrow.

"A more detailed description of the study and the results observed is as follows:

"$B_6C_3F_1$ mice were exposed to two six-hour exposures of commercial isoamylene at target concentrations of 1,000, 3,260 and 10,000 ppm in air. Bone marrow samples were collected and prepared for evaluation of the micronuclei formation in polychromatic erythrocytes of the bone marrow. 1,3-butadiene at a target concentration of 1,000 ppm in air was used as a positive control. 1,3-butadiene produced a statistically significant increase ($p < 0.01$) in the number of micronuclei when compared to the negative control (air). This response is comparable to that previously reported in the literature.

"The isoamylene (90.1 per cent 2-methyl-2-butene and 8.9 percent 2-methyl-1-butene) produced a dose-related statistically significant decrease in the mean per cent of polychromatic erythrocytes and a dose-related statistically significant increase in micronuclei; the latter increase was significant from control at 3,260 ppm. Under the conditions of this assay, isoamylene induced clastogenic abnormalities for $B_6C_3F_1$ mice at 3,260 to 10,000 ppm when evaluated 24 hours after the last treatment.

"2-Methyl-2-butene (of 85 per cent purity) has been previously evaluated and reported inactive in four genotoxicity assays: S. typhimurium, E. coli, S. cerevisiae and rat liver chromosome assay. These used metabolic activating system derived from the rat and not the mouse. The activity observed in this micronucleus study reported here may be a reflection of the mouse metabolism."

USE AND EXPOSURE POTENTIAL

Exxon stated that isoamylene is manufactured by Exxon as a chemical intermediate for the production of commercial polymers. Exxon also stated that 1,3-butadiene has a variety of uses as a chemical raw material. According to The Condensed Chemical Dictionary (10th edition), 1,3-butadiene uses include "synthetic elastomers (styrene-butadiene, polybutadiene, neoprene; nitriles) ABS resins; chemical intermediate."

COMMENTS/RECOMMENDATIONS

The Agency has received a number of TSCA § 8(e) and "For Your Information" (FYI) submissions on 1,3-butadiene. In addition, the Chemical Screening Branch prepared a Chemical Hazard Information Profile (CHIP) in 1981. In 1985, 1,3-Butadiene was referred to OSHA through TSCA §9(a). The Risk Analysis Branch is evaluating current information and coordinating a response to OSHA.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Exxon will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. Exxon will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Exxon will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the

published scientific literature) about which Exxon is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of isoamylene at this time. All incoming information relating to 1,3-butadiene will be sent to staff of the Risk Analysis Branch (RAB/ECAD) for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 2 4 1990 **APPROVED:** James F. Darr 5/3/90

SUBJECT: Status Report[1] **8EHQ-0390-0903 8**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "naphthalenol aromatic azo dye of alkyl compounds."

SUBMISSION DESCRIPTION

The submitting company provided the final report of a definitive in vivo mouse micronucleus assay and a draft report of an in vitro mutagenicity study on the naphthalenol aromatic azo dye compound. The following information regarding the conduct of the mouse micronucleus assay is contained in the **SUMMARY** section of the submitted final report:

> "[This study was conducted to assess the ability of the test compound to induce micronuclei (MN) in peripheral erythrocytes following oral administration to male and

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> female Swiss-Webster mice. Based upon the results of the range-finding study] the doses selected for the definitive assay were 1200, 2500, and 5000 mg/kg BW [body weight]. The positive control selected for the definitive assay was benzene (500 mg/kg).

The submitter reported in the cover letter that "the micronucleus results were considered inconclusive by the test laboratory since a statistically significant elevation in micronucleated RNA containing erythrocytes is observed in only one treatment group and the dose-response trend is not significant."

According to the **CONCLUSION** section of the *in vitro* bacterial mutagenicity study (Ames test), the test compound was found to exhibit mutagenic activity by "inducing frameshift mutations following metabolic activation (and weak activity without metabolic activation)."

The submitter provided a copy of the Material Safety Data Sheet (MSDS) that will be revised by the company to reflect the reported findings for the subject chemical.

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that "this substance is used to color petroleum products." In addition, the submitter provided the following information regarding the potential for exposure to this chemical:

> "This substance is handled in a closed system at our production facility. The total number of people in the facility potentially exposed to this material is no greater than 39. Periodic industrial hygiene monitoring for air contaminants in the production area shows that those volatile materials associated with the process and manufacture of this material are well within the Permis-sible Exposure Limits established by the Occupational Safety and Health Administration."

The submitter reported that contact with workers in the field is unlikely because the system is mechanical and enclosed. In addition, the submitter noted that workers will be reluctant to get the dye on their clothing since it is extremely difficult to remove the dye completely from clothing.

The submitter also reported that "the potential for exposure to the individual consumer is extremely small."

COMMENTS/RECOMMENDATIONS

In its submission, the submitter reported that a third mutagenicity study is underway and will be sent to the Agency as soon as the results are available.

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the range-finding micronucleus assay and the on-going mutagenicity study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 24 1990 **APPROVED:** James F. Darr 4/30/90

SUBJECT: Status Report[1] **8EHQ-0390-0904**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Akzo Chemicals Inc. provided the following summary information regarding the conduct of a developmental range-finding toxicity study in rabbits:

> " ...gravid rabbits were exposed to 100, 300, 1000, or 3000 ppm CS_2 (carbon disulfide; CAS No. 75-15-0) vapor for 6 hrs/day during days 6-19 of gestation."

An addendum to this submission provided the following summary information regarding the preliminary results of this developmental toxicity study:

> "Maternal Toxicity
>
> "Four of six animals in the 3000 ppm group died during the 6 hour dose period on the first day of exposure. The remaining two animals in the 3000 ppm group were sacrificed due to moribund condition following the first day of exposure.

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"Clinical signs of maternal toxicity were observed in the 1000 ppm group and included tremors in one animal on Gestation Day 16 and ataxia in one animal on Gestation Day 15. Two animals exhibited tremor on Day 16.

"Low food consumption was observed in one animal in the 100 ppm group, 3 animals in the 300 ppm group and 5 animals in the 1000 ppm group. Diet consumption was low in these animals during the exposure period and returned to normal by Gestation Day 23. Mean maternal body weights were slightly lower in the 1000 ppm group, on Gestation Day 18 compared to the 100 and 300 ppm groups, as well as historical control values.

Reproduction Parameters

"Rabbits were euthanitized on Gestation-29 and received a Cesarean section. Six females from each exposure group surviving the treatment regimen were examined and all 18 females were pregnant. Corpora lutea counts and implantation totals were comparable among exposure groups and the historical control.

"Postimplantation loss was significantly increased in the 1000 ppm group when compared to the 100 and 300 ppm groups. A slight increase relative to historical control was also observed in the low exposure, but not the mid-exposure group. Postimplantation loss consisted predominantly of early resorptions.

Fetal Evaluations

"No dead fetuses were observed in any dose group. The number of live pups was significantly lower in the 1000 ppm group when compared to the 100 and 300 ppm groups and the historical control. This was due to the large increase in postimplantation loss in the 1000 ppm group.

"The mean fetal body weights were significantly lower in the 1000 ppm group when compared to both the 100 and 300 ppm dose groups, as well as the historical control. Mean crown rump lengths were comparable among the 100 and 300 concentration groups, but was diminished in the 1,000 ppm concentration group.

"No malformations were observed in the 100 and 300 ppm concentration groups. However, there was a significant increase in the number of gross anatomic malformations observed during the external exams of the 1000 ppm exposure group; three of six litters in the 1000 ppm dose group contained fetuses with external malformations. One of the six litters consisted of all early resorptions. The two remaining litters in the 1000 ppm dose group contained both live, (externally) normal fetuses and

early resorptions. A total of 10 major external malformations in 9 individual fetuses (in three litters) were observed in the total of 30 fetuses in the 1000 ppm group. Three of six fetuses in one litter were observed with umbilical hernia. Four of ten fetuses in another litter had various tail malformations from absent to shortened and crooked tail. Two of two fetuses in another litter were observed with major cranial malformations. One fetus was observed with a meningocele, abnormally shaped head and abnormally shaped left eye. A second fetus was observed with hydrocephaly."

In the cover letter accompanying the initial submission, Akzo Chemicals Inc. reported that "the preliminary data suggest that the no [observed] effect level (NOEL) for CS_2-induced developmental toxicity and reproduction indices is at least 300 ppm occurring in does which display equivocal maternal toxicity (i.e., lowered food consumption)." In addition, Akzo reported that "the developmental toxicity observed at 1000 ppm CS_2 in the range-finding study is similar to that reported for rabbits receiving 25-125 mg/kg CS_2 by gavage (Jones-Price, 1984)."

USE AND EXPOSURE POTENTIAL

The **Condensed Chemical Dictionary** (10th Edition) states that carbon disulfide may be used in the manufacture of viscose rayon, cellophane, carbon tetrachloride and flotation agents. Carbon disulfide may also be used as a solvent.

COMMENTS/RECOMMENDATIONS

Akzo Chemicals Inc. reported that they will sponsor a definitive developmental toxicity study and this study will be forwarded to the Agency.

a) The Chemical Screening Branch will ask Akzo Chemicals Inc. to ensure that EPA receives complete copies of the final reports (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the range-finding and definitive developmental studies cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Akzo Chemicals Inc. will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Akzo Chemicals Inc. will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect

the reported findings. In addition, Akzo Chemicals Inc. will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

Reference

Jones-Price et al. "Teratologic evaluation of carbon disulfide administered to New Zealand White Rabbits on gestational days 6 through 19", Final Study Report, NCTR Contract No. 222-80-2031 (C), February, 1984.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 24 1990 **APPROVED:** James F. Darr 4/30/90

SUBJECT: Status Report[1] **8EHQ-0390-0905 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. The submitter did provide the following non-confidential generic name for the subject chemical: "aromatic amine."

SUBMISSION DESCRIPTION

The submitting company provided the following information regarding a recent incident in Mexico:

> "On 6 February 1990 we were informed by our customer that a trailer carrying technical grade [of the subject chemical] had overturned in a remote area of Mexico and a quantity of [the compound] was spilled. We were later

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

told that clean up crews were sent to rectify the situation and that all spilled [material] had been recovered and placed securely in closed drums for proper disposal.

"Several days later, 15 February 1990, we were told that a number of workers from the clean up crew may have been exposed to small quantities of [the aromatic amine] even though they were given appropriate protective equipment. We learned that one of the cleanup workers died following payment for work performed. The best evidence is that the death was attributed to excessive drinking. Subsequently, as a precaution, we were told that a number of the clean up workers were taken to a local hospital and examined. They were given blood test for methemoglobin ... The test was negative for all - no methemoglobin was found. However, two workers were found to have elevated blood levels of the liver enzyme transaminase. These levels fell and all of the workers were subsequently released."

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use of the subject chemical.

COMMENTS/RECOMMENDATIONS

Although the information provided by the submitter does not appear to be of the type required for submission under Section 8(e), the "substantial risk" information reporting provision of TSCA, the subject information does appear to be of the type required to be recorded/maintained by the submitter under Section 8(c), a mandatory recordkeeping provision of TSCA. On August 22, 1983, the Agency published (48 FR 38178) a final rule that requires chemical manufacturers and certain chemical processors to maintain records of significant adverse reactions alleged to have been caused by a TSCA-covered chemical substance or mixture. This TSCA Section 8(c) rule also requires that allegations that involve significant adverse reactions in workers be maintained for 30 years and that other recordable allegations be kept for 5 years. It should be noted also that the Agency is empowered to inspect and/or require submission of corporate TSCA Section 8(c) records and has done so on a number of occasions to date.

a) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAY 30 1990 APPROVED: James F. Darr 5/31/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0390-0906 S Initial
8EHQ-0490-0906 S Supp

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Baker Performance Chemicals, Inc. provided final reports of 96-hour, static, acute toxicity studies of the fathead minnow (Pimephales promelas) and a 48-hour, static, acute toxicity study of the daphnid (Daphnia magna) with Baker 417 (Magnaclear W 241). In a supplemental submission, Baker Performance Chemicals provided a final report of a 96-hour acute toxicity test in algae (Selenastrum capricornutum). In the cover letters of both submissions, the company stated non-confidentially that this substance is the subject of a TSCA Section 5 "Pre-Manufacture Notice" (PMN) with the reference number P-88-2100.

COMMENTS/RECOMMENDATIONS

The non-confidential version of P-88-2100 obtained from the OTS public files states that the generic name of this substance is "cationic terpolymer of acrylamide" and that its use is "water clarification."

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As was the case with the initial Section 8(e) submission, the Chemical Screening Branch will notify the Chemical Control Division (CCD/OTS) about all incoming information.

c) Copies of this status report will be sent to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; copies will be sent also to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 15 1990 APPROVED: James F. Darr 5/17/90

SUBJECT: Status Report[1] 8EHQ-0390-0907 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted a final report of an oral range-finding teratology study in rats conducted at doses of 0, 125, 250, 500, 750, and 1000 mg/kg/day with a research and development (R & D) compound identified generically as a "semicarbazone."

COMMENTS/RECOMMENDATIONS

It should be noted here that the Agency has received another TSCA Section 8(e) submission on a compound identified generically as a semicarbazone. The reader's attention is directed to 8EHQ-0390-0916 S.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 20 1990 **APPROVED:** James F. Darr 4/20/90

SUBJECT: Status Report[1] **8EHQ-0390-0908 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Ricoh Electronics Inc. reported non-confidentially that the subject chemical is 4,4'-[oxybis(2,1-ethanediylthio)]bisphenol, commonly known as DD-63. Ricoh also reported non-confidentially that this chemical is the subject of a TSCA Section 5 Pre-Manufacture Notice (PMN No. P89-651) and a Section 5 Consent Order. According to the sanitized version of P89-651 obtained from EPA's public files, the subject chemical substance has the following CAS Registry Number: 90884-29-0.

SUBMISSION DESCRIPTION

Ricoh Electronics Inc. provided final reports of a subacute 28-day oral gavage study in the rat and a 96-hour acute toxicity study (LC50) in carp with DD-63. The following summary information was given in the cover letter of these reports:

> "In a subacute 28-day oral toxicity study with DD-63 by daily gavage in the rat, elevated serum inorganic phosphate levels were observed in male rats at all dose levels (50, 200, and 1000 mg/kg/day) and in female rats at the highest dose level; however, these levels were within the normal range. The toxicological significance

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

of these changes is unclear. At the highest dose level, other findings include diarrhea, decreased body weight gain, and changes in blood chemistry in male and female rats, and changes in hematologic parameters in females only."

"In the [acute toxicity study in carp], 10 fish per concentration were exposed for 96 hrs in semi-static system to a concentration range of 1.0 to 10 mg/l forming a geometric progression with a factor 1.8 and a blank control . . . After 24 hours of exposure all fish had died at nominally 5.6 and 10 mg/l. At 3.2 mg/l, mortality of fish was recorded from 48 hours of exposure resulting in 90% mortality at the end of the test. No mortality was observed at or below 1.8 mg/l or the controls.

"The LC50 of DD-63 ranged from 1.0 to 1.6 mg/l, with no mortality observed at 0.7 to 1.1 mg/l."

It should be noted that the sanitized version of P89-651 contains the results of a wide variety of in vitro mutagenicity and in vivo mammalian toxicity studies, as well as aquatic species toxicity studies, of DD-63.

USE AND EXPOSURE POTENTIAL

In its TSCA Section 8(e) submission, Ricoh Electronics Inc. did not provide any non-confidential information with regard to the use of or the potential for exposure to DD-63. The sanitized version of P89-651 states that DD-63 is used in the "manufacture of office machine paper" and provides some information about the potential for exposure to the chemical.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Ricoh Electronics Inc. will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Ricoh Electronics Inc. will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Ricoh will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Ricoh is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As was the case with the initial Section 8(e) submission, the Chemical Screening Branch will send full copies of all reported information to the Chemical Control Division (CCD/OTS) for review; CCD is responsible for implementing EPA's Section 5 "New Chemicals Program" (NCP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAY 21 1990 APPROVED: James F. Darr 5/22/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0390-0909

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Mitsubishi Gas Chemical America, Inc. submitted final reports of a negative in vivo Mouse Micronucleus Test and a Chinese Hamster Ovary (CHO) Cell Assay considered by the company to be "not clastogenic" with m-xylenediamine (CAS No. 1477-55-0).

COMMENTS/RECOMMENDATIONS

It is EPA's position that the provided studies did not warrant reporting under Section 8(e) of TSCA; however, it must be made clear that EPA may not be aware of other information that was used by the company in its determination to submit these reports to EPA under Section 8(e). It is important to note also that although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to the chemical(s). EPA expects the results of such additional studies to be considered also for submission under Section 8(e).

a) The company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, FDA, CPSC, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY - 1 1990 **APPROVED:** James F. Darr 5/1/90

SUBJECT: Status Report[1] **8EHQ-0390-0910 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is 2-ethylhexanol, CAS No. 104-76-7.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a prenatal toxicity study in rats after gavage administration of 2-ethyl-hexanol:

> "All alcohols investigated were administered to pregnant Wistar rats (10/group) by gavage for 10 consecutive days (days 6-15 post coitum) in daily doses of 1, 5 or 10 mmol/kg body weight.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"For comparison, two control groups were used. Control Group No. I was dosed with double distilled water, while Control Group No. 2 was dosed with the emulsifier (double distilled water with approximately 0.005% Cremophor EL).

"Food consumption and body weights of the animals were recorded regularly throughout the study period. The state of health of the animals was checked daily.

"On day 20 p.c., all surviving females were sacrificed and assessed by gross pathology. The fetuses were dissected from the uterus, weighed and further investigated for any external, soft tissue and/or skeletal findings.

"At the highest dose level (1,300 mg/kg body weight/day ~10 mmol/kg body weight) distinct signs of maternal toxicity were observed. 6 dams of this group died on days 9, 10 or 13 p.c. Food consumption was markedly reduced, mean body weights/body weight gains and corrected body weight gains were clearly impaired (body weight loss on days 6-10 p.c.; reduced body weight gains during days 10-15 p.c.). Severe adverse clinical symptoms (e.g., abdominal or lateral position, unsteady gait and apathy) were recorded. Light brown-gray discoloration of the liver was noted in the animals with intercurrent death. Moreover, distinctly reduced mean gravid uterus weights were seen. Clear signs of embryo/fetotoxicity, substantiated by a distinctly increased number of resorptions, markedly increased postimplantation loss and reduced mean fetal body weights occurred. In a total of 28 fetuses, one fetus with rare external malformations (atresia ani and acaudia) was found. A higher frequency of fetuses exhibited soft tissue variations (dilated renal pelvis and/or hydroureter). Moreover, a higher number of fetuses with skeletal malformations, variations and retardations was recorded.

"At 650 mg/kg body weight/day (~5 mmol/kg body weight), only marginal signs of maternal toxicity were present (2 dams with piloerection).

"Slight embryo/fetotoxicity was observed in this group in form of marginally reduced mean fetal body weights and an increased number of fetuses with skeletal variations and retardations.

"At the lowest dose (130 mg/kg body weight/day ~1 mmol/kg body weight), no adverse substance-related effects on dams or fetuses were seen.

"Overall...in the present study, obvious signs of developmental toxicity (including teratogenicity) occurred only when severe maternal toxicity was evident."

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use of or the potential for exposure to 2-ethylhexanol. According to The Condensed Chemical Dictionary (10th edition), 2-ethylhexanol is used as a "plasticizer for PVC resins, defoaming agent, wetting agent, organic synthesis, solvent mixtures for nitrocellulose, paints, lacquers, baking finishes, penetrant for mercerizing cotton, textile finishing compounds, plasticizers, inks, rubber, paper, lubricants, photography, dry cleaning."

It should be noted that 2-ethylhexanol was recommended for testing under TSCA Section 4 by the Interagency Testing Committee. The reader's attention is directed to 52 FR 28698 (August 3, 1987) for further information about use and exposure to 2-ethylhexanol.

COMMENTS/RECOMMENDATIONS

The submitter reported that the company will notify all customers of these results and submit additional information to the EPA as it becomes available.

It should be noted that EPA has received other TSCA Section 8(e) and "For Your Information" (FYI) submissions on 2-ethylhexanol. This chemical is also the subject of TSCA Section 8(d) information gathering rule. According to the submitter, this prenatal toxicity screening study with 2-ethylhexanol was "listed" under TSCA 8(d) under the following study title, "The behavior of 2-ethylhexanol in a short-term teratogenicity screening model in rats."

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the prenatal toxicity study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will send full copies of all reported information to TRDB/ECAD/OTS for review.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and TRDB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY - 2 1990 **APPROVED:** James F. Darr 5/1/90

SUBJECT: Status Report[1] **8EHQ-0390-0911 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is isodecanol, CAS No. 25339-17-7.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a prenatal toxicity study in rats after gavage administration of isodecanol:

> "All alcohols investigated were administered to pregnant Wistar rats (10/group) by gavage...for 10 consecutive days (days 6-15 post coitum) in daily doses of 1, 5 or 10 nmol/kg body weight.

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Food consumption and body weights of the animals were recorded regularly throughout the study period. The state of health of the animals was checked daily.

"On day 20 p.c., all surviving females were sacrificed and assessed by gross pathology. The fetuses were dissected from the uterus, weighed and further investigated for any external, soft tissue-and/or skeletal findings.

"At the highest dose level (1,580 mg/kg body weight/day ~10 nmol/kg body weight) distinct signs of maternal toxicity were observed. 4 dams of this group died or had to be sacrificed in a moribund state on days 9 or 10 p.c. Food consumption was markedly reduced and mean body weights were clearly impaired (body weight loss on days 6-10 p.c.; reduced body weight gains during the treatment and the post-treatment periods; clearly reduced corrected body weight gain). Severe adverse clinical symptoms (e.g., abdominal or lateral position, unsteady gait and apathy) were recorded. Light brown-gray discoloration of the liver was noted in the animals which died intercurrently. Clear signs of embryo/fetotoxicity, substantiated by an increased postimplantation loss, an increased number of resorptions, clearly reduced mean fetal body weight, and a higher frequency of fetuses with skeletal retardations were found. In addition, two out of 59 fetuses from two different litters showed a rare external malformation; both fetuses had no external genitals.

"At 790 mg/kg body weight/day (~5 nmol/kg body weight), signs of maternal toxicity were still present, substantiated by reduced food consumption, trend to reduced body weight gain and adverse clinical signs (e.g., unsteady gait).

"Substance related embryo/fetotoxicity was not observed at this dose level.

"At the lowest dose (158 mg/kg body weight/day ~1 nmol/kg body weight), no adverse substance-related effects on dams or fetuses were seen.

"Overall...in the present study, obvious signs of developmental toxicity (including teratogenicity) occurred only when severe maternal toxicity was evident."

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use of or the potential for exposure to isodecanol. According to The Condensed Chemical Dictionary (10th edition), isodecanol is used as an "antifoaming agent in textile processing."

COMMENTS/RECOMMENDATIONS

The submitter reported that the company will notify all customers of these results and submit additional information as it becomes available to the EPA.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the prenatal toxicity study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the submission or the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: APR 30 1990 **APPROVED:** James F. Darr 4/30/90

SUBJECT: Status Report[1] **8EHQ-0390-0912 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemicals are two isononyl alcohols (CAS No. 69515-81-1) with different distributions of linear and branched isomers.

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a prenatal toxicity study in rats after gavage administration of two isononyl alcohols:

> "All alcohols investigated were administered to pregnant Wistar rats (10/group) by gavage...for 10 consecutive days (days 6-15 post coitum) in daily doses of 1, 5 or 10 nmol/kg body weight.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"For comparison, two control groups were used. Control Group No. 1 was dosed with double distilled water, while Control Group No. 2 was dosed with the emulsifier (double distilled water with approximately 0.005% Cremophor EL).

"Food consumption and body weights of the animals were recorded regularly throughout the study period. The state of health of the animals was checked daily.

"On day 20 p.c., all surviving females were sacrificed and assessed by gross pathology. The fetuses were dissected from the uterus, weighed and further investigated for any external, soft tissue and/or skeletal findings."

The following is a summary of the preliminary results reported for Isononyl Alcohol I:

"At the highest dose level (1,440 mg/kg body weight/day 10 nmol/kg body weight) severe signs of maternal toxicity were observed. All 10 dams of this group died or had to be sacrificed in a moribund state on days 9, 10 or 11 p.c. after showing reduced food consumption, reduced mean body weights/body weight loss and severe clinical symptoms (like lateral or abdominal position, apathy and unsteady gait) the days before death. At necropsy, a light brown-gray discoloration of the liver of all animals was the most important finding.

"Due to the intercurrent death of all dams, no data on corrected body weight gain, uterus weight, reproduction parameters, placental and fetal body weights and on fetal external, soft tissue or skeletal findings were available for further assessment.

"At 720 mg/kg body weight/day (~5 nmol/kg body weight), clear signs of maternal toxicity were still present, substantiated by reduced food consumption, reduced body weight gain and adverse clinical signs (e.g., unsteady gait).

"Embryo/fetotoxicity was observed in this group in form of slightly reduced mean fetal body weights and an increased number of fetuses with soft tissue variations (mainly hydroureter) and with skeletal variations and retardations.

"At the lowest dose (144 mg/kg body weight/day ~1 nmol/kg body weight), no maternal toxic effects, but marginal embryo/fetotoxic effects (increased number of fetuses with hydroureter) were recorded."

The following is a summary of the preliminary results reported for Isononyl Alcohol 2:

> "At the highest dose level (1,440 mg/kg body weight/day ~10 nmol/kg body weight) distinct signs of maternal toxicity were observed. 3 dams of this group died or had to be sacrificed in a moribund state on days 8, 9 or 10 p.c. Food consumption was markedly reduced and mean body weights were clearly impaired (body weight loss on days 6-10 p.c.; reduced body weight gains during the whole treatment period and reduced corrected body weight gain). Severe adverse clinical symptoms (e.g., abdominal or lateral position, unsteady gait and apathy) were recorded. Light brown-gray discoloration of the liver was noted in the animals which died intercurrently. Clear signs of embryo/fetotoxicity were seen, substantiated by a markedly reduced mean fetal body weight, a higher frequency of fetuses with a specific soft tissue variation (hydroureter) and a higher frequency of fetuses with skeletal variations and retardations. In addition, 2 fetuses (out of 91 examined) from one litter showed rare external malformations; one fetus had no external genitals and for the other one a meningocele was noted.
>
> "At 720 mg/kg body weight/day (~5 nmol/kg body weight), clear signs of maternal toxicity were still present, substantiated by a slightly reduced food consumption, reduced body weight gain and adverse clinical signs (e.g., unsteady gait).
>
> "Embryo/fetotoxicity was observed in this group in form of an increased number of fetuses with soft tissue variations (hydroureter).
>
> "At the lowest dose (144 mg/kg body weight/day ~1 nmol/kg body weight), no adverse substance-related effects on dams or fetuses were seen.
>
> "Overall, for the alcohols reported above (i.e., Isononyl Alcohol I and Isononyl Alcohol 2),...in the present studies, obvious signs of developmental toxicity (including teratogenicity for Isononyl Alcohol 2) occurred only when severe maternal toxicity was evident."

USE AND EXPOSURE POTENTIAL

The submitter did not provide any information regarding the use of or the potential for exposure to isononyl alcohols. According to The Condensed Chemical Dictionary (10th edition), isononyl alcohol is used as "a basis of plasticizers such as diisononyl adipate."

COMMENTS/RECOMMENDATIONS

The submitter reported that the company will notify all customers of these results and submit additional information to the EPA as it becomes available.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the prenatal toxicity study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the submission or in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 25 1990 APPROVED: James F. Darr 5/7/90

SUBJECT: Status Report[1] 8EHQ-0390-0913 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aryl alkyl heterocyclic carboxylate."

SUBMISSION DESCRIPTION

The submitting company provided the final report of a 6-week pilot dog study of this aryl alkyl heterocyclic carboxylate. The submitter's cover letter presents the following summary information regarding the conduct and results of this study:

> "[The test compound was] administered daily via capsule [at doses of 0, 300, 600 or 1000 mg/kg/day] to 5 groups

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

of 1 male and 1 female dog for up to 6 weeks. Because of excessive toxicity (vomiting, tonic convulsions, ataxia, drowsiness and/or inappetence), the dosing of these animals was suspended after 3 days. Dosing was resumed at 800 mg/kg/day after a 5-day recovery period but the animals were sacrificed on day 11 because excessive toxicity was still apparent. Excessive toxicity (vomiting, poor food consumption, subdued behavior, tremors, unsteady gait, weight loss and/or hematological changes) were also noted in at least one animal at both 300 and 600 mg/kg/day, and one animal of each was sacrificed prior to study termination. There may have been some clinical chemistry and/or hematology changes in the remaining animal at 300 mg/kg/day and in one of the two animals at 100 mg/kg/day but the effects, if any, were minimal. At the dose levels that produce excessive toxicity, manifestations suggestive of CNS effects were observed."

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially "that this material is exclusively being tested for research and development (R&D) purposes only."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition,

copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: APR 27 1990 **APPROVED:** James F. Darr 5/7/90

SUBJECT: Status Report[1] **8EHQ-0390-0914 S**
Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this Status Report)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. The submitter reported non-confidentially that the subject compound is a "substituted di-phenyl ether."

SUBMISSION DESCRIPTION

The submitting company reported non-confidentially that preliminary results from a 2-year chronic toxicity/oncogenicity study indicate that the tested compound may have caused neurotoxic effects (i.e., convulsions) in B6C3F1 mice. (Submitted data tables indicate that the test compound was administered to mice by an unspecified route at dose levels of 0, 50, 300, 1000, or 2000 ppm.) The submitter reports that "at the present time we have not established that this is in fact a compound related effect since as can be seen from the data there is also a substantial incidence of convulsions in [the] control group animals as well as in all dose groups." A letter accompanying the submitted data tables states that no convulsions were noted for any group in an ongoing rat study (dose levels, route of exposure and duration not specified). This letter states,

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

however, that an increased incidence of malocclusions observed in rats in the 2 highest dose groups may be "related to behavioral changes, such as increased or decreased chewing activity."

USE/EXPOSURE POTENTIAL (See **NOTE** on Page 3 of this Status Report)

The submitter stated non-confidentially that the subject chemical substance is being evaluated as an herbicide for registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

COMMENTS/RECOMMENDATIONS

In its submission, the submitter reported that the company is currently conducting neurotoxicity-related evaluations of the data from the chronic mouse study. The company further stated that the results of these additional assessments will be provided to EPA.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross/histopathological examinations, results of any statistical analyses, etc.) from the mouse and rat studies cited in the company's submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity information, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this substituted di-phenyl ether.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will screen the reported information to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

NOTE In a letter dated July 23, 1990 (8EHQ-0790-0914 FLWP), Mitsui Petrochemicals (America), Ltd. reported non-confidentially that the subject chemical is 1-methoxy-1-methyl-3-[4-(3,4-dihydro-2-methoxy-2,4,4-trimethyl-7-benzopyranyloxy)phenyl]urea (CAS No. unknown), which comprises 25% (w/w) in PAL6000, a product for which a FIFRA Experimental Use Permit (63098-EUP-1) was granted by EPA on June 14, 1990.

James D. Darr 12/3/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL -9 1990 APPROVED: James F. Darr 7/9/90

SUBJECT: Status Report[1] 8EHQ-0390-0915

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Aluminum Company of America (Alcoa) has submitted an epidemiology study of mortality of Alcoa workers. This study is part of a series of investigations and was done, in part, to clarify further the relationship between employment in aluminum reduction operations and cancer mortality.

COMMENTS/RECOMMENDATIONS

Alcoa reported they are preparing a communication plan to share the results with their workers and their representatives. Alcoa now plans to undertake a more focused study to clarify the relationship, if any, of kidney cancer to employment.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to reduce or eliminate exposure to the subject chemicals. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the provided information in order to determine the need for further OTS assessment.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 10 1990 APPROVED: James F. Darr 5/17/90

SUBJECT: Status Report[1] 8EHQ-0390-0916 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted a final report of a positive L5178Y TK+/- Mouse Lymphoma Forward Mutation Assay with Independent Repeat conducted on a research and development (R & D) compound identified generically as a "semicarbazone." The cover letter of the submission reports that an Ames Test and an In Vivo Mouse Micronucleus Assay with this compound were negative.

COMMENTS/RECOMMENDATIONS

In its cover letter, the submitter stated that in addition to standard precautionary labeling, all R & D chemicals bear an additional warning statement. It should be noted here that the Agency has received another TSCA Section 8(e) submission on a compound identified generically as a semicarbazone. The reader's attention is directed to 8EHQ-0390-0907 S.

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 9 1990 APPROVED: James F. Darr 5/17/90

SUBJECT: Status Report[1] 8EHQ-0490-0917

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The BFGoodrich Company submitted a letter that it received from the BASF Corporation regarding the results of a re-analysis and update of a Rohm & Haas Company epidemiology study of ethyl acrylate (CAS No. 140-88-5) and methyl methacrylate (CAS No. 80-62-6). This study was the subject of an earlier "For Your Information" (FYI) submission from the Rohm and Haas Company; the reader's attention is directed to FYI-OTS-0290-0300 Sequence B.

COMMENTS/RECOMMENDATIONS

It should be noted here that EPA has received numerous TSCA Section 8(e) and FYI submissions on acrylates.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemicals. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemicals.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/EPA, and CREB/HERD/OTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

DATE: MAY 2 1990 **APPROVED:** James F. Darr 5/9/90 OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0490-0918 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitter claimed its company name and the identity of the subject chemical as TSCA Confidential Business Information (CBI). The Information Management Division will review all incoming correspondence related to these CBI claims. In the "sanitized" version of its Section 8(e) notice, the subject chemical was identified non-confidentially as a "heterocyclic amide."

SUBMISSION DESCRIPTION

The submitter provided the following summary information regarding the conduct and results of a pilot rabbit teratology study, an interrupted definitive rabbit teratology study and a repeat definitive rabbit teratology study of this heterocyclic amide:

Pilot Rabbit Teratology Study

> "In the pilot dosage-range study, dosages of 0 (vehicle), 37.5, 75, 150, 300 and 425 mg/kg/day of [the compound] were given orally (stomach tube) to four presumed pregnant rabbits per group on days 6 to 18 of gestation. Deaths occurred in the 300 and 425 mg/kg/day dosage groups. Inhibitory effects on body weight gain and feed consumption occurred in does given 150 mg/kg/day."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Interrupted Definitive Teratology Study

"Based on the results of the dosage-range pilot study, dosages of 0 (vehicle), 62.5, 125, 250 mg/kg/day of [the test compound] were administered to 20 rabbits per group on days 6 to 18 of presumed gestation. Because there were 13 deaths and seven abortions in the high dosage group, this study was terminated prior to scheduled Caesarean-sectioning on day 29 of gestation (only one pregnant high dosage group doe survived to day 25 of gestation). The 125 and 250 mg/kg/day dosages of [the compound] inhibited maternal body weight gain and feed consumption."

Repeat Definitive Teratology Study

"80 artificially inseminated female rabbits were assigned (20 to a group) to a vehicle control and three test substance-administered dosage groups using computer-generated random units (weight ordered). Dosages of 0, 37.5, 75, or 150 mg/kg/day of [the compound] were administered by stomach tube to the presumed pregnant rabbits at a dosage volume of 10 ml/kg on days 6 through 18 of presumed gestation. The vehicle was aqueous 0.5% (w/v) carboxymethyl cellulose. The control group received the vehicle containing an amount of HiSil® equivalent to that in the high dosage group. All dosages were adjusted daily for changes in body weight.

"Maternal toxicity was evident as adverse clinical signs, inhibited body weight, inhibited feed consumption (75 and 150 mg/kg/day dosage groups) and abortion/premature delivery (150 mg/kg/day dosage group). The only adverse effect on embryo/fetal development was the low incidence of abortion/premature delivery that occurred in the high dosage group. No adverse effect on embryo/fetal viability, growth or morphology was revealed by [an] evaluation of the term Caesarean-delivered fetuses.

"On the basis of these results, the maternal no-observable effect level (NOEL) for [the subject chemical] is 37.5 mg/kg/day, and the developmental NOEL is 75 mg/kg/day."

In its cover letter, the submitting company also reported that "an additional teratology study has been conducted in rats without any indication of significant adverse findings." In addition, the submitter reported that the provided information related to a compound for which mutagenicity data had been reported to EPA on December 11, 1989. [NOTE: A TSCA Section 8(e) submission (8EHQ-1289-0853 S) dated December 11, 1989 was received by the Agency on December 12, 1989 and pertained to genotoxicity data on a chemical identified as a "heterocyclic amide." The reader's attention is directed to the status report prepared for 8EHQ-1289-0853 S.]

USE AND EXPOSURE POTENTIAL

The submitter reported non-confidentially that this heterocyclic amide is a research and development (R&D) compound that was produced outside of the United States. The submitter stated that "the volumes produced are small and; therefore, exposure is minimal. . . . All R&D compounds are handled with extreme precaution until all safety assessments have been completed and appropriate clearances have been obtained."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross and histopathological examinations, results of statistical analyses, etc.) from all of the teratologic studies cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity, the submitter will be requested to describe the actions that the company has taken or plans to take to notify workers/others about the reported information. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 30 1990 APPROVED: D.R. Williams 5/30/90

SUBJECT: Status Report[1] 8EHQ-0490-0919 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

Eastman Kodak Company provided final reports of acute toxicity tests on an R&D chemical identified as "substituted carbonothioic hydrazide" after central nervous system effects were noted in the oral toxicity study in rats. Other reports provided were dermal toxicity in rats, eye and dermal irritation in rabbits, and a skin sensitization study in guinea pigs.

COMMENTS/RECOMMENDATIONS

The submitter reported that the new toxicity information has been incorporated into the MSDS.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: JAN - 3 1991 APPROVED: James F. Darr 1/3/91

SUBJECT: Status Report[1] 8EHQ-0490-0920 S

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided a draft study report of a mouse micronucleus test on "alkenoyl disubstituted cycloalkane" which, according to the company, has been assigned EPA ACCESSION #35406.

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(E) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" FR 11110: March 16, 1978), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemicals(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APR 20 1990 **APPROVED:** James F. Darr 4/20/90

SUBJECT: Status Report[1] **8EHQ-0490-0921 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

Ricoh Electronics Inc. reported non-confidentially that the subject chemical is 4,4'-[methylenebis(oxy-2,1-ethanediylthio)]bisphenol, commonly known as DD-70. Ricoh also reported non-confidentially that this chemical substance is the subject of a TSCA Section 5 Pre-Manufacture Notice (PMN No. P87-1760) and a Section 5 Consent Order. According to CAS ONLINE, a publicly available computerized database, this chemical has the following CAS Registry Number: 93589-69-6.

SUBMISSION DESCRIPTION

Ricoh Electronics Inc. provided an incident report on the accidental discharge of DD-70 to a waterway from its Santa Ana, California plant. The following scenario was described in Ricoh's letter:

> "Process water, clean up and rinse water from a paper coating operation flows into a settling pit before discharge to an industrial sewer. The industrial sewer flows to a POTW, from which Ricoh has a permit to discharge.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Between 12 am and 7 am on March 13, 1990, the outflow pump, which moves the water from the settling pit to the sewer line, failed due to a piece of wood jamming the pump impeller. This caused an unknown amount of process water to overflow the settling pit and flow into a storm water runoff drain on site. The storm drain is an underground concrete pipe which then flows into a rock lined, dirt storm water channel, approximately 1.5 miles away. It is impossible to determine the quantity of process water which entered into the storm water system. The process water did contain less than one percent of DD-70.

"Santa Ana Fire Department was requested by Orange County Emergency Management Agency (OCEMA) to flush the concrete storm drain with 1500 gallons of water to the dirt storm channel for collection. Ricoh was ordered by OCEMA to hire a clean up company to vacuum the dirt storm channel and collect the liquid for disposal at the local POTW. The total amount of liquid vacuumed out of the storm channel was 30,000 gallons.

"The total spill was contained at the dirt storm channel. The spill, to the best of our knowledge, has not contaminated any further waterway."

In its letter, Ricoh also reported the following:

"The settling pit does have a high level alarm, which was functional the night of the spill. The alarm has a bell and red light to indicate a high level in the settling pit. The Mixing Supervisor was aware of the alarm and its function. There was no written procedure existing for what actions needed to be done in the event of the alarm being sounded."

It was also noted in the 8(e) submission that there were no known injuries or environmental effects resulting from this discharge of DD-70, and that there have been no previous accidental discharges of DD-70. Following this accidental spill, Ricoh reported that it had notified all appropriate Federal and state agencies, including EPA Region 9 and EPA headquarters. Ricoh also reported that it had implemented the following countermeasures:

"1. A screen was designed and installed around the pump to prevent the impeller from jamming again.

"2. A written procedure was developed and implemented for what actions need to be followed in the event of the alarm being triggered again."

USE AND EXPOSURE POTENTIAL

In its TSCA Section 8(e) submission, Ricoh Electronics Inc. did not provide any non-confidential information with regard to the use of DD-70. The sanitized version of P87-1760 states that DD-70 is used in the "manufacture of office machine paper" and provides some information about the potential for exposure to the chemical.

COMMENTS/RECOMMENDATIONS

It should be noted that the sanitized version of P87-1760 contains the results of an in vitro mutagenicity test and in vivo mammalian toxicity studies, as well as a Material Safety Data Sheet (MSDS) for DD-70.

a) Ricoh Electronics Inc. will be requested to keep EPA apprised of any further developments which may occur as a result of this accidental discharge of DD-70.

b) As was the case with the initial Section 8(e) submission, the Chemical Screening Branch will send full copies of all reported information to the Chemical Control Division (CCD/OTS) for review; CCD is responsible for implementing EPA's Section 5 "New Chemicals Program" (NCP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, CCD/OTS/OPTS and EPA's Region IX Office. In addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 23 1990 **APPROVED:** James F. Darr 7/25/90

SUBJECT: Status Report[1] **8EHQ-0490-0922 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "chlorinated hydrocarbon."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of a one-generation reproduction fertility study of "chlorinated hydrocarbon" in rats.

> "This study was conducted...to assess the reproductive performance and fertility of male and female CD® rats (10 males and 20 females per group) at dose levels of 1 and 5 ppm. The study included both an untreated control and an untreated chamber-exposed control. The test substance was administered via inhalation for 6 hours per day, 5 days per week for a 10 week premating treatment period, a mating period and the first 14 days of gestation.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Females were allowed to deliver litters and offspring were evaluated during a 21 day lactation period. At the end of the 21 day lactation period all Fo and Fl animals were sacrificed and gross necropsies performed. Gonads from the Fo animals were examined histopathologically.

"There were no unusual in-life observations or mortality in any of the Fo animals.

"The mean body weights of the untreated control Fo males were greater than the chamber-exposed controls throughout the premating treatment period.

"The mean body weights of the female untreated controls and the low and high-dose females were slightly greater than the chamber-exposed controls during gestation. Mean maternal body weights of all groups were comparable through the lactation period.

"Fo reproduction data (mating, pregnancy and fertility indices) were comparable in all groups.

"The mean number of pups alive on Days 0, 4, 14 and 21 of lactation was slightly greater in the untreated control and high-dose group than in the chamber-exposed control or low-dose group. However, pup survival indices evaluated on Days 0, 1, 4, 14 and 21 of lactation for the treated groups were unremarkable.

"Mean pup body weights in the high-dose, on Days 4, 14 and 21 of lactation, and in the untreated control, on Days 14 and 21 were slightly reduced compared to the chamber-exposed controls.

"Sex distribution patterns in all groups were unremarkable.

"There were no gross observations in any of the Fl animals at necropsy which were attributable to the administration of the test material.

"The mean terminal body weights of the untreated control, low- and high-dose Fo males and the high-dose Fo females were slightly greater than the respective chamber-exposed controls.

"The mean absolute and relative organ weights and the mean organ/brain weight ratios for the Fo animals of all groups were unremarkable.

"There were no gross observations in any of the Fo animals at necropsy which were attributable to the administration of the test material. Likewise,

microscopic examination of the gonads of the male and female Fo parents revealed no indication of a compound related effect."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY - 2 1990 APPROVED: James F. Darr 5/2/90

SUBJECT: Status Report[1] 8EHQ-0490-0923 S

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided a final report of a range-finding teratology study of "substituted acetanilide III" administered by gavage to pregnant rabbits at doses of 0, 10, 25, 75, 150 or 300 mg/kg/day on days 7-19 of gestation. To date, EPA has received several TSCA Section 8(e) notices on chemicals identified generically as substituted acetanilides (Section 8(e) No. 889 S, 896 S, 897 S and 955 S).

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 4 1990 APPROVED: James F. Darr 6/4/90

SUBJECT: Status Report[1] 8EHQ-0490-0924

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

American Cyanamid Company provided a pre-publication of an epidemiology study of mortality from lung cancer among formaldehyde-industry workers. They also provided three associated letters with comments, including comments pertaining to a previous submission, FYI-OTS-0286-0485.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will notify RAB/OPTS/EPA of all reported information.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/OTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 7 1990 APPROVED: James F. Darr 6/7/90

SUBJECT: Status Report[1] 8EHQ-0490-0925 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided two final reports on an R&D chemical identified as "heterocyclic thioester": (1) A one-generation reproduction study administered in the feed to rats at dose levels of 0, 100, 1000, 2500, and 5000 ppm prior to mating and throughout gestation and lactation. (2) A pilot teratology study administered by gavage to female rabbits at dose levels of 0, 30, 100, 300, and 1000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 4 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0926 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitter provided final reports of rat and mouse 1-month dietary feeding range-finding studies of an R&D chemical identified as "diaryl ether IV." The compound was administered to mice at concentrations of 0, 200, 1000 or 5000 ppm and administered to rats at concentrations of 0, 500, 2500 or 10000 ppm. To date, EPA has received several TSCA Section 8(e) submissions on chemicals identified generically as diaryl ethers (Section 8(e) No. 751 S, 851 S, 883 S, 888 S and 930 S).

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity data, the company will be requested to describe the actions that it has taken or plans to take to notify workers and others about the reported data. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting prevision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY - 3 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0927 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided a final report of a pilot teratology study in which an "aryl amine derivative" was administered by gavage to pregnant female rats at doses of 0, 50, 200, 1000 and 1200 mg/kg/day on gestation days 6-15. The submitter also provided a final report of a fertility and reproduction study in which this chemical was administered to rats via inhalation at concentrations of 0, 2.6, 14 and 50 mg/m^3 prior to mating and throughout gestation and lactation.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 7 1990 APPROVED: James F. Darr 6/7/90

SUBJECT: Status Report[1] 8EHQ-0490-0928 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided two final reports on an R&D chemical identified as "heterocyclic carboxylic acid ester": (1) A one-generation reproduction study administered in the feed to rats at dose levels of 0, 1000, 10,000, and 20,000 ppm prior to mating and throughout gestation and lactation. (2) A teratology study administered by gavage to mated female rats at dose levels of 0, 200, 1000, and 2500 mg/kg/day.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 7 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0929 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company reported that a laboratory researcher received severe hand burns that he alleged were caused by a "halogenated ether." The submitter noted that this effect has not been previously reported for this chemical. The company believes that the effect was the result of a combination of chemicals, but filed the Section 8(e) report for the halogenated ether because of the researcher's high level of exposure to this particular chemical. The company provided numerous documents related to the researcher's injury.

COMMENTS/RECOMMENDATIONS

Although the information provided by the submitter does not appear to be of the type required for submission under Section 8(e), the "substantial risk" information reporting provision of TSCA, the subject information does appear to be of the type required to be recorded/maintained by the company under Section 8(c), a mandatory recordkeeping provision of TSCA. On August 22, 1983, the Agency published (48 FR 38178) a final rule that requires chemical manufacturers and certain chemical processors to maintain records of significant adverse reactions alleged to have been caused by a TSCA-covered chemical substance or mixture. This TSCA Section 8(c) rule also requires that allegations that involve significant adverse reactions in workers be maintained for 30 years and that other recordable allegations be kept for 5 years. It should be noted also that the Agency is empowered to inspect and/or require submission of corporate TSCA Section 8(c) records and has done so on a number of occasions to date.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 4 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0930 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided summarized findings from a number of in vitro and in vivo toxicity studies of an R&D compound identified as "diaryl ether V," which, according to the company "apparently consists of 2 isomers." The toxicologic studies cited by the company are as follows:

1. A pilot rat teratology study,
2. 6 month subchronic pilot feeding studies in rats and mice,
3. A pilot rat reproduction study,
4. A tumor promotion assay (species not specified), and
5. In vitro cytogenetic assay (of a metabolite).

To date, EPA has received several TSCA Section 8(e) notices on chemicals identified generically as diaryl ethers (Section 8(e) No. 751 S, 851 S, 883 S, 888 S, and 926 S).

COMMENTS/RECOMMENDATIONS

The company stated that all "personnel that might be exposed to the substance have been notified about the [reported] results."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from all of the studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity, the company will be requested to describe the nature and results, of available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has

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conducted or plans to conduct that are designed to determine the toxicity of the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAY 9 1990 APPROVED: James F. Darr 5/16/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0490-0931 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Givaudan Corporation submitted final reports of oral subacute toxicity studies in rats, mice, monkeys and guinea pigs, and subchronic oral toxicity studies in rats and dogs of 4-(1,1-dimethylethyl)-alpha-methylbenzenepropanal (CAS No. 80-54-6), a perfumery raw material. The company also submitted a final report of a subacute oral toxicity study in rats of 3-[4-(1,1-dimethylethyl)phenyl]-2-methyl-2-propenal (CAS No. 13586-68-0). According to the cover letter, "male rats exhibited adverse effects on the testes" in the subacute studies of both chemicals and in the subchronic study of 4-(1,1-dimethylethyl)-alpha-methylbenzenepropanal.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemicals. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical(s) at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 4 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0932

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Mobil Research and Development Corporation provided preliminary summarized results of a bacterial mutagenicity study and rat subchronic and developmental toxicity studies of two refinery waste water sludges, API Separator Bottom Sludge and Dissolved Air Flotation Float Blend. It was stated in the submission that "these sludges contain variable mixtures of oils derived from refinery operations."

COMMENTS/RECOMMENDATIONS

Mobil reported in its submission that the Material Safety Data Sheet (MSDS) is currently being revised to reflect the reported findings. It should be noted that EPA has received numerous TSCA Section 8(e) and "For Your Information" (FYI) submissions on petroleum refinery processes and streams.

a) Mobil will be asked to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross/histopathologic examinations, results of any statistical analyses, etc.) when available from all studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Mobil will be asked to describe the actions that it has taken or plans to take to notify workers and others about the reported data. Mobil will be asked also to provide copies of revised MSDSs and labels. Finally, Mobil will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of these waste water sludges.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 7 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0933

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

General Electric Company reported a fire that occurred at the General Electric Company Technical Center located in Washington, West Virginia on April 4, 1990. Results from wipe samples taken on April 6, 1990 indicated that polychlorinated biphenyl (PCB) levels ranged from non-detectable to 400+ µg/100 cm2. The company noted that the source of the PCBs has not yet been identified and that no transformers were involved in the fire.

COMMENTS/RECOMMENDATIONS

In its submission, General Electric informed EPA that workers were dismissed and the building was closed indefinitely. General Electric also stated that the incident was reported to the National Response Center, EPA Region III, and the West Virginia Emergency Response Commission; experts on PCB decontamination are being consulted.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, CRB/EED/OTS and EPA's Region III office; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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OFFICE OF
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TOXIC SUBSTANCES

DATE: MAY 4 1990 APPROVED: James F. Darr 5/9/90

SUBJECT: Status Report[1] 8EHQ-0490-0934 S

FROM: Judith M. Loranger, Biologist
Judith M Loranger
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE on Page 2 of this Status Report)

A confidential submitting company provided a copy of the protocol and tabular results of a 2-week range-finding rat oral toxicity study of a chemical generically identified as a "phosphoroamidate." According to the submission, the compound was administered daily by gavage at doses of 250, 500, 1000 or 2000 mg/kg. The company reported that a TSCA Section 5 "Pre-Manufacture Notice" (PMN) was submitted for this chemical and that "the PMN period is currently under voluntary suspension in order to . . . conduct a variety of toxicity and environmental fate tests."

COMMENTS/RECOMMENDATIONS

a) The submitter will be asked to ensure that EPA receives a full copy of the final report (including the results of gross/histopathologic examinations, results of statistical analyses, etc.) from the 2-week gavage study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity, the company will be requested to describe the actions that it has taken or plans to take to notify workers and others about the reported data. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As was the case with the initial Section 8(e) submission, the Chemical Screening Branch will notify the Chemical Control Division (CCD/OTS) of the receipt of in-coming information; CCD is responsible for implementing EPA's TSCA Section 5 "New Chemicals Program" (NCP).

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA OPP/OPTS/EPA, and CCD/OTS/OPTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE In a followup letter dated June 21, 1990 (8EHQ-0690-0934 FLWP), Enimont America Inc. reported non-confidentially that the subject chemical is N-(n-butyl)thiophosphoric triamide (NBPT; CAS No. 94317-64-3). Enimont also reported non-confidentially that NBPT is the subject of TSCA Section 5 PMN submission number P89-538.

James D. Darr 12/3/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 8 1990 APPROVED: James D. Darr 5/15/90

SUBJECT: Status Report[1] 8EHQ-0490-0935 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitter provided a copy of draft tabular results of a rabbit developmental toxicity study of a chemical generically identified as "an imidazole derivative," an intermediate reported to be used in the production of a pesticide. Test animals received the compound at doses of 0, 100, 500 or 1000 mg/kg/day by an unspecified route, for an undisclosed amount of time.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the developmental toxicity study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 23 1990 APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0490-0936

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

BASF Corporation provided preliminary results of a subchronic feeding study of L-2-chloropropionic acid, isobutyl ester (CAS No. 83261-15-8) after signs of neurotoxicity were noted in rats.

COMMENTS/RECOMMENDATIONS

BASF reports that it does not currently produce or market L-2-chloropropionic acid, isobutyl ester. They also report that in 1986 BASF supplied two customers with R&D samples of this material; both customers will be notified of these results.

BASF stated that they will forward the final report to the Agency when it is received.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) which BASF plans to forward.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 24 1990 **APPROVED:** James F. Darr 5/31/90

SUBJECT: Status Report[1] **8EHQ-0490-0937**
8EHQ-0490-0937 SUPPs

FROM: Judith M. Loranger
Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company in their initial submission provided a complete copy of a final report of a mouse teratology study of the sodium salt of aminotri(methylenephosphonic acid) (CAS No. 20592-85-2) in which presumed pregnant mice were administered the test compound by gastric intubation at dose levels of 100, 500, or 1000 mg/kg/day on days 6-15 of gestation. Monsanto submitted the following summary information:

> "The slight increase in ossification variations noted at 500 and 1000 mg/kg were within historical control range and not statistically different from concurrent control. A statistically significant increase in skeletal malformations occurred at the mid-dose of 500 mg/kg only. This response is not considered treatment-related because of the single litter occurrence and the lack of a dose-response relationship."

In a supplemental submission, Monsanto provided complete copies of final reports and the following summary information from a pilot rat teratology study and a definitive rat teratology study in which

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

pregnant rats (in both studies) received the sodium salt of aminotri(methylene phosphoric acid) via gastric intubation at doses of 100, 500, or 1000 mg/kg/day on days 6-15 of gestation:

Pilot Rat Teratology Study

"Signs of maternal toxicity were noted in 500 and 1000 mg/kg treated dams. Signs of developmental toxicity (increased resorptions) were also observed at 500 and 1000 mg/kg. Results from this study suggest that while this material induces developmental effects in rats, it does so only at dose levels that also produce significant maternal toxicity.

Definitive Rat Teratology Study

"Signs of maternal toxicity were observed at 1000 mg/kg. Signs of possible developmental toxicity (statistically significant increase in resorptions) were observed at 100 and 1000 mg/kg. However, the response for this effect did not follow a dose-related pattern and the incidences at both dose levels were within historical control range and thus are likely unrelated to treatment. Common multiple external malformations were observed in six of sixteen fetuses only in one litter at 1000 mg/kg and were not statistically significant. Because of this occurrence in only one litter and lack of skeletal and visceral examination confirmation, it was decided that the observed malformations are of questionable biological relevance."

In another supplemental submission, Monsanto provided the final report of a chronic toxicity/oncogenicity study of a related compound, aminotri(methylene phosphonic acid) (DEQUEST 2000; CAS No. 6419-19-8) in which the chemical was administered to rats via the diet at dose levels of 50, 150, or 500 mg/kg/day for 24 months. The following summary information accompanied the submission:

"An unusual tumor type (osteosarcoma-axilla) was observed in one male animal at 500 mg/kg. The biological relevance of a single rare tumor cannot be determined. Because of the structural similarity to ethylenediaminetetra(methylenephosphonic acid), the observation of a single osteosarcoma is being reported."

Monsanto reported that the Material Safety Data Sheet (MSDS) for DEQUEST 2000 will be revised to reflect the new findings.

USE AND EXPOSURE POTENTIAL

Monsanto stated that DEQUEST 2000 is used as a deflocculant and a sequestrant. Monsanto did not provide any use information for the sodium salt of aminotri(methylene phosphoric acid) nor was such information located in the literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

It should be noted that the Risk Analysis Branch (RAB/ECAD/OTS) is currently conducting a review of ethylenediaminetetra(methylene-phosphonic acid) (EDITEMPA).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JUL 23 1990 **APPROVED:** James F. Darr 7/25/90

SUBJECT: Status Report[1] **8EHQ-0490-0938**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a pilot rat teratology study and the subsequent rat teratology study on o,p-toluenesulfonamide, Santicizer 9 Plasticizer, (CAS No. 88-19-7 and No. 70-55-3):

In the pilot rat teratology study, dose levels of 0, 100, 500, 1000, 1500, and 2000 mg/kg/day were admimnistered orally by gavage on days 6-15 of gestation.

> "Signs of maternal toxicity were noted at 500 mg/kg and all higher levels. Signs of developmental toxicity (increased resorptions and postimplantation loss) were noted at 1500 and 2000 mg/kg. Results from this study suggest that while this material induces developmental effects in rats, it does so only at dose levels that also produce maternal toxicity."

In the rat teratology study, dose levels of 0, 50, 250, and 500 mg/kg/day were administered orally by gavage on days 6-15 of gestation.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Signs of maternal toxicity were observed at 250 and 500 mg/kg. Signs of developmental toxicity included statistically significant decreased fetal body weight at 250 and 500 mg/kg and a statistically significant increase in postimplantation loss at 500 mg/kg. An increase in developmental variations (unossified sternebrae) observed in pups of 500 mg/kg treated dams was correlated with the fetal weight reduction seen in this group. Results from this study suggest that while this material induces developmental effects in rats, it does so only at dose levels that also produce maternal toxicity."

USE AND EXPOSURE POTENTIAL

Other than that it is a plasticizer, Monsanto provided no information on the use of the subject product. According to The Condensed Chemical Dictionary (10th edition), "Santicizer" is a trademark for a series of plasticizers, including various sulfonamides, phthalates, and glycollates.

Monsanto stated that "Monsanto Company no longer manufactures nor markets this chemical and all of Monsanto's commercial activity on this product ceased in 1985."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto Company will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information. In addition, Monsanto Company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto Company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject product chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0490-0939 INITIAL & SUPPLEMENT

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided in the initial submission a final report of a pilot rat teratology study on trans-stilbene (CAS No. 103-30-0) administered by gavage to mated female rats at dose levels of 0, 1, 3, 9, 27, and 80 mg/kg/day. In the supplemental submission Monsanto provided a final report of a two-generation rat reproduction study and rat fertility study on trans-stilbene administered by gavage to rats at dose levels of 0, 0.5, 2, and 8 mg/kg/day prior to mating and throughout gestation and lactation for two generations.

COMMENTS/RECOMMENDATIONS

Monsanto reported that it no longer manufactures nor markets this chemical.

(a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 24 1990 APPROVED: James F. Darr 5/31/90

SUBJECT: Status Report[1] 8EHQ-0490-0940

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted a copy of a rat teratology study of ethylenediaminetetra(methylenephosphonic acid) (EDITEMPA; CAS No. 1429-50-1). Mated female rats were dosed by gavage at levels of 0.5, 1 or 2 g/kg of the test compound from gestation day 6 through gestation day 19.

COMMENTS/RECOMMENDATIONS

Monsanto reported that they no longer manufacture or market this chemical in the United States.

It should be noted that EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on this compound. A Chemical Hazard Information Profile was prepared (in 1984) on EDITEMPA and its tetrapotassium and hexasodium salts. Immediately upon receipt of this Section 8(e) submission, the Chemical Screening Branch notified the Risk Analysis Branch (RAB/ECAD/OTS); RAB is expected to include the reported information in their ongoing review of phosphonic acid compounds, including EDITEMPA. Finally, it should be noted that EDITEMPA is the subject of a TSCA Section 8(a) information gathering rule.

a) As was the case with the initial submission, staff of the Chemical Screening Branch will notify the Risk Analysis Branch about the receipt of any additional incoming information on EDITEMPA.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0490-0941**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of both a pilot rat teratology study and the subsequent rat teratology study on 1,3-Dimethylbenzene, Benzylated (CAS No. 68908-87-2):

> "A pilot study with pregnant Charles River CD rats (IRD-77177A) was performed to determine dosage levels for a teratology study. [Benzylated 1,3-dimethylbenzene] was administered by gavage at 10, 30, 100, 300 and 1000 mg/kg/day to pregnant rats from gestation day 6 through day 15. A control group received the vehicle, 0.5% Methocel, at 10 ml/kg/day.
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> "During gestation the females were observed for clinical signs of effect, mortality and body weight gains. The rats were sacrificed on gestation day 20 and the uterine contents examined for viable and nonviable fetuses, early and late resorptions, and total implantations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"There were no changes in appearance or behavior which were attributed to [benzylated 1,3-dimethylbenzene] for those females receiving 300 mg/kg/day or less. There were no compound related differences for the number of viable or nonviable fetuses, resorptions, implantations, corpora lutea or maternal body weight gains, for females with dosage levels of 100 mg/kg/day or less. There was a slight decrease in body weight gains during gestation and an increase in early resorptions and a slight decrease in number of viable fetuses attributed to treatment for those females receiving 300 mg/kg/day. All rats given 1000 mg/kg/day died by the fifth day of treatment."

The summary for the follow-up rat teratology study follows:

"Pregnant Charles River CD rats were used to evaluate the teratogenic potential of [benzylated 1,3-dimethylbenzene] in this study. The compound was administered by gastric intubation at dosage levels of 30, 100 and 300 mg/kg/day from days 6 through 15 of gestation. A control group received the vehicle, 0.5% aqueous methylcellulose, at 10 ml/kg/day.

"During gestation the females were observed for clinical signs of effect, mortality and body weight changes. Cesarean sections were performed on gestation day 20. The number of viable and nonviable fetuses, early and late resorptions, corpora lutea and total implantations were recorded. The fetuses were weighed, sexed, and examined for external, soft tissue, and skeletal anomalies and variations.

"There were no changes in appearance or behavior attributable to treatment with [benzylated 1,3-dimethylbenzene] at dosage levels of 30 and 100 mg/kg/day. One rat in the 100 mg/kg/day dosage group and two rats in the 300 mg/kg/day dosage group died; the cause of death was not determined at necropsy. There were slightly reduced mean maternal body weight gains during the first six days of treatment in the rats in the 100 mg/kg/day dosage group. Maternal toxicity was evidenced at the 300 mg/kg/day dosage level. Slight maternal mean body weight loss was observed during the first six days of treatment and hair loss was observed for 14 of the 25 rats. Hair loss was first recorded two to six days after the initiation of treatment and continued until sacrifice or death. Hair loss was also noted for 2 rats in the control group and 7 rats in the 100 mg/kg/day dosage group.

"There were no statistically significant or biologically meaningful differences in the mean number of viable fetuses, implantations, post implantation losses, corpora lutea, or in the male to female sex ratio between any of

the [benzylated 1,3-dimethylbenzene] treated groups and the control group. Fetal toxicity in the 100 and 300 mg/kg/day dosage groups was evidenced by decreased mean fetal body weights when compared to the control group. There were no malformations in the control group or the 30 mg/kg/day dosage group. There was one malformed fetus in each of two litters in the 100 mg/kg/day dosage group and six malformed fetuses in 4 litters in the 300 mg/kg/day dosage group."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to benzylated 1,3-dimethylbenzene, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto stated that "Monsanto Company no longer manufactures nor markets this chemical and all of Monsanto's commercial activity on this product ceased in 1987."

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company took to notify workers/others about the reported information. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company conducted that were designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 9 1990 **APPROVED:** James F. Darr 5/14/90

SUBJECT: Status Report[1] **8EHQ-0490-0942**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted a complete copy of a rat teratology study of Sterox^{R} DJ Surfactant (poly (oxy-1,2-ethanediyl) alpha-dodecylphenyl-omega-hydroxy; CAS No. 9014-92-0). The SYNOPSIS Section from this report presents the following summary information regarding the conduct and results of this study:

> "Mated Charles River COBS^{R} CD^{R} rats consecutively assigned to one control and three treatment groups of 25 animals each were used to determine the teratogenic potential of Sterox^{R} DJ Surfactant. Dosage levels of 50, 100, and 500 mg/kg/day were administered orally by gavage as a single daily dose on days 6 through 15 of gestation at a constant volume of 10 ml/kg. The control group received the vehicle only, deionized water, on a

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

comparable regimen. Cesarean sections were performed on all females on gestation day 20 and the fetuses were removed for teratologic evaluation.

"Survival was 100% in the control and all treated groups.

"Antemortem findings attributed to treatment included increased hair loss with increase in dosage level, and excess salivation in the 100 and 500 mg/kg/day groups. Wet, matted haircoat around the mouth and/or anogenital area, rales and soft stool occurred in the 500 mg/kg/day group only. Necropsy findings in all treated groups were comparable to those of the control group.

"Group mean maternal body weight gain values for the 50 mg/kg/day dosage group were comparable to those of the control group during the overall treatment and gestation periods (days 6 to 15 and 0 to 20, respectively). There was a slight decrease in this parameter for the 100 mg/kg/day group and a notable decrease for the 500 mg/kg/day group over these periods, and were considered to be treatment-related.

"There were no biologically meaningful differences between the control and treated groups in regard to uterine examination parameter values.

"Fetal sex ratio values-for all treated groups and mean fetal body weight values for the low- and mid-dose groups were comparable to the control group values. Fetal body weight values for the high-dose group were significantly ($p<0.01$) less in comparison to the control group value, and were also outside the historical control range and considered treatment-related.

"An increase in the incidence of retarded bone ossification occurred in the 500 mg/kg/day dosage group when compared to the control group. This finding, in conjunction with reduced fetal body weight for this group, were considered indicative of fetotoxicity. Fetotoxicity was not evident at the mid-dose and low-dose levels.

"Although an increased incidence of microphthalmia was observed at the 500 mg/kg/day dosage level this anomaly is not an uncommon finding in test animals of this species and strain."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of this specific surfactant nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that the results from this study were incorporated into the current Material Safety Data Sheet for this product.

It should be noted that EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on a variety of surfactants.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

DATE: JUL 17 1990 APPROVED: James F. Darr 7/31/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0490-0943

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided a final report of a rat teratology study on the 1-cyclohexylethyl ester of butanoic acid (CP 80624) (CAS No. 63449-88-7) administered by gavage to pregnant rats at dose levels of 0, 100, 300, 1000, and 3000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

Monsanto reports that it no longer manufacturers nor markets this chemical.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0490-0944**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a pilot rat teratology study on PHOSGARD® 2XC20 (CAS No. 38051-10-4):

> "Pregnant Charles River COBS® CD® rats were used to determine dosage levels of Phosgard 2XC20 for a teratology study. Dosage levels of 100, 200, 400, 800 and 1600 mg/kg/day were administered orally by gavage as a single daily dose on days 6 through 19 of gestation at volumes of 0.07, 0.14, 0.27, 0.54 and 1.09 ml/kg, respectively. The control group received distilled water on a comparable regimen at a volume equal to the high dose group (1.09 ml/kg). Uterine examinations were performed on all surviving rats on gestation day 20.
>
> "One rat in the 800 mg/kg/day dosage group and all rats in the 1600 mg/kg/day dosage group died between gestation days 7 and 9. Causes of death could not be determined at necropsy. A post-dose increase in activity was noted in rats in the 200, 400 and 800 mg/kg/day dosage groups. An increase in anogenital staining and dry red matter around

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

the nose and forepaws occurred in rats in the 400 and 800 mg/kg/day dosage groups. There were no biologically meaningful differences in mean uterine examination values in any treated group, or in mean maternal body weight gains in the 100, 200 or 400 mg/kg/day dosage groups when compared to the control group. A severe reduction in mean maternal body weight gain was noted over the entire treatment period in the 800 mg/kg/day dosage group.

"There were no biologically meaningful differences in the mean numbers of viable fetuses, postimplantation loss, early or late resorptions, total implantations or corpora lutea in the 100, 200, 400 or 800 mg/kg/day treatment groups when compared to the control group means. While there was a slight increase in mean postimplantation loss (1.0 per dam) in the 800 mg/kg/day dosage group, it was comparable to the mean historical control value (0.9 per dam)."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to PHOSGARD® 2XC20. According to The Condensed Chemical Dictionary (10th edition), "PHOSGARD" C-22-R is a trademark for a flame retardant organophosphorus compound. It should be noted that EPA has also received a TSCA §8(e) submission, 8EHQ-0490-0947, on PHOSGARD® C-22-R.

COMMENTS/RECOMMENDATIONS

Monsanto stated that "Monsanto Company no longer manufactures nor markets this chemical [PHOSGARD® 2XC20] and all of Monsanto's commercial activity on this product ceased in 1982."

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company took to notify workers/others about the reported information. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company conducted that were designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
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DATE: JUL 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0490-0945 INITIAL & SUPPLEMENTS

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided a number of reports on oxoacetic acid homopolymer, sodium salt, "Builder U" (CAS No. 70205-95-7). The initial submission contains an MSDS for the chemical and a final report of a two-generation rat reproduction study administered in drinking water at dose levels of 0, 600, 3000, and 15,000 ppm prior to mating and throughout gestation and lactation for two generations. In the supplemental submissions, Monsanto provided final reports of pilot (1) rat and (2) rabbit teratology studies administered by gavage at dose levels of 0, 125, 250, 500, 1000, and 2000 mg/kg/day, (3) a final rabbit teratology study administered by gavage at dose levels of 0, 50, 250, and 500 mg/kg/day, and (4) a final rat teratology study administered by gavage at dose levels of 0, 250, 1000, and 2500 mg/kg/day.

COMMENTS/RECOMMENDATIONS

Monsanto reported that it no longer manufactures nor markets this chemical.

(a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and IMD/OTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 4 1990 **APPROVED:** James F. Darr 6/7/90

SUBJECT: Status Report[1] **8EHQ-0490-0946**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided a copy of the final report of a one generation reproduction study of iminodiacetic acid (CAS No. 142-73-4) in rats. Monsanto also provided the following summary information regarding the conduct and results of this study:

> "Male and female albino rats were administered iminodiacetic acid (IDA) at targeted levels of 0, 200, 2000 or 6000 parts per million (ppm) in the diet. The diet mixtures were shown to be homogeneous and stable over the period of use, and mean analytical values obtained during the entire study were within 5% of target levels.
>
> "There were no clinical observations nor gross or microscopic findings considered to be related to the test material. Slight (not statistically significant) body weight decreases were seen in adult males at the T-3 [6000 ppm] levels only and were probably a result of minor reductions in food consumption.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"There were no adult mortalities, but analysis of pup survival indicated a dose-related, non-statistically significant, decrease in pup survival during the lactation day 0 to day 4 period.

"There were no statistically significant differences in litter size at birth, number of pups born dead or in pup body weights. Although significant ($p < 0.05$) decreases in litter size were apparent at the low and high test levels on days 7 and 14 after birth, these were not considered treatment-related.

"There was no conclusive evidence of toxicity to the adults of offspring in this study. Therefore, the highest level (6000 ppm) is considered a no effect level (NOEL) for reproductive toxicity."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use(s) of or the potential for exposure to this chemical, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which their company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA,

OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
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TOXIC SUBSTANCES

DATE: 11 17 199 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0490-0947

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided a final report of a rat teratology study on PHOSGARD® C-22-R (CAS No. 4351-70-6) administered by gavage to pregnant rats at dose levels of 0, 500, 1000, and 2000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

Monsanto reports that it no longer manufacturers nor markets this chemical.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

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DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0490-0948**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of both a pilot rat teratology study and the subsequent rat teratology study on TETRATHAL®, tetrachlorophthalic anhydride (CAS No. 117-08-8):

> "This pilot study was conducted for Monsanto Company to evaluate the toxicity of Tetrathal in the pregnant rat. Test material was administered by qastric intubation to mated female CD® rats (five females/group) during the Day 6-19 gestation interval. Dose levels were 250, 500, 1000, 1750 and 2500 mg/kg/day. Females were sacrificed on Day 20 of gestation and uterine implantation data evaluated. Fetuses recovered at this time were evaluated externally for malformations. Included in the study was a vehicle (corn oil) control group (five mated females).
>
> "One female in the 1000 mg/kg dose group and two females in the 2500 mg/kg dose group died during the study. No mortality was seen in the control group or at the 250, 500 or 1750 mg/kg dose levels. During the gross post-mortem evaluations of the one female that died at the

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

1000 mg/kg dose level and one of two females that died at the 2500 mg/kg dose level, an oily fluid was seen in the thoracic cavity. Death of these two animals may have been accidental and possibly related to a mis-dosing situation.

"No clear dose-related effect of treatment on mean body weight change during the Day 6-20 gestation interval was evident. Usinq corrected Day 20 body weight data, a mean weight loss was seen during the Day 6-20 gestation interval at the 500, 1000 and 2500 mg/kg dose levels. A mean weight gain was seen in the control, 250 mg/kg and 1750 mg/kg dose groups during this same interval.

"During the in-life physical evaluations, several females at the higher dose levels (1750 and 2500 mg/kg) had yellowish staining of the fur in the ano-genital region. Soft stool was also noted in several females at these same dose levels.

"No treatment effect was evident at any of the dose levels in regards to uterine implantation data or maternal gross postmortem findings.

"Fetal evaluations indicated a slight but consistent reduction in mean weights (both sexes) at the 2500 mg/kg dose level. External evaluation of fetuses recovered at all treated levels did not reveal an increase in malformations."

In the follow-up rat teratology study, TETRATHAL® is identified as CP 626. The summary for this study follows:

"This study was conducted for the Monsanto Company to evaluate the embryotoxic and/or teratogenic potential of CP 626 in the rat. Test material was administered by gastric intubation at dose levels of 250, 1000 and 2000 mg/kg/day. Each dose group was comprised of 24 mated CD female rats and each female was treated during the Day 6-19 gestation interval. Females were sacrificed on Day 20 of gestation and uterine implantation data recorded. Fetuses recovered at this time were weighed, sexed and examined for external, soft tissue and skeletal malformations. Included in this study was a vehicle (corn oil)-treated control group.

"One female died in each of the low- and mid-dose groups (mortality rate = 4.2%) and two females died in the high-dose group (mortality rate = 8.3%). In each case mortality was attributed to dosing-related injury and not treatment-related. None of the control females died during the study.

"No treatment-related effect was evident in maternal body weight data.

"During the physical in-life evaluations, several mid- and high-dose females were noted as lethargic soon after daily dosing. This observation was most prominent in the high-dose group and was seen as early as Day 6 of gestation. Additionally, four high-dose females had a pale eye color on Day 20 of gestation; this type of observation was seen in one low-dose female on Day 20 of gestation but not seen in the mid-dose females. Pale eye color was not noted among the control females throughout the study.

"No adverse effects of treatment were evident in uterine implantation data (mean number of resorptions/fetuses; mean percentage of resorptions/fetuses to implants) or maternal gross postmortem examinations.

"Mean fetal weights were comparable to control in the low- and mid-dose groups and significantly lower than control in the high-dose group. No treatment-related effect on fetal sexing data was evident. The types and incidences of ossification variations noted during the fetal skeletal evaluations were comparable between the control, low- and mid-dose groups. In the high-dose group, a slight increase in the incidence of fetuses with asymmetric/unossified sternebrae and incompletely ossified thoracic vertebral centra was indicated.

"External, soft tissue and skeletal evaluations of fetuses recovered from the low- and mid-dose females did not reveal an increase in malformation rate. In the high-dose group, a slight increase in the incidence of fetuses with skeletal malformations was seen (incidence of fetuses with skeletal malformations for the control and high-dose groups was 1.9% and 4.6%, respectively). The types of vertebral/rib defects seen in several high-dose fetuses are not commonly seen in the rat fetus. The presence of these types of malformations though seen in low incidence both in fetuses affected and litters involved is suggestive of a marginal teratogenic response at the high-dose level.

"Thus, CP 626 administered by gastric intubation to pregnant rats at dose levels of 250 and 1000 mg/kg during the 6-19 gestation interval was not maternally toxic, embryotoxic or teratogenic. At the 2000 mg/kg dose level, CP 626 demonstrated some maternally toxic affects (lethargic response post-dosing) and embryo-fetotoxicity (reduced fetal weights). A marginal teratogenic response was also suggested at this dose level."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to tetrachlorophthalic anhydride. According to The Condensed Chemical Dictionary (10th edition), tetrachlorophthalic anhydride is used as an intermediate in dyes, pharmaceuticals, plasticizers, and other organic materials, and as a flame-retardant in epoxy resins.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto stated, "Developmental effects noted for this chemical are discussed in the current Monsanto Material Safety Data Sheet for TETRATHAL®." EPA has also received a "For Your Information" (FYI) submission, FYI-OTS-0787-0559, on tetrachlorophthalic anhydride.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: [illegible] **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0490-0949**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a rat teratology study on 1,1'-(1,1,3-trimethyl-1,3-propanediyl)biscyclohexane (HLD), (CAS No. 38970-72-8):

> "This study, conducted for the Monsanto Company, was designed to evaluate the embryotoxic and/or teratogenic potential of HLD (CP 85020). The test substance was administered via gastric intubation to female Charles River CD® (Sprague-Dawley derived) rats (20/group) at dose levels of 300, 1000 and 3000 mg/kg/day (due to an error in formulation of dosing suspensions, actual doses given were 290, 905 and 2277 mg/kg/day, respectively) during the period of organogenesis (Days 6-15 of gestation). Females were sacrificed on Day 21 of gestation and fetuses were examined for external, skeletal and soft tissue malformations.
>
> "Two concurrent vehicle control groups were used for this study...

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Parameters evaluated include: maternal mortality and pregnancy, in-life physical observation, body weight gain, necropsy observations and uterine implantation data. Fetal parameters include: size and sex data, ossification variation data, and fetal malformation data.

"High-dose females gained more weight during the dosing period, and the low- and high-dose groups had higher implantation efficiency values. Neither of these differences were considered indicative of an adverse effect of treatment.

"Low-dose females had a higher number of resorption sites and the incidence of dams with two or more resorptions was also increased. Similar effects on resorption data were not observed at the mid- or high-dose groups. In the absence of a dose relationship, resorption data were not considered to be effected by treatment.

"Fetal body weights (both sexes) for each of the treated groups were higher than control and fetal length data (crown-rump distance) revealed no differences.

"Thus, HLD (CP 85020) administered by gastric intubation at dose levels of 290, 905 and 2277 mg/kg/day from Days 6-15 of gestation was not considered to be either embryotoxic or teratogenic in the rat."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to HLD.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto stated, "Results from the referenced study are discussed in the current Monsanto Material Safety Data Sheet for this product."

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is

aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 24 1990 **APPROVED:** James F. Darr 5/31/90

SUBJECT: Status Report[1] **8EHQ-0490-0950**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the final report of a rat teratology study of the sodium salt of diethylenetriamine-penta(methylene phosphonic acid) (DEQUEST 2061 Phosphonate; CAS No. 22042-96-2). In this study, mated female rats were dosed by gavage at levels of 500, 1000 or 2000 mg/kg of the test compound from gestation day 6 through 19. Monsanto provided the following summary information regarding the results of this study:

> "Signs of maternal toxicity were noted in 2000 mg/kg treated dams. Increased skeletal variations and a low incidence of vertebral anomalies occurred at the 1000 and 2000 mg/kg dose levels. Though the incidence of vertebral anomalies was low, this type of anomaly has a rare spontaneous occurrence and thus may be related to treatment."

Monsanto reported that the "results from the referenced study [of DEQUEST 2061 Phosphonate] are discussed in the current Monsanto Material Safety Data Sheets (MSDSs) for DEQUEST 2060 and 2066 deflocculant and sequestrant."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

It should be noted that EPA recently received a TSCA Section 8(e) submission on diethylenetriaminepenta(methylene phosphonic acid). The reader's attention is directed to the status report prepared by EPA in response to 8EHQ-0490-0951.

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any specific information regarding the use(s) of DEQUEST 2061 Phosphonate nor was such information found by EPA in the secondary literature consulted.

COMMENTS/RECOMMENDATIONS

It should be noted that the Risk Analysis Branch (RAB/ECAD/OTS) is currently conducting a review of ethylenediaminetetra(methylene-phosphonic acid) (EDITEMPA).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 24 1990 **APPROVED:** James F. Darr 5/31/90

SUBJECT: Status Report[1] **8EHQ-0490-0951**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the final report of a one generation rat reproduction study of diethylenetriaminepenta-(methylenephosphonic acid) (CAS No. 15827-60-8). Monsanto provided the following summary information regarding the conduct and results of this study:

> "Results have been obtained from a One Generation Rat Reproduction study on diethylenetriaminepenta(methylene phosphonic acid). In this study, this material was administered via the diet to 3 groups of rats at dose levels of 300, 1000 and 3000 ppm. Diethylenetriamine-penta(methylenephosphonic acid) administration to the F0 generation females was initiated at the onset of gestation and continued throughout gestation and lactation. Dietary administration continued to the F1 generation animals through a growth period and mating, gestation and lactation period for 2 successive litters.
>
> "Signs of maternal toxicity were observed at 3000 ppm. Decreases in mean live offspring weights, attributed to lower maternal body weights, were noted at 3000 ppm.

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Results from this study suggest that while this material induces developmental effects in rats, it does so only at a dose level that also produces maternal toxicity."

Monsanto has reported that "results from the referenced study are discussed in the current Monsanto Material Safety Data Sheet (MSDS) for DEQUEST 2060 deflocculant and sequestrant."

It should be noted that EPA recently received a TSCA Section 8(e) submission on the sodium salt of diethylenetriaminepenta(methylene phosphonic acid). The readers attention is directed to the status report prepared in response to 8EHQ-0490-0950.

USE AND EXPOSURE POTENTIAL

As stated previously, DEQUEST 2060 is used a deflocculant and sequestrant.

COMMENTS/RECOMMENDATIONS

It should be noted that the Risk Analysis Branch (RAB/ECAD/OTS) is currently conducting a review of ethylenediaminetetra(methylene-phosphonic acid) (EDITEMPA).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 3 1990 **APPROVED:** James F. Darr 5/7/90

SUBJECT: Status Report[1] **8EHQ-0490-0952 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this status report)

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "carbamic acid nitrile."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and preliminary results of a study designed to evaluate the carcinogenic potential of the subject chemical in male and female Crl:CD-1(ICR)-BR mice:

> "Sixty animals/sex/group received the compound in drinking water at dose levels of 0, 70, 200 or 600 ppm. Because survival was very good at 80 weeks, the study was extended to 100 weeks in males and 104 weeks in females. The preliminary report showed eight cases of benign

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

granulosa-theca tumors of the ovary in the high dose group females. Two similar tumors were identified in the concurrent control group, while diagnosis of a possible third tumor was compromised due to tissue necrosis. The pathology report also noted five instances of ovarian hyperplastic lesions which were described as 'borderline to tumors,' a term not commonly employed among pathologists.

"Pairwise statistical comparison between the control and the high dose groups was significant ($p<0.05$) if the necrotic case in the control group was excluded from the analysis, but not if it was included. . . A consulting pathologist . . . reported that in his opinion the problematic necrotic tissue was not tumorous, and therefore the observed increase in tumors was statistically significant by pairwise comparison."

". . . No effects on mortality and morbidity were observed in the male mice."

USE AND EXPOSURE POTENTIAL (See NOTE on Page 3 of this status report)

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status or use(s) of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

In its submission, the company reported that a final report of this study will be submitted to EPA when it becomes available, and that the company is considering what, if any, additional research may be appropriate. Also, the company stated that it will review its MSDSs and product labeling and make appropriate revisions.

a) The Chemical Screening Branch will ask the submitting company to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of statistical analyses, etc.) from the chronic drinking water study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the company will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE According to non-confidential information contained in a May 15, 1991 followup letter and enclosure (8EHQ-0591-0952 FLWP), the actual identity of the subject chemical is no longer considered confidential and is reported to be "hydrogen cyanamide." According to the printed 1985 Edition of EPA's TSCA Chemical Substance Inventory, the CAS No. assigned to this chemical is 420-04-2. The non-confidential enclosure also states that this chemical is a pesticide "for which an application for registration has been filed with EPA's Office of Pesticide Programs" under Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In terms of TSCA-covered use and the potential for exposure, the enclosure states non-confidentially that because the "chemical industry applications of hydrogen cyanamide involve its use as a chemical intermediate, principally captive, the compound does not involve potential exposure to the general public."

James D. Lorn 5/30/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUN - 7 1990 APPROVED: James F. Darr 6/7/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0490-0953

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Air Products and Chemicals, Inc., provided initial findings of a ground water monitoring program being conducted at its former Arcair facility in Lancaster, Ohio under the direction of the Ohio EPA and the Fairfield County Department of Health. The following Volatile Organic Compounds were detected: 1,1,1-trichloroethane (CAS No. 71-55-6), 1,1-dichloroethane (CAS No. 75-34-3), and 1,1-dichloroethylene (CAS No. 75-35-4).

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Air Products to ensure that EPA is kept apprised of all further significant findings from the company's additional studies into the reported matter.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will notify RAB/ECAD/OTS, CTB/ECAD/OTS, and EPA Region 5 of all incoming reported information.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, RAB/ECAD/OTS, CTB/ECAD/OTS, and EPA Region 5; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: JUN 28 1990 APPROVED: James F. Darr 6/28/90

SUBJECT: Status Report[1] 8EHQ-0490-0954/S

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE Below)

Allied-Signal Incorporated provided summary results on an R&D chemical identified as "vinyl ether terminated ester" after signs of neurotoxicity were noted in a single dose (5 g/kg body weight) oral lethality study in rats.

COMMENTS/RECOMMENDATIONS

Allied-Signal reported they plan to conduct a multiple dose oral LD50 study on this material. Allied-Signal also stated a TSCA §5 Pre-manufacture Notification (PMN) was submitted for this material. They further reported the results of the study have been communicated to those studying the use of the material.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the range-finding probe study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and CCD/OTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE In a letter dated March 15, 1991 (8EHQ-0391-0954 Supplement), Allied-Signal Inc. withdrew confidentiality claims and identified the tested chemical substance non-confidentially as "bis-(4-vinyloxybutyl)isophthalate." In this March 15, 1991 supplemental letter, Allied-Signal also reported non-confidentially that the PMN for this substance (PMN 90-300) was submitted to the Agency on December 27, 1989.

James F. Darr 4/8/91

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 7 1990 APPROVED: James F. Darr 6/7/90

SUBJECT: Status Report[1] 8EHQ-0490-0955 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided a final report of a reproduction study of an R&D chemical identified as "substituted acetanilide" administered in the feed to rats at dose levels of 0, 100, 1000, and 4000 ppm prior to mating and throughout gestation and lactation for two generations.

COMMENTS/RECOMMENDATIONS

The Agency has received a number of TSCA §8(e) submissions on "substituted acetanilide" including 8EHQ-0290-0889 S, 8EHQ-0390-0896 S, and 8EHQ-0390-0897 S.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 4 1990 APPROVED: James F. Darr 6/8/90

SUBJECT: Status Report[1] 8EHQ-0490-0956 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided summarized findings from a pilot rat teratology study of an R&D compound identified as a "diaryl ketone." The compound was administered by gavage at dose levels of 0, 25, 50, 100, 200, or 400 mg/kg/day during gestation days 6-18.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/ECAD; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 7 1990 APPROVED: James F. Darr 6/7/90

SUBJECT: Status Report[1] 8EHQ-0490-0957 S and 8EHQ-0490-0958 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company provided summarized results of acute toxicity screening tests on "substituted pyrimidines" after neurotoxic effects were observed. The tests reported were dermal evaluations in rabbits and oral toxicity in rats.

COMMENTS/RECOMMENDATIONS

Dow Chemical reported that they will communicate these results to their employees who work with these chemicals.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submissions.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to reduce or eliminate exposure to the subject chemicals. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemicals.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 4 1990 APPROVED: James F. Darr 6/4/90

SUBJECT: Status Report[1] 8EHQ-0490-0959 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided summarized results of acute toxicity screening tests on an R&D chemical identified as "amine metal complex" after neurotoxic effects were noted in an eye irritation study in rabbits and an oral toxicity study in rats. The other test results provided were dermal absorption in rabbits.

COMMENTS/RECOMMENDATIONS

The submitter reported that they will communicate these results to their employees who work with this chemical.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 5 1990 APPROVED: James F. Darr 6/7/90

SUBJECT: Status Report[1] 8EHQ-0490-0960

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Hoechst Celanese Corporation has submitted summarized findings of chronic toxicity/oncogenicity studies in rats and mice of ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-(1H)-1,2,4-triazole-3-carboxylate (CAS No. 103112-35-2). The test compound was administered to rats at dose levels of 0, 200, 800 or 3200 ppm in the diet for 30 months. Mice received 0, 100, 500 or 2500 ppm of the test compound in the diet for 24 months. The company also reported that a battery of mutagenicity studies was performed on this compound and its major metabolite.

COMMENTS/RECOMMENDATIONS

Hoechst Celanese reported that when the studies are available they will be submitted to the Agency.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from all studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 29 1990 APPROVED: James F. Darr 5/31/90

SUBJECT: Status Report[1] **8EHQ-0490-0961 S Initial**
8EHQ-0490-0961 S Supplement

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In the initial submission, a confidential company provided final reports of oral rat range-finding and definitive teratology studies of a substance identified generically as "amino acid I." The doses in the range-finding study were 0, 125, 250, 500, 1000 or 1500 mg/kg/day on gestation days 6-15; the doses in the definitive study were 0, 25, 100 or 400 mg/kg/day on days 6-15 of gestation. The supplement contained the final report of a rat subchronic inhalation/reproduction study of this chemical administered at doses of 0, 0.86, 9.6, or 102 mg/m^3 prior to mating and throughout gestation and lactation.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: MAY 21 1990 APPROVED: James F. Darr 5/22/90

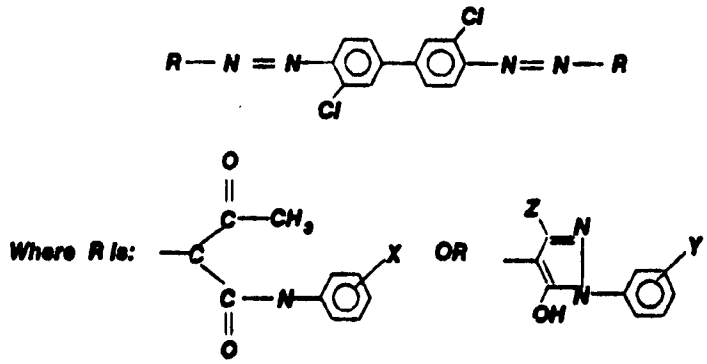
SUBJECT: Status Report[1] 8EHQ-0490-0962 INIT
8EHQ-0590-0962 SUPP

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In the initial submission, Hoechst Celanese Corporation provided a preliminary research report concerning the high temperature use of diarylide pigments. This research was conducted by its parent company, Hoechst AG, West Germany on polymers colored with diarylide pigments having the following general structure:



The cover letter of the submission states:

> "These pigments, when incorporated into polymers subjected to temperatures above 200°C and prolonged dwell times, undergo thermal decomposition yielding colored monoazo dyes and, through further decomposition, 3,3'-dichlorobenzidine [3,3'-DCB, CAS No. 91-94-1].
>
> "The cleavage products, during polymer heating above 200°C may be released to the atmosphere, resulting in worker exposure. Polymer articles colored with diarylide pigments and formed (e.g. fibers, extrusions) at temperatures above 200°C, on extraction with toluene, may yield quantifiable amounts of monoazo dyes and dichlorobenzidine.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

"Typical pigments with the generic structure [shown above] include C.I. Pigment Yellow 12, 13, 14, 17, 83, [16, 106, 114, 126, 127, 152, 174, 176,]; C.I. Pigment Orange 13 and 34; C.I. Pigment Red 38." [Hoechst Celanese, in its submission, provided a list of its brand names that correspond to these pigments.]

"Letters have been issued to Hoechst Celanese and Hoechst AG marketing departments and customers, as well as through industry organizations (ETAD- Ecological and Toxicological Association of the Dyestuffs Manufacturing Industry, and DCMA- Dry Color Manufacturers' Association), describing the new findings and advising the industry against the use of the affected pigments in polymer applications above 200°C." [Copies of some of these communications were enclosed in the Hoechst Celanese submission.]

In the letter that was sent to its customers, Hoechst Celanese noted the following information:

"3,3'-Dichlorobenzidine is classified as a suspect carcinogen by the U.S. Department of Health and Human Services National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC). This classification reflects the fact that there is evidence in experimental animals but no clear evidence in humans for carcinogenicity. 3,3'-DCB is also regulated by OSHA as a suspect carcinogen. We are revising Material Safety Data Sheets (MSDS) and technical literature accordingly."

In the supplemental TSCA Section 8(e) notice, the Dominion Colour Corporation also reported the results of the Hoechst AG research on diarylide pigments and provided in its letter a list of its own brand names for pigments that may be affected. Dominion Colour reported, "Letters are being provided to all distributors and customers who we know or suspect may be using the concerned products under the above conditions."

COMMENTS/RECOMMENDATIONS

It should be noted here that the Agency recently received (8EHQ-0190-0863) a draft report of an epidemiologic study indicating a possible elevated risk of bladder cancer among workers at a plant where diamine products, including 3,3'-dichlorobenzidine, were manufactured.

a) The Chemical Screening Branch will request Hoechst Celanese to ensure that EPA receives a full copy of the final report (including the actual experimental protocol) from the diarylide pigment study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Hoechst Celanese and Dominion Colour will be asked to provide examples of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Hoechst Celanese will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the potential for exposure to 3,3'-dichlorobenzidine.

b) All reported information will be forwarded to appropriate OTS staff for review within the OTS Existing Chemicals Program (ECP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAY 23 1990 APPROVED: James F. Darr 5/31/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0490-0963

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The General Electric Company (GE Specialty Chemicals) reported summarized preliminary findings of an oral subchronic delayed neurotoxicity study with diisodecylphenylphosphite (PDDP, CAS No. 25550-98-5), conducted in mature hens at doses of 100, 1000, or 4,000 mg/kg/day. GE stated that this study is part of a TSCA Section 4 Consent Order Agreement on PDDP (54 FR 8112) and that it is sponsoring testing for the Agreement along with the Witco Corporation and the Dover Chemical Corporation.

COMMENTS/RECOMMENDATIONS

It should be noted that PDDP is the subject of TSCA Section 8(a) and Section 8(d) information gathering rules.

a) The Chemical Screening Branch (CSB) will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, each of the three sponsoring companies will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to PDDP. The companies will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As was the case with the initial submission, CSB will notify the Chemical Testing Branch (CTB) of new information for inclusion in the ongoing TSCA Section 4 review of PDDP.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 4 1990 APPROVED: James F. Darr 6/6/90

SUBJECT: Status Report[1] 8EHQ-0590-0964

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The 3M Company submitted copies of final reports of an acute oral toxicity study in rats and a primary dermal irritation study in rabbits of an R&D chemical identified as a cyclic 1,4-perfluorobutane disulfonimide, lithium salt. The submitter reported the observation of possible neurotoxic effects in these studies.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received numerous TSCA Section 8(e) and "For Your Information" (FYI) submissions on perfluorinated compounds.

The company reported that they are "retrieving all samples and intend to conduct composition analysis." In addition, 3M stated that they will submit a TSCA Section 5 pre-manufacture notification (PMN) if they decide to manufacture this chemical for commercial purposes.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

DATE: JUN 5 [illegible] **APPROVED:** James F. Darr 6/7/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0590-0965**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted final reports from a pilot rat teratology study and a definitive rat teratology study of benzene, C10-C16 alkyl derivatives (Alkylate 215; CAS No. 68648-87-3). In the pilot teratology study, the compound was administered via gastric intubation to mated female rats during days 6-15 of gestation at dose levels of 125, 250, 500, 1000 or 2000 mg/kg/day. Monsanto provided the following summary information regarding the results of this study:

> "In the pilot study, signs of maternal toxicity were observed at 2000 mg/kg. An increase in early resorptions observed at 2000 mg/kg when compared to the concurrent control group was attributed to the absence of resorption sites among the control females. The increase was not considered treatment-related by the laboratory Study Director since the mean number of resorption sites seen in the treated group was similar to historical control data. The validity of this initial conclusion was strengthened by the failure of the definitive study (i) conducted at the same laboratory (ii) using the same dosing solution preparation procedures, to corroborate this pilot study finding."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

In the definitive teratology study, Alkylate 215 was administered to pregnant rats during days 6-15 of gestation at dose levels of 125, 500, or 2000 mg/kg/day. Monsanto provided the following summary information regarding the results of this study:

> "Signs of maternal toxicity were observed at 500 and 2000 mg/kg. Signs of developmental toxicity included increased ossification variations at 500 and 2000 mg/kg (statistically significant at 2000 mg/kg only) and an increase in skeletal malformations (considered a developmental effect consistent with other ossification variations by the laboratory Study Director) at 2000 mg/kg only."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information about the use(s) of or the potential for exposure to Alkylate 215, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received another TSCA Section 8(e) submission on Alkylate 215 (8EHQ-0590-0970).

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to Alkylate 215. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to Alkylate 215.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this status report will be sent also to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 4 1990 **APPROVED:** James F. Darr 6/5/90

SUBJECT: Status Report[1] **8EHQ-0590-0966**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted summary information on a pilot rabbit teratology study and a final report of a definitive rat teratology study of N-(1,3-dimethylbutyl)-N-phenyl-p-phenylenediamine (Santoflex 13, CAS No. 793-24-8). In the pilot teratology study, pregnant rabbits were orally administered 0, 30, 100, or 300 mg/kg of the test compound from days 6 through 18 of gestation. Monsanto provided the following summary information regarding the results of this study:

> "Significant maternal toxicity in terms of mortality (80%) occurred at a dosage of 300 mg/kg while abortions were increased at 100 mg/kg. Signs of developmental toxicity included increased resorptions at 30, 100, and 300 mg/kg with pup survival for 24 hours in an incubator after maternal C-section reduced at the low-dose of 30 mg/kg only."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

In the definitive rat teratology study, rats received oral dosages of 0, 10 or 30 mg/kg of the test compound from days 6 through 18 of gestation. Monsanto provided the following information regarding the results of this study:

> "Signs of maternal toxicity (abortions and body weight changes) were noted in 30 mg/kg treated dams. Signs of developmental toxicity (slight increases in resorptions and fetal death) were observed at 10 and 30 mg/kg. Because there were no statistically significant differences between control and treated groups for these responses and no trend was evident, these responses are considered of questionable biological relevance."

It should be noted that EPA has received previously the results of in vitro genotoxicity studies on Santoflex 13. The readers attention is directed to 8EHQ-0187-0681 FLWP.

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to this chemical, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask Monsanto to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the pilot rabbit teratology study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JUN 5 1990 **APPROVED:** James F. Darr 6/7/90

SUBJECT: Status Report[1] **8EHQ-0590-0967**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the final reports of a pilot rat teratology study and a definitive rat teratology study of a product identified as a "solution of aromatic polyimide precursor (65701-07-7) in ethanol (CAS No. 64-17-5) and n-methyl pyrrolidone (CAS No. 872-50-4)" (Skybond 700 Polyimide Resin). In the pilot teratology study, treated animals received oral dosages of 0, 250, 500, 1000 or 2000 mg/kg/day of the test material during days 6-15 of gestation. In the definitive study, rats received oral dosages of 0, 100, 270, or 700 mg/kg/day of the test material during days 6-15 of gestation. Monsanto provided the following summary information regarding the results of these two studies:

Pilot rat teratology study

> "Signs of maternal toxicity were noted in all treatment groups. Due to significant mortality, data on developmental effects was available from only one surviving 2000 mg/kg treated dam and an increase in fetal death was noted for this dam. This finding of a single dam and its representation of group data and its relationship to treatment is judged to be unclear. Fetal body weight was

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

decreased at the next to high dose level of 1000 mg/kg. Results from this study suggest that while Skybond 700 polyimide resin induces developmental effects in rats, it does so only at a dose level that also produces maternal toxicity."

Definitive rat teratology study

"Signs of maternal toxicity were noted in all treatment groups. Signs of developmental toxicity included an increase in variations at 700 mg/kg and statistically significant decreases in fetal body weights at 270 and 700 mg/kg. Results from this study suggest that while Skybond 700 polyimide resin induces developmental effects in rats, it does so only at dose levels that also produce maternal toxicity."

A copy of the 1986 Skybond 700 Material Safety Data Sheet (MSDS) was included with this submission.

USE AND EXPOSURE POTENTIAL

Other than the fact that Skybond 700 is a "polyimide resin," Monsanto did not provide any information about the use(s) of or the potential for exposure to this product, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that "the specific information concerning the test results will be noted in the next revision of the Material Safety Data Sheet." Monsanto also noted that "the current Material Safety Data Sheet recommends that special care should be taken to minimize exposure, particularly for women of child-bearing potential. In addition, labels recommend that precautions include use of a adequate ventilation; avoiding eye, skin, or clothing contact; avoiding breathing vapors; and washing thoroughly after handling." It should be noted that EPA has received both TSCA Section 8(e) and "For Your Information" (FYI) submissions on ethanol and n-methyl pyrrolidone in the past. In addition, the Chemical Testing Branch (CTB/ECAD) is currently reviewing available information on n-methyl pyrrolidone.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be asked to describe (by way of short summaries), the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to Skybond 700 or its constituents.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, CTB/ECAD/OTS and OPP/OPTS/EPA; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUN 27 1990 APPROVED: James F. Darr 7/9/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0968 Initial/Supplements

FROM: Jacqueline T. Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Under a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided a final report of a 2-year rat dietary toxicity/carcinogenicity study of TCC® soap bacteriostat (N-(4-chlorophenyl)-N'-(3,4-dichlorophenyl)urea; CAS No. 101-20-2) conducted at doses of 0, 25, 75 or 250 mg/kg/day. In the supplemental submissions, final reports of a number of dermal and dietary reproduction and/or developmental toxicity studies in rats and rabbits and a 1-year feeding study in male rats were submitted.

COMMENTS/RECOMMENDATIONS

In the initial submission cover letter, Monsanto stated that the current TCC® soap bacteriostat Material Safety Data Sheet (MSDS) "reports testicular effects seen with repeated dietary feeding of this chemical" and that the final report of the 2-year rat study "was submitted to the U.S. Food and Drug Administration in 1981 to supplement the administrative record regarding the FDA's tentative final order (monograph) covering over-the-counter topical antimicrobial drug products." Monsanto also reported that all of these studies were submitted to FDA from 1969 through 1983. A review of the non-confidential version of EPA's TSCA Chemical Substance Inventory showed that TCC® soap bacteriostat is listed.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Monsanto will be asked to describe the actions that it has taken or plans to take 1) to notify workers/others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of MSDSs and labels that have been revised to reflect the reported findings. Monsanto will also be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) The reported information will be screened in order to determine the need for further assessment of the subject chemical at this time.

c) Copies of this status report will be sent to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this report will be sent also to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 5 [illegible] **APPROVED:** James F. Darr 6/7/90

SUBJECT: Status Report[1] **8EHQ-0590-0969**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the final report of an oral teratology study of benzene, C_{14-30}-alkyl derivatives (Therminol 55; CAS No. 68855-24-3) administered to pregnant rats at doses of 0, 400, 800, or 1600 mg/kg/day on days 6-15 of gestation. The company provided the following summary information regarding the results of this study:

> "Signs of maternal toxicity were noted at 800 and 1600 mg/kg. A non-statistically significant increase in variations was noted at 1600 mg/kg. However, since the majority of the findings came from a single litter, they are judged [by the company] to likely be the result of delayed maturation and not attributable to a treatment related effect."

A copy of a 1986 Therminol 55 Material Safety Data Sheet (MSDS) was provided at the end of the submitted final report of the oral rat teratology study.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

USE AND EXPOSURE POTENTIAL

According to the submitted MSDS, Therminol 55 is a "heat transfer fluid." Monsanto did not provide any further information regarding the use(s) of or the potential for exposure to Therminol 55, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that the company has updated the current Therminol 55 MSDS to include results from the provided oral teratology study in rats.

It should be noted that EPA has received a TSCA Section 8(e) notice (8EHQ-0590-0983) on Therminol 66 and a "For Your Information" (FYI) submission (FYI-OTS-0480-0066) on spent Therminol 66.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 25 1990 **APPROVED:** James F. Darr 7/9/90

SUBJECT: Status Report[1] **8EHQ-0590-0970**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided complete copies of the final reports from pilot and definitive rat teratology studies of benzene, C10-16 alkyl derivatives (Alkylate 230; CAS No. 68648-87-3). In the pilot rat teratology study, mated female rats were administered the test compound by gavage at dose levels of 0, 125, 250, 500, 1000 or 2000 mg/kg/day on days 6-15 of gestation. In the definitive study, mated female rats received the test compound by gavage at doses of 0, 125, 500 or 2000 mg/kg/day on gestation days 6-15. The cover letter that accompanied the initial submission provides the following summary information regarding these studies:

> "In the pilot study, signs of maternal toxicity were noted in 500, 1000 and 2000 mg/kg treated dams. Although an increase in early resorptions was noted at 2000 mg/kg, this response was not corroborated by the definitive study. . . conducted at the same laboratory using the same dosing solution preparation procedures and dose levels.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"In the subsequent definitive teratology study, significant maternal toxicity occurred at dosages of 500 and 2000 mg/kg. A statistically significant increase in variations (ossification variations and distended renal pelvis/tortuous ureter) was also seen at 500 and 2000 mg/kg. Results from this study suggest that while Alkylate 230 induces developmental effects in rats, it doses so only at dose levels that also produce significant maternal toxicity."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information about the use(s) of or the potential for exposure to Alkylate 230, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA recently received TSCA Section 8(e) notices (8EHQ-0590-0965 et seq.) on Alkylate 215, a material with the same CAS Registry Number (CAS No. 68648-87-3) as Alkylate 230.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to Alkylate 230. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to Alkylate 230.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information to determine the need for further OTS assessment of Alkylate 230.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0590-0971

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided a final report of a rat fertility and general reproductive performance study on dibutyl phthalate (CAS No. 84-74-2) administered orally in the diet to rats at dose levels of 0, 5, 50, and 500 mg/kg/day.

COMMENTS/RECOMMENDATIONS

Dibutyl phthalate has been the subject of several TSCA §4 test rules as well as TSCA §8(a) and §8(d) rules.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, CTB/ECAD/OTS, and RAB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

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DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0590-0972**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of both a pilot rat teratology study and the subsequent rat teratology study on nitrated orthene or 1,2-dichloro-4-nitrobenzene (CAS No. 99-54-7). The summary for the pilot study states:

> "Mated female rats were dosed daily, by gavage, with Nitrated Orthene from days 6-15 of gestation at dose levels of 200, 300, 400, 500, and 600 mg/kg/day. All animals died spontaneously in the four highest dose levels, and two animals died spontaneously at the 200 mg/kg dose level. The 200 mg/kg dose level exhibited a mean body weight loss during the first four days of treatment and reduced gains for days 10-13, 13-16, and 16-21. These differences resulted in a 32% weight difference from the control group for the period of days 6-21 of gestation. The more severe clinical findings were varying degrees of respiratory problems, loss of muscle coordination, seizures and/or convulsions, prostration, pale extremities, hunched posture, and unthriftiness (poor general health). These findings were noted in most

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

animals which died spontaneously, but were observed in only one of the four animals which survived to scheduled sacrifice in the 200 mg/kg group. Gross postmortem findings on animals dying spontaneously included pronounced blood vessels in the intestines, pale and mottled livers, and multiple hemorrhages of the pyloric region of the stomach. A slight reduction in mean fetal body weight was exhibited at the 200 mg/kg dose level. No abnormalities were noted during-gross fetal examinations."

The summary for the follow-up rat teratology study follows:

"Mated female Sprague-Dawley rats, in groups of 25, were dosed with nitrated orthene by gavage at nominal dosage rates of 10, 30 and 100 mg/kg/day from gestation days 6 through 15. A control group was dosed with an equivalent volume of corn oil vehicle. Females were sacrificed on gestation day 21 and nidations were measured. All fetuses were examined externally and approximately equal numbers of fetuses from each group were examined for visceral or skeletal findings.

"Analytical data demonstrated that solutions of nitrated orthene in corn oil were homogeneous and that no significant decomposition of nitrated orthene solutions occurred over a 28 day period. Analytical values of nitrated orthene concentrations for solutions used in the study were within 11% of the nominal values: 0.916 mg/ml (nominal 1 mg/ml), 3.31 mg/ml (nominal 3 mg/ml) and 10.8 mg/ml (nominal 10 mg/ml).

"All mated females survived to scheduled sacrifice. Toxic effects were observed in the high dose level females as body weight loss for gestation days 6-10 and reduced mean body weights on gestation days 10, 13 and 16. On gestation day 16 the mean body weight of high dose level females was about 5% lower than the control group value. Although not considered to be a definitive indication of toxicity, urogenital staining was observed in the high dose level females. The only effect judged to be indicative of possible toxicity in mid dose level females was reduced body weight gain and food consumption for gestation days 6-10; however, mean body weights for this group were not statistically different from control values. No treatment related body weight effects or clinical signs were observed in low dose level females. Reduced food consumption (g/animal/day) was observed on gestation days 6-10 for all three dose level groups, but this was not considered to be indicative of a toxic effect for the low dose level females because it was not accompanied by statistically significant effects on body weight or body weight change. No treatment related postmortem findings were observed.

"Reproductive data did not indicate any treatment related effects on postimplantation loss or number of live fetuses/dam and pregnancy rates were comparable for all groups. Although mean early resorptions/dam in the high dose level group were higher than the control group value the difference was not statistically significant. Fetal weights and sex distribution of fetuses from all dose levels were comparable to control group values.

"No statistically significant differences were observed for incidence of total malformations or individual malformations between any of the treatment groups and the control group. Two types of malformations, anophthalmia/ microphthalmia and folded retina, were observed in control group fetuses and in treatment group fetuses. Because the incidence of the these malformations was not statistically different from the incidence in the control group and because these malformations were not observed in the mid level dose group these malformations are not considered to be treatment related. A few malformations were uniquely observed in the treatment groups. The incidence of these malformations was primarily restricted to occurrence in single fetuses. Malformations observed in the low dose level group or mid dose level group were observed only in single fetuses except for anophthalmia/ microphthalmia and bent ribs with each observed in two fetuses. None of the mid dose level malformation findings occurred in the high dose level group and none of the low dose level findings were observed in both the mid and high dose level groups. Because of the lack of dose related pattern and low incidence, the few malformation findings in the low and mid dose level groups are not considered to be treatment related. Malformations observed uniquely in the high dose group mostly occurred in one litter and in one fetus of this litter. Six of the nine fetuses with malformations in the high dose group were from two litters and six of the twenty-two malformation findings were from a single fetus with multiple findings. Four malformations were observed in each of two fetuses only in the high dose level group: gastroschesis, small oral opening, skull misshapen and nasal passages misshapen. However, these findings were restricted to three litters and four fetuses. The low incidence levels and the restricted distribution of findings suggest that the malformations observed in the high dose level group may represent spontaneous events rather than treatment related effects.

"No treatment related effects on variations were observed with the possible exception of dilated ureters. The incidence of dilated ureters in the mid and high dose level groups was elevated compared to control group values. Although the increase was not statistically

significant after application of the Bonferroni inequality correction for comparison of multiple treatments with control, a test for linear trend in proportion was statistically significant. This suggests the possibility that increases in the proportions of fetuses with dilated ureters in the mid and high dose levels may have been treatment related."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to 1,2-dichloro-4-nitrobenzene. According to The Condensed Chemical Dictionary (10th edition), 1,2-dichloro-4-nitrobenzene is used as an intermediate.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto stated, "Monsanto Company no longer manufactures nor markets this chemical and all of Monsanto's commercial activity on this product ceased in 1985."

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company took to notify workers/others about the reported information. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company conducted that were designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: NOV 24 1990 **APPROVED:** James F. Darr 9/13/90

SUBJECT: Status Report[1] **8EHQ-0590-0973**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a rat teratology study on ortho-nitrochlorobenzene (CAS No. 88-73-3), also known as 2-chloronitrobenzene:

> "Mated female Sprague-Dawley rats received orthonitro-chlorobenzene (ONCB) in corn oil, orally by gavage, on days 6-15 of gestation. In one study, mated females were exposed to ONCB levels of 0, 25, 75, or 150 mg/kg/day. Due to severe maternal toxicity and mortality, all females at the 150 mg/kg level were terminated prior to scheduled sacrifice. In a second study, mated females were exposed to ONCB levels of 0 or 100 mg/kg/day. Concurrent control groups received the corn oil vehicle only.
>
> "Dams undergoing scheduled sacrifice were sacrificed on gestation day 21, implantations were described, and fetuses were removed from the uterus. Fetuses were subjected to a gross external examination and processed for subsequent visceral or skeletal examination. Abnormal fetal findings were classified as malformations or variations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"No evidence of maternal toxicity was exhibited at the 25 mg/kg level. Urinary staining and alopecia were noted at 75 mg/kg. However, no meaningful clinical signs were noted at 100 mg/kg. One death occurred at each of the 75 and 100 mg/kg levels on gestation days 9 and 20, respectively. The cause of these deaths could not be determined. Clinical signs and mortality are not considered to be definiitive evidence of test material-related maternal toxicity at the 75 and 100 mg/kg levels. Severe maternal toxicity was evident at the 150 mg/kg level as high mortality and overt clinical signs.

"Maternal toxicity was evident for gestation days 6-10 as a reduction in maternal body weight gain at the 75 mg/kg level, and a body weight loss at 100 mg/kg, when compared to their respective control groups. These differences were accompanied by reductions in maternal food consumption for days 6-10 at 75 mg/kg, and for days 6-16 at 100 mg/kg. The reductions noted at 75 mg/kg were recovered later in gestation.

"Maternal reproductive parameters and fetal body weight in the treatment groups were comparable to the respective control groups, except for the mean number of early resorptions at the 75 mg/kg level. However, no meaningful increase was evident at 100 mg/kg. Therefore, ONCB is not considered to be embryotoxic or fetotoxic at levels of 100 mg/kg or less.

"No biologically-meaningful differences in the number of litters exhibiting malformations were evident in the treatment groups when compared to their respective control groups. An increase in the number of litters exhibiting the variation 'cervical # 7 rib' was evident at 25 and 75 mg/kg, and also '13 full pair of ribs with lumbar #1 rudimentary rib' at 75 mg/kg. However, no increase in the incidence of these findings was evident at 100 mg/kg when compared to its respective control group. Therefore, these differences are not considered to be meaningful.

"In conclusion, treatment with orthonitrochlorobenzene did not exhibit a teratogenic effect at levels of 100 mg/kg/day or less, though maternal toxicity was exhibited at 75 and 100 mg/kg/day."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to 2-chloronitrobenzene. According to The Condensed Chemical Dictionary (10th edition), 2-chloronitrobenzene is used as an intermediate, especially for dyes.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that results considered treatment-related from this study are discussed in the current Monsanto Material Safety Data Sheet.

The Chemical Screening Branch prepared a CHIP on 2-chloronitrobenzene in 1983; in addition, the Risk Analysis Branch conducted risk assessment activities.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: [illegible] 24 [illegible] **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0590-0974**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a rat teratology study on N-formylpiperidine (CAS No. 2591-86-8):

> "Mated female albino rats received 1-formylpiperidine, by gavage, once daily from days 6 through-20 of gestation at doses of 110, 220 or 440 mg/kg.
>
> "Maternal effects included significant reductions in weight gains during the treatment period in the groups receiving the intermediate and high doses, largely influenced by dose related changes in all treated groups during the first four days of treatment. These were significant in the two higher dose groups and included weight loss in the high dose group. After day 10 of gestation, mean body weights paralleled those of the control group. Parallel significant reductions in food consumption were seen in all treated groups beginning during days 6-10 of gestation and showed dose relationships in severity and duration. Except for one treatment-related death in the high dose group, maternal

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

survival was not affected. Most treatment-related clinical signs observed in high dose animals first occurred on days 7, 8 or 9 and were of short duration. The most substantial of these, seen in only 6 females, included tremors, convulsive movements and apparent weakness of the legs. No treatment related gross postmortem findings were seen. In utero survival in the high dose group was affected by treatment, as evidenced by a significant increase in resorptions. No effects were seen on other reproductive parameters.

"Fetal weights were significantly reduced in the group treated with the high dose. Except for a dose related incidence of anasarca there was no other evidence of fetal toxicity. An increased incidence of litters with abnormal fetuses in the high dose group did not show any specific malformation or syndrome. In view of the overt maternal toxicity at the two higher dose levels and the relative lack of fetal toxicity, except at the high dose, it is possible that the malformations seen resulted from excessive dosage overwhelming the maternal homeostatic responses. Since treatment did not produce malformations in fetuses except at doses overtly toxic to these dams, 1-formylpiperidine would not be classified as a teratogen in the albino rat under the test conditions used."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to N-formylpiperidine. According to The Condensed Chemical Dictionary (10th edition), 1-formylpiperidine is used as a solvent for polar and nonpolar compounds as well as many high polymers, for gas absorption, and for plastics modifiers.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto stated, "Since Monsanto does not manufacture N-formylpiperidine, no unique Material Safety Data Sheet has been prepared. Monsanto does maintain a commercial interest in this chemical as a process intermediate."

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has

conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUN 7 1990 APPROVED: James F. Darr 6/8/90

OFFICE OF
PESTICIDES AND
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SUBJECT: Status Report[1] **8EHQ-0590-0975 Initial**
8EHQ-0590-0976 Initial

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Under a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided final reports of rat oral pilot and definitive teratology studies of MCS 1441 (8EHQ-0590-0975) and NCP (8EHQ-0590-0976) administered on gestation days 6-15. In the pilot study of MCS 1441, the doses were 0, 10, 50, 300, 1000 or 5000 mg/kg; MCS 1441 doses in the definitive study were 0, 20, 200 or 400 mg/kg. In the pilot study of NCP, doses of 0, 10, 50, 500, 1000 or 5000 mg/kg were used; NCP doses in the definitive study were 0, 50, 150 or 500 mg/kg. Monsanto stated that NCP and MCS 1441 contain phosphoric acid, triphenyl ester (CAS No. 115-86-6); phosphoric acid, (1-methyl-1-phenylethyl)phenyl diphenyl ester (CAS No. 34364-42-6); phosphoric acid, nonylphenyl diphenyl ester (CAS No. 38638-05-0).

COMMENTS/RECOMMENDATIONS

Monsanto reported that the company's commercial activity for MCS 1441 and NCP ceased in 1985.

a) The Chemical Screening Branch will ask Monsanto to report the proportions of the components in NCP and MCS 1441. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which the company is aware or that it has conducted that were designed to determine the toxicity of or the exposure to NCP, MCS 1441, or their constituents.

b) As was the case for the initial notices, all reported information will be brought to the attention of the Chemical Testing Branch (CTB/ECAD/OTS) for inclusion in their ongoing review of aryl phosphates under Section 4 of TSCA.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; copies of this report will be sent also to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
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DATE: JUN 15 1990 **APPROVED:** James F. Darr 6/15/90

SUBJECT: Status Report[1] **8EHQ-0590-0977 Initial**
8EHQ-0590-0977 Supplement

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided summarized results of a rabbit range-finding teratology study, and final reports of the definitive rabbit teratology study and a three-generation reproduction rat study of N,N'-bis(1,4-dimethylpentyl)-p-phenylenediamine (Santoflex® 77, CAS No. 3081-14-9). The following summary information regarding the conduct and final results of the pilot rabbit study was provided:

> "A pilot rabbit teratology study was conducted with groups of pregnant rabbits orally administered 0, 10, 30, 100, or 300 mg/kg of Santoflex® 77. All maternal animals given 100 or 300 mg/kg died. At 30 mg/kg, abortions were seen along with increased fetal resorption. At 10 mg/kg, normal numbers of implants, resorptions, and fetuses were obtained but there was maternal weight loss during the treatment period (seen also in this control group). . ."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Monsanto provided the following summarized information regarding the definitive teratology study in which Santoflex® 77 was administered orally to pregnant rabbits at dose levels of 0, 3.0 or 10.0 mg/kg/bw from gestation days 6 through 18:

> "An increase in abortions occurred in dams exposed to a dosage of 10 mg/kg."

In a supplemental submission, the following summarized information was provided by Monsanto regarding a three-generation rat reproduction feeding study conducted at doses of 0, 30, 100, or 300 ppm Santoflex® 77:

> "Signs of significant maternal toxicity were noted at 100 and 300 ppm. Signs of developmental toxicity (statistically significant reductions in pup survival and postnatal weight gain) were also noted at 100 and 300 ppm. Results from this study suggest that while [Santoflex® 77] induces developmental effects in rats, it does so only at dose levels that also produce significant maternal toxicity."

In the cover letter of this supplemental submission, the company reported that the "current Monsanto Material Safety Data Sheet for Santoflex® 77 antiozonant reports on developmental effects seen with repeated dietary feeding of this chemical."

USE AND EXPOSURE POTENTIAL

The **Condensed Chemical Dictionary** (10th edition) identifies "Santoflex" as a Monsanto trademark "for a series of rubber antioxidants and antiozonants."

A review of the non-confidential version of EPA's TSCA Chemical Substance Inventory showed that Santoflex® 77 is listed.

COMMENTS/RECOMMENDATIONS

It should be noted here that the Agency has received summary in vitro genotoxicity data on Santoflex® 77; the reader's attention is directed to 8EHQ-0187-0681 FLWP.

a) EPA will request Monsanto to provide a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the rabbit range-finding teratology study cited in the submission.

   In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans

to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN - 4 1990 APPROVED: James F. Darr 6/4/90

SUBJECT: Status Report[1] 8EHQ-0590-0978 Jacqueline T. Favilla

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company submitted a final report of an oral range-finding rat teratology study of o-nitrophenol (CAS No. 88-75-5) administered on gestation days 6 through 15 at doses of 50, 125, 250, 500, or 1,000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

In its cover letter, Monsanto reported that it "no longer manufactures nor markets this chemical and all of Monsanto's commercial activity on this product ceased in 1989."

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/13/90

SUBJECT: Status Report[1] **8EHQ-0590-0979**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided the following summary information regarding the conduct and final results of a Two Generation Rat Reproduction Study on hexamethylene diamine, 1,6-diaminohexane (CAS No. 124-09-4):

> "Hexamethylene diamine was administered orally in the diet at dosage levels of 50, 150 or 500 mg/kg/day to treated groups of 26 males and 26 females each in two consecutive generations. The control group received the basal laboratory diet, ground Purina Certified Rodent Chow® #5002. The F0 and F1 parents were mated once to produce F1 and F2 offspring, respectively.
>
> "Two F0 rats failed to survive to scheduled sacrifice, one low- and one mid-dose male. The deaths occurred between study weeks 8 and 14. In the F1 generation, two female parents died; a control group rat died during week 35 and a low-dose female died during week 32.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Parental body weight evaluation revealed cross-generational trends that were considered treatment-related. Male weekly body weights of the high-dose groups in both generations (F0 and F1) were reduced when compared to the respective control group values. Food consumption for these animals was also decreased during both generations. Reduced high-dose female body weights were also observed in the F1 generation, however similar findings were not noted in the F0 animals. Food consumption values for the high-dose females in both generations were reduced in relation to those of the control groups. Weight gain inhibition during the overall gestation periods was seen in both generations of high-dose females.

"Several litter parameters were also affected by treatment at the high-dose level. Significant reductions in litter size at birth, and decreased pup weights on lactation days 14 and 21 were observed in the high-dose groups of both generations.

"There were no meaningful differences noted between the control and treated animals of either generation in regard to antemortem observations, lactation female body weights, fertility indices, copulatory interval, gestation length, nesting and nursing behavior, and F1 and F2 pup survival and appearance at any dosage level.

"There were no test article-related differences in the results of organ weight (testes), macroscopic or microscopic evaluations of the treated groups in relation to those of the control at any dosage level.

"In conclusion, the 150 mg/kg/day dosage level was considered the dietary 'no effect' level based on the results of both generations.

"Signs of significant maternal toxicity were noted at 500 mg/kg in both the F0 and F1 generations. A statistically significant decrease in litter size at birth and reduced postnatal weight gains occurred in offspring of 500 mg/kg tesated animals of both generations. Results from this study suggest that while hexamethylene diamine induces developmental effects in rats, it does so only at a dose level that also produces significant maternal toxicity."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to hexamethylene diamine. According to The Condensed Chemical Dictionary (10th edition), hexamethylene-diamine is used for formation of high polymers such as nylon 66.

COMMENTS/RECOMMENDATIONS

In its submission Monsanto stated, "Results from the reference study are discussed in the current Monsanto Material Safety Data Sheet for hexamethylene diamine."

The Chemical Screening Branch prepared a Chemical Hazard Information Profile on hexamethylenediamine in 1978.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/17/90

SUBJECT: Status Report[1] **8EHQ-0590-0980 INITIAL & SUPPLEMENT**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided initial and supplemental submissions on para-nitrochlorobenzene, (CAS No. 100-00-5), also known as PNCB or 4-chloronitrobenzene. The initial submission contained the following summary information regarding the conduct and final results of a two-generation rat reproduction study:

> "This study was conducted for Monsanto Company [at Bio/dynamics] to evaluate the effects of *p*-Nitrochlorobenzene on the reproductive performance and fertility of rats through two consecutive generations. Test material was administered by gastric intubation daily at dose levels of 0.1, 0.7 and 5.0 mg/kg/day to Fo and F1 generation animals (15 male and 30 female CD® rats/group) during a premating growth period and through the ensuing mating, gestation and lactation intervals (one litter/generation). F1 animals continued on treatment during a post-weaning period (approximately 30 days). Included in this study was a vehicle (corn-oil)-treated control group (15 males and 30 females/generation).

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Some mortality was encountered in the control and treated groups during the Fo and Fl generations. Most of this mortality was attributed to dosing related injury. No treatment-related effect on mortality was indicated.

"No adverse effect of treatment was evident in body weight data during the growth intervals for the Fo and Fl males or Fl females. Slightly lower mean weights were seen in the treated Fo females during the growth period. Though some of these differences between the control and a treated group were statistically significant, no clear dose-relationship was indicated. Mean weight gain for the females during the Fo growth period was also lower than control in each of the treated groups; however, these differences from control data were not statistically significant and no clear dose-relationship was evident.

"Mean food consumption data during the growth periods were comparable between the control and treated groups for the Fo and Fl males and Fl females. In the Fo females, mean food consumption data during the growth period were comparable between the control, low- and mid-dose groups. In the high-dose Fo female group, mean food consumption was significantly higher than control early in the growth period (Weeks 1-3 and 6) and comparable to control at remaining weeks of the growth period.

"Mean body weight and food consumption data for the Fl adults during the post-weaning interval did not reveal an adverse effect of treatment. Some statistically significant differences existed between data for the control and treated groups, however, no trend was indicated to suggest a treatment-related effect for these parameters.

"No effect of treatment was indicated in physical in-life evaluation data or maternal body weight data (gestation/lactation periods) for the Fo and Fl adult generations.

"Mating indices for the Fo females were comparable between the control and low-dose group and slightly lower than control in the mid- and high-dose groups (differences in female mating indices between the control, mid- and high-dose groups were not statistically significant). Male mating indices for the Fo animals were comparable between the control and treated groups. Male fertility indices and female pregnancy rates for the Fo animals were comparable between the control, low- and mid-dose groups and lower than control in the high-dose group (these latter differences in pregnancy/fertility indices between the control and high-dose group were not statistically significant).

"In the F1 generation, female mating indices were slightly lower than control in each of the treated groups; however, these differences were not statistically significant and no clear dose-relationship was indicated. Male mating indices, male fertility indices and female pregnancy rates for the F1 adults were comparable between the control and treated groups. No effect on fertility was indicated during the F1 generation.

"No adverse effect of treatment was indicated for either the Fo or F1 generations in regard to gestation length or parturition data, litter size data during lactation, litter survival indices, mean pup weight data or pup sex distribution data.

"In the Fo generation, F1 pup survival indices during lactation (Days 0-4, 4-21) were comparable between the control, low- and mid-dose groups and significantly lower than control in the high-dose group. During the F1 litter interval, much of the pup mortality encountered in the high-dose group was attributed to the loss of pups from entire litters (two high-dose females experienced complete pup mortality within their litters). This was particularly significant in reducing the pup survival index at the high-dose level during the Day 4-21 lactation interval. Excluding data for this one litter, the pup survival index for the high-dose group during the Day 4-21 interval was 99.2%, which was similar to control data. In the F1 generation, survival indices for the F2 pups during lactation were comparable between the control and all treated groups. No consistent effect on pup survival was evident through both litter intervals of the study to suggest an adverse effect due to treatment.

"No adverse effect of treatment was evident from gross postmortem observations of the F1 and F2 pups, dead pup observations (F1 and F2 litter intervals) or histopathological evaluation of tissues from selected F1 and F2 pups.

"Histopathological evaluation of testes/epididymides of Fo control and high-dose males revealed bilateral degeneration/atrophy of epithelium in two of 15 high-dose animals and bilateral maturation arrest of the germinal epithelium in one of 15 high-dose animals. Epididymal observations (oligospermia) were also noted in these same high-dose males. Similar observations were not noted in the Fo control males. Other microscopic findings in the testes and epididymides of high-dose males occurred sporadically and were not considered to be related to the administration of *p*-Nitrochlorobenzene.

"Histopathological evaluation of tissues from the F1 adult animals revealed extramedullary hematopoiesis and reticuloendothelial cells containing brown pigment, both of variable degrees, in the spleens of all animals in all groups; however, these findings appeared to be somewhat more pronounced in the high-dose males and females. Other pathomorphologic findings observed microscopically in treated animals did not appear to be related to administration of *p*-Nitrocholorobenzene."

The supplemental submission contained the following summary information regarding the conduct and final results of a chronic rat study:

"This study, conducted for the Monsanto Company [at Bio/dynamics], was designed to assess the long-term toxicity and oncogenicity of *p*-Nitrochlorobenzene administered orally, via gavage, to Sprague-Dawley rats (60 animals/sex/group) at dose levels of 0.1, 0.7 and 5.0 mg/kg/day for at least 24 months. Control animals (60/sex) received the vehicle, corn oil, at the same dose volume (5 ml/kg) as the test animals. Physical observations and body weight and food consumption measurement were performed pretest and at selected intervals throughout the study. Hematology and clinical chemistry parameters and urinalyses were evaluated at 6, 12, 18 and 24 months. All surviving animals were sacrificed after 24 months of test substance administration and gross postmortem examinations and histopathological evaluation of selected tissues were performed on all animals. Selected organs were weighed and organ/body weight ratios calculated.

"PNCB administration produced dose-related methemoglobinemia in mid- and high-dose males and females. Methemoglobin levels in mid-dose animals were approximately 3 to 4 times those of control animals, while high-dose levels were approximately 10 to 15 times control levels. A slight anemia was apparent in high-dose animals as demonstrated by slightly decreased hemoglobin, hematocrit and erythrocyte values with concommitant slight increases in numbers of reticulocytes.

"Microscopic examination revealed increases in the incidence and/or severity of accumulation of brown pigment (hemosiderin) in the spleens of high-dose males and females. These findings correlated with elevated spleen weights for this group.

"The total neoplasm incidence and the incidence of benign and malignant neoplasms in treated animals were lower than or comparable to incidence in control animals.

"Distribution of various types of neoplasms was generally similar in control and treated groups. However, interstitial cell tumors of the testes were seen at a higher incidence in treated animals than in control animals. Incidence in control animals was 1/60 (1.7%) and incidence in high-dose animals was 6/60 (10%). In low- and mid-dose animals, incidence was 4/59 (6.8%) and 5/60 (8.3%), respectively. These differences appear to represent an unusually low incidence of these tumors in control animals rather than an oncogenic effect of PNCB. The control incidence of interstitial cell tumors of the testes in this strain of rat for fourteen studies conducted at Bio/dynamics is 116/1185 (10%) with a range of 3.4% to 23.4%. The control incidence in this study is below the historical range, while the incidence in high-dose animals is comparable to that historically seen in untreated animals. Mean testes weights and testes/body weight ratios for treated animals were slightly higher than those of control animals.

"Evaluation of mortality, physical observations, body weights, food consumption, ophthalmoscopic examinations, clinical chemistry studies and urinalyses revealed no consistent differences between control and treated animals which were attributed to PNCB administration."

USE AND EXPOSURE POTENTIAL

Monsanto did not provide any information regarding the use of or the potential for exposure to 4-chloronitrobenzene. According to The Condensed Chemical Dictionary (10th edition), 4-chloronitrobenzene is used as an intermediate, especially for dyes; for manufacture of *p*-nitrophenol, from which parathion is made; for agricultural chemicals; and for rubber chemicals.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that results considered treatment-related from this study are discussed in the current Monsanto Material Safety Data Sheet.

The Chemical Screening Branch prepared a CHIP on 4-chloronitrobenzene in 1983; in addition, the Risk Analysis Branch conducted risk assesment activities. EPA has received a "For Your Information" (FYI) submission, FYI-OTS-1085-0455, on 4-chloronitrobenzene and an 8(e) submission, 8EHQ-0590-0973, on 2-chloronitrobenzene.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to

describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUL 10 1990 APPROVED: James F. Darr 7/24/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0981 INIT & SUPP

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Under a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the following final reports: rat and rabbit dermal reproduction and/or teratology and mouse dominant lethal studies of dimethylacetamide (DMAC, CAS No. 127-19-5), as well as rat dermal reproduction and/or teratology and mouse dominant lethal studies of dimethylformamide (DMF, CAS No. 68-12-2). In a supplement, Monsanto provided final reports of rat pilot and definitive teratology studies of DMAC.

COMMENTS/RECOMMENDATIONS

EPA has received a number of TSCA Section 8(e) and/or "For Your Information" (FYI) notices on DMAC and DMF. DMF is also the subject of a 1981 Chemical Hazard Information Profile (CHIP) prepared by the Chemical Screening Branch (CSB) and of TSCA Section 8(d) and 8(a) information gathering rules.

a) Monsanto will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to DMF and DMAC. Monsanto will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of DMF and DMAC.

b) As was the case for the initial notice, the Risk Assessment Branch (RAB/ECAD/OTS) will be notified of further reported information for inclusion in its review of DMF. As part of the initial phase of the OTS Existing Chemicals Program (ECP), CSB will screen the information on DMAC in order to determine the need for further OTS assessment.

c) CSB will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, and RAB/ECAD; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
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DATE: JUL 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0590-0982

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA §8(e) Consent Agreement (TSCA 89-H-21), Monsanto Company provided a final report of a rat teratology study on SANTICIZER® 97, di(C_{7-9}-alkyl) adipate (CAS Nos. 68515-75-3, 151-32-6, and 14697-48-4) administered by gavage to pregnant rats at dose levels of 0, 1000, 4000, and 7000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

The Chemical Screening Branch prepared a CHIP on Adipate Plasticizers in 1978.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

DATE: JUN 5 1990 APPROVED: James F. Darr 6/7/90 OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0983

FROM: Judith M. Loranger
Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

In conjunction with a TSCA Section 8(e) "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided the final reports of an oral rat range-finding study and a definitive teratology study of Therminol 66 (a mixture of terphenyl (CAS No. 26140-60-3) and hydrogenated terphenyl (CAS No. 61788-32-7)). According to the provided final reports, Therminol 66 was administered to pregnant rats at doses of 0, 125, 250, 500, 1000 or 2000 mg/kg/day on days 6-15 of gestation in the range-finding study, and at doses of 0, 125, 500 or 1500 mg/kg/day on gestation days 6-15 in the definitive teratology study. Monsanto submitted the following summary information about the results of these studies:

Range-Finding Study

"Signs of maternal toxicity were noted in 1000 and 2000 mg/kg treated dams. Signs of developmental toxicity (increased resorptions and decreased fetal body weight) were noted at 2000 mg/kg. Results from this study suggest that while Therminol 66 . . . induces developmental effects in rats, it does so only at a dose level that also produces maternal toxicity."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

Definitive Study

"Signs of significant maternal toxicity were noted in [the] 1500 mg/kg treated dams. Statistically significant decreases in fetal body weights, increases in resorptions and variations and a statistical increase in malformations were also seen at 1500 mg/kg. Results from this study suggest that while Therminol 66 . . . induces developmental effects in rats, it does so only at a dose level that also produces maternal toxicity."

A copy of a 1983 Therminol 66 Material Safety Data Sheet (MSDS) was included at the end of the submitted final report of the range-finding teratology study.

USE AND EXPOSURE POTENTIAL

According to the submitted MSDS, Therminol 66 is a "heat transfer fluid." Monsanto did not provide any further information regarding the use(s) of or the potential for exposure to Therminol 66, nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

In its submission, Monsanto reported that the company has updated the current Therminol 66 MSDS to include results from the provided oral teratology studies in rats.

It should be noted that EPA has received a "For Your Information" (FYI) submission (FYI-OTS-0480-0066) on spent Therminol 66 and a TSCA Section 8(e) submission (8EHQ-0590-0969) on Therminol 55.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject product and/or its constituents. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject product and/or its constituents.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject product and its constituents.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUN 25 1990 **APPROVED:** James F. Darr 6/25/90

SUBJECT: Status Report[1] **8EHQ-0590-0984**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION (See NOTE on Page 2 of this Status Report)

In conjunction with a TSCA Section 8(e)-related "Consent Agreement" (TSCA 89-H-21), the Monsanto Company provided a final report of an inhalation teratology study of "Flux Oil" (a mixture reported to contain predominantly diphenyl ethane (CAS No. 38888-98-1), ethyl diphenyl ethane mixed isomers (CAS No. 64800-83-5), and alkyl tetrahydro-naphthalenes (CAS No. 68412-24-8)). In this study, mated female rats were exposed to Flux Oil concentrations of 0, 20, 100 or 400 mg/m3 for six hours per day on days 6-15 of gestation. The following information was presented in the summary section of the submitted final report:

> "In conclusion, maternal toxicity was observed at exposure levels of 400 and 100 mg/m3 but not at 20 mg/m3. No treatment related embryotoxicity or fetotoxicity was observed at any of the exposure levels. An increase in litters with malformations and litters with bent ribs was observed at the 400 mg/m3 level. These observations are considered to be possible indications of a treatment related effect, although it is also possible that the effects are not treatment related. Moreover, significant maternal toxicity was evident in the high exposure level females and the effects observed may have been secondary

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

to maternal toxicity. No treatment related effects on malformations or variations were observed at the 100 or 20 mg/m3 exposure levels."

USE AND EXPOSURE POTENTIAL

Other than the fact that the tested product is a flux oil, Monsanto did not provide any further information regarding the use(s) of or the potential for exposure to this mixture.

COMMENTS/RECOMMENDATIONS

Monsanto reported that "birth defects noted in the referenced study are discussed in the Monsanto Material Safety Data Sheets (MSDS) for products containing flux oil components."

a) In view of EPA/s interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Monsanto will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject product or its components. Monsanto will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Monsanto will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Monsanto is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to this product or its components.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

NOTE A Material Safety Data Sheet submitted by Monsanto in an August 10, 1990 followup letter (8EHQ-0890-0984 FLWP) reports that Flux Oil also contains CAS No. 68398-19-6 (Benzene, ethyl(phenylethyl)-, mono-Ar-ethyl deriv.).

James T. Barr 12/10/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUN 27 1990 APPROVED: James F. Darr 7/9/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0985

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE on Page 2 of this Status Report)

AT&T submitted the final report of an acute rabbit eye irritation study of "B65 - opaque gel."

COMMENTS/RECOMMENDATIONS

Although the Agency is concerned about the acute toxicity of chemical substances, the reported finding that B65 - opaque gel is an acute eye irritant in rabbits is not, in and of itself, the type of information required for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will ask AT&T to report the exact identity and CAS No. (if known) for each component in B65 - opaque gel.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject material. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of B65 - opaque gel.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of B-65 opaque gel at this time.

c) Copies of this status report will be sent to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this report will be sent also to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

NOTE According to AT&T's July 20, 1990 followup response letter (8EHQ-0790-0985 FLWP), the tradename for B-65 opaque gel is "Type B Lightguide Cable Filling Compound." A Material Safety Data Sheet (MSDS) enclosed with that letter reports that this product contains the following major and minor components:

Paraffinic Hydrocarbon	(CAS No. 66070-54-0)	(87%)
Amorphous Silicon Dioxide	(CAS No. 67762-90-7)	(<6%)

James P. Darr 12/10/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 24 1990 **APPROVED:** James F. Darr 9/11/90

SUBJECT: Status Report[1] **8EHQ-0590-0986 8** Martha G. Price

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aromatic sulfenamide #1."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of a pilot teratology study in rats on "aromatic sulfenamide #1":

> "A pilot study with mated Charles River CD® female rats was performed to determine dosage levels for a teratology study. [Aromatic sulfenamide #1] was administered by gavage at 10, 50, 300, and 1000 and 3000 mg/kg/day to pregnant rats from gestation day 6 through day 15. Two control groups received the vehicle, corn oil, at 10 ml/kg/day.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"During gestation the females were observed for clinical signs of effect, mortality and body weight changes. The uterine contents were examined for viable and nonviable fetuses, early and late resorptions, total implantations and the ovaries were examined for corpora lutea at sacrifice.

"There were no changes in appearance or behavior attributable to treatment between the control rats and rats treated with 10, 50 or 300 mg/kg/day.

"There were no biologically meaningful differences in the mean number of viable or nonviable fetuses, early or late resorptions, implantations or corpora lutea in rats receiving 10, 50 and 300 mg/kg/day. Slight loss in maternal body weight was seen in the 300 mg/kg/day dosage group in the first 3 days of treatment and slightly reduced maternal body weight gains for the treatment period were seen when compared to either control group. There was an increase in the mean number of early resorptions and a corresponding decrease in the mean number of viable fetuses in the 1000-mg/kg/day dosage group.

"Three of the four rats in the 1000-mg/kg/day dosage group had staining of the anogenital region. Maternal body weight losses were observed in this group during the entire treatment period.

"Three of the four rats in the 3000-mg/kg/day dosage group died by gestation day 12. Signs of maternal toxicity were seen in these rats before death and in the surviving rats in this group.

"A dose level of 1000 mg/kg/day is considered excessive for a teratology study."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

EPA has received two other TSCA §8 (e) submissions on "aromatic sulfenamides", 8EHQ-0590-0987 S and 8EHQ-0590-0988 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or

plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: 8 24 90 **APPROVED:** James F. Darr 9/11/90

SUBJECT: Status Report[1] **8EHQ-0590-0987 S**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aromatic sulfenamide #3."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the conduct and final results of a pilot teratology study in rats on "aromatic sulfenamide #3":

> "A pilot study with mated Charles River CD® female rats was performed to determine dosage levels for a teratology study. [Aromatic sulfenamide #3] was administered by gavage at 10, 50, 300, 1000 and 3000 mg/kg/day to pregnant rats from gestation day 6 through day 15. Two control groups received the vehicle, corn oil, at 10 ml/kg/day.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"During gestation the females were observed for clinical signs of effect, mortality and body weight changes. The uterine contents were examined for viable and nonviable fetuses, early and late resorptions, total implantations and the ovaries were examined for corpora lutea at sacrifice.

"There were no changes in appearance or behavior in rats treated with 1000 mg/kg/day or less when compared to the control rats. Body weight gains were similar to the control rats receiving 10, 50, and 300 mg/kg/day. There were no biologically meaningful differences in the mean number of viable or nonviable fetuses, early or late resorptions, implantations or corpora lutea in the rats treated with 10 and 50 mg/kg/day when compared to the control rats.

"There was an increase in post implantation losses in the 300- and 1000-mg/kg/day dosage groups when compared to the first control group. Body weight loss was seen in the 1000-mg/kg/day dosage group for the first 3 days of treatment while body weight gains for the remainder of gestation were similar to the controls.

"One rat in the 3000-mg/kg/day dosage group died on gestation day 15. Body weight losses, red nasal discharge and staining of the anogenital area were seen in all rats in this group. At the scheduled sacrifice, the two surviving pregnant rats in the 3000-mg/kg/day dosage group had only resorptions.

"A dosage level of 1000 mg/kg/day should produce some maternal toxicity in a teratology study."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

EPA has received two other TSCA §8(e) submissions on "aromatic sulfenamides", 8EHQ-0590-0986 S and 8EHQ-0590-0988 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate

exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: [illegible] **APPROVED:** James F. Darr 9/12/90

SUBJECT: Status Report[1] **8EHQ-0590-0988 S**

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "aromatic sulfenamide #2."

SUBMISSION DESCRIPTION

The submitting company provided the following summary information regarding the coduct and final results of a pilot teratology study and the follow-up teratology study in rats on "aromatic sulfenamide #2:

> "A pilot study with mated Charles River CD® female rats was performed to determine dosage levels for a teratology study. [Aromatic sulfenamide #2] was administered by gavage at 10, 50, 300, 1000 and 3000 mg/kg/day to pregnant rats from gestation days 6 through 15. Two control groups received the vehicle, corn oil, at 10 ml/kg/day.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"During gestation the females were observed for clinical signs of effect, mortality and body weight changes. The uterine contents were examined for viable and nonviable fetuses, early and late resorptions, total implantations and the ovaries were examined for corpora lutea at sacrifice.

"Maternal body weight gains for the 10- and 50-mg/kg/day dosage groups were similar to the control groups. There was a slight body weight loss in the first 3 days of treatment in the 300-mg/kg/day dosage group, however, the mean weight gain for the entire gestation period was comparable to the controls. Mean maternal body weight losses were seen in the first 6 days of treatment and reduced mean maternal body weight gains were seen for the remainder of gestation in the 1000-mg/kg/day dosage group.

"All rats in the 3000-mg/kg/day dosage group died by gestation day 11. Severe maternal body weight losses, red nasal and ocular discharge and staining of the anogenital region were observed in these rats prior to death. one rat in the 1000-mg/kg/day dosage group died on gestation day 13. The signs of toxicity noted in this rat were similar to those noted in all rats in the 3000-mg/kg/day dosage group. Three of the four rats in the 1000-mg/kg/day group had yellow staining of the anogenital area.

"There were no biologically meaningful differences between either control group and the 10-, 50-, 300- and 1000-mg/kg/day treatment groups in the mean number of viable or nonviable fetuses, late resorptions, implantations or corpora lutea. An increase in the mean number of early resorptions was seen in the 300- and 1000-mg/kg/day dosage groups but the mean number of early resorptions was similar for the 10- and 50--mg/kg/day dosage groups when compared to the first control group.

"Due to maternal toxicity a dosage level of 1000 mg/kg/day is considered excessive for a teratology study."

The summary for the follow-up rat teratology study follows:

"Pregnant Charles River COBS® CD® rats were used to determine the teratogenic potential of [aromatic sulfenamide #2]. Dosage levels of 0, 100, 300, 500 and 900 mg/kg/day were administered orally by gavage as a single daily dose on days 6 through 15 of gestation at a constant volume of 10 ml/kg. The control group received the vehicle only, Mazola® corn oil, on a comparable regimen. Cesarean sections were performed on all surviving dams on gestation day 20.

"Due to the early deaths of five rats and due to signs of excessive maternal toxicity and weight loss in the remaining animals, the rats in the 900 mg/kg/day dosage group were sacrificed and discarded.

"A severe increase in matting and/or staining of the ventral surface or anogenital region was noted in the 300 and 500 mg/kg/day dosage groups. A slight to moderate decrease in mean maternal body weight gain was noted in the 300 mg/kg/day dosage group during the treament period. A severe decrease in mean maternal body weight gain and adjusted body weight on gestation day 20 occurred in the 500 mg/kg/day dosage group when compared to the control group.

"Survival was 100% in all the groups except for one rat that died on gestation day 9 in the 500 mg/kg/day dosage group. A slight decrease in mean fetal body weight was observed in the 100 and 300 mg/kg/day dosage groups when compared to the control group mean with a statistically significant decrease ($p<0.01$) in the 500 mg/kg/day dosage group.

"A very slight increase in the number of fetuses and litters with malformations was noted in the 500 mg/kg/day dosage group when compared to the control group, due primarily to three fetuses, each from a different litter, with a thread-like tail and small anus. This same malformation was also observed in one fetus in the 100 mg/kg/day dosage group.

"Treatment with [aromatic sulfenamide #2] did not produce a teratogenic response when administered to pregnant Charles River COBS® CD® rats at a dosage level of 500 mg/kg/day or less."

USE AND EXPOSURE POTENTIAL

In view of the submitter's TSCA CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use of the subject chemical will appear in this status report.

COMMENTS/RECOMMENDATIONS

EPA has received two other TSCA §8(e) submissions on "aromatic sulfenamides", 8EHQ-0590-0986 S and 8EHQ-0590-0987 S.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the

reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: JUL 3 1990 APPROVED: James F. Darr 7/9/90

SUBJECT: Status Report[1] 8EHQ-0590-0989 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE on Page 2 of this Status Report)

A confidential submitting company provided the final report from a rat teratology study of a compound generically identified as a "heterocyclic amine." The compound was administered by gavage at dose levels of 0, 50 250, or 500 mg/kg/day during gestation days 6-15.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has previously received a TSCA Section 8(e) submission on a compound that was generically identified as a heterocyclic amine. The reader's attention is directed to the "Status Report" prepared by EPA in response to this Section 8(e) notice (8EHQ-1289-0854 S).

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further review of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

NOTE In a followup letter dated February 15, 1991 (8EHQ-0291-0989 Followup Response), the Monsanto Company withdrew the TSCA CBI claim covering its identity as the submitter of this Section 8(e) notice. In this February 15, 1991 letter, Monsanto also stated that all other confidentiality claims associated with the submission would be withdrawn by the company after August 15, 1991.

James T. Vann 3/5/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James F. Darr 7/31/90

SUBJECT: Status Report[1] 8EHQ-0590-0990 S

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE on Page 2 of this Status Report)

A confidential company provided final reports of rat oral range-finding and definitive studies of a "diaryl amine" administered on gestation days 6-15. Doses in the range-finding study were 0, 10, 50, 100, 150 or 200 mg/kg/day; doses in the definitive study were 0, 5, 25, or 50 mg/kg/day.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the diaryl amine. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of this diaryl amine.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

NOTE According to the declassified, fully non-confidential version of the initial TSCA Section 8(e) notice, the Monsanto Company is the submitter and the tested material is DPG Accelerator (1,3-diphenyl guanidine; CAS No. 102-06-7).

James T. Carr 2/5/91

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JUL 10 1990 **APPROVED:** James F. Darr 7/25/90

SUBJECT: Status Report[1] **8EHQ-0590-0991 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitter claimed the company name as TSCA Confidential Business Information (CBI). The Information Management Division will review all incoming correspondence related to this CBI claim.

SUBMISSION DESCRIPTION

The submitter provided information pertaining "to effects observed in an employee handling various metal salts, including those of iridium." The submitter reported that:

> "The employee has developed contact dermatitis on the face, numbness of both cheeks, and numbness and tingling of the lip and perinasal area. The employee was tested for dermal sensitization to several metal salts and antigens from the North America Full Test. The only positive response was to potassium hexachloroiridate (III). It is unclear at this time whether the other reported effects are secondary to the dermatitis or have another basis in origin. A review of medical records of employees in this area and of our TSCA 8(c) files has identified a potentially-related case. An employee exhibited deficits in the trigeminal nerve. A subsequent

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

investigation concluded that it was unclear whether this effect was directly related to an agent or process in the workplace."

The submitter provided a copy of the Material Safety Data Sheet (MSDS) for potassium hexachloroiridate (III). The submitter stated that animal studies show that potassium hexachloroiridate is slightly toxic by the oral route and moderately irritating by the dermal route; no systemic effects were reportedly caused by skin absorption following acute exposure.

USE AND EXPOSURE POTENTIAL

The submitter reported that "employees are required to wear disposable suits or laboratory jackets with disposable sleeves over the jackets, impermeable gloves, eye protection, and half-mask respirators. Based on the new information, employees will be required to wear a Powered Air Purifying Respirator (PAPR) with a hood instead of the half-mask respirator."

The submitter did not provide any information regarding the use(s) of or the potential for exposure to potassium hexachloroiridate or any of the unspecified metal salts cited in this submission nor was such information located in the secondary literature sources consulted by EPA.

COMMENTS/RECOMMENDATIONS

The submitter reported that the new toxicity information has been added to the enclosed MSDS. In addition, the submitter reported that they are currently evaluating the need for further testing.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to ensure that EPA is apprised of any further significant information obtained by the company during its investigation into the possible causes(s) of the observed adverse human health effects.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0590-0992 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

BASF Corporation provided a final report of a rat teratology study of an imported R&D pesticide identified as a "substituted pyridazine compound" administered by gavage at dose levels of 0, 2.5, 5.7, 13.0 or 30.0 mg/kg/day to pregnant rats.

COMMENTS/RECOMMENDATIONS

BASF stated that they will "notify everyone who worked with the material."

(a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: AUG 24 1990 APPROVED: James F. Darr 9/12/90

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0993 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE Below)

A confidential submitting company provided a final report of a lifetime carcinogenicity study in mice on a chemical identified as an "alkyl phosphoric acid" administered by gavage at dose levels of 0, 50, 150 or 500 mg/kg/day.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

NOTE According to a "declassified" (i.e., no longer confidential) version of this submission, the Monsanto Company is the submitter and the subject chemical is identified as the sodium salt of N-nitroso-N-(phosphonomethyl)-glycine.

James F. Darr 6/12/91

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: JUL 24 1990 **APPROVED:** James F. Darr 7/24/90

SUBJECT: Status Report[1] **8EHQ-0590-0994**
Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Atochem North America, Inc. provided a partial Dow Chemical Company acute aquatic toxicity study of tertiary dodecylmercaptan (CAS No. 25103-58-6) in Daphnia magna. According to the Dow report, this acute aquatic toxicity study was conducted to "try to understand the cause of observed toxicity in the latex effluent of the Dow Chemical Company's Allyn's Point Plant in Gales Ferry, CT." The Dow report presents the following 48-hour static acute LC50 values for Daphnia magna:

	LC50 (95%Confidence Interval)	NOEL
24 h (mg/L)	0.831 (0.74-0.95)	0.26
48 h (mg/L)	0.598 (0.51-0.70)	0.0

USE AND EXPOSURE POTENTIAL

Atochem did not provide any information regarding the use(s) of or the potential for exposure to tertiary dodecylmercaptan, nor was any specific use or exposure information for this chemical located in the secondary literature sources consulted by EPA.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

SUBMISSION EVALUATION

EPA's preliminary review of the reported findings indicates that only one tested dose (0.160 mg/L) was below the EPA-predicted aqueous solubility limit of 0.200 mg/L and this tested dose killed only 3% of the daphnids within 48 hours. EPA predicts that the daphnid 48-hour LC50 value of 0.598 mg/L will probably never be attained in the environment because the concentration of t-dodecyl-mercaptan would only be less than or equal to about 0.200 mg/L in the environment. It is important to note that acetone was used to artificially enhance the maximum water solubility limit under the test conditions. Although available data suggest that adverse effects may not occur at saturation during acute toxicity testing with fish and daphnids, it is possible that toxicity may occur during algal toxicity testing and chronic toxicity testing with fish and daphnids. Additional testing may be needed to further evaluate the toxicity of this compound.

COMMENTS/RECOMMENDATIONS

The preface to Part V of EPA's March 16, 1978 TSCA Section 8(e) policy statement (Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110) provides general guidance regarding the Section 8(e)-reportability of effects observed in aquatic toxicity studies. Part V(b) of the policy statement provides more specific guidance regarding the results of such studies. For example, Part V(b)(3) of the policy statement explains:

> "[The Agency considers the effects for which substantial risk information must be reported to include] any non-trivial adverse effect, heretofore unknown to the [EPA] Administrator, associated with a chemical known to have bioaccumulated to a pronounced degree or to be widespread in environmental media."

Although the submitted aquatic toxicity data on t-dodecylmercaptan, in and of themselves, do not appear to have warranted reporting under Section 8(e), more information should be requested from Dow with regard to the "observed toxicity in the latex effluent" from Dow's facility in Gales Ferry, CT.

The Agency has received another "For Your Information" (FYI) notice on t-dodecylmercaptan (FYI-OTS-0183-0234 et seq.)

In its submission, Atochem reported that the company "initiated its own screening and full evaluation of the effects reported by Dow." In addition, Atochem reported that they will provide the results to EPA as soon as they become available.

a) The Chemical Screening Branch will ask Atochem to ensure that the Agency is apprised in full about the results of the company's ongoing screening/evaluation exercise. EPA will request Dow to submit all relevant information about the "observed toxicity in the latex effluent" from the company's Allyn's Point Plant in Gales Ferry, CT.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Atochem and Dow will be asked to describe the actions that they have taken or plan to take to reduce or eliminate exposure to t-dodecylmercaptan (and/or other components of latex effluent). Atochem and Dow will be asked also to submit copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Atochem and Dow will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the open scientific literature) about which they are aware or that they have conducted, are conducting or plan to conduct that are designed to determine the toxicity of or the exposure to t-dodecylmercaptan (and/or other components in latex effluent). Dow and Atochem will be informed that EPA is interested in aquatic toxicity studies (especially algae, daphnids and fish) and environmental monitoring studies.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the reported findings.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0590-0995 S

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided preliminary results of a pilot rat teratology study on an R&D chemical identified as "haloalkyl heteroaromatic amide" administered by gavage to mated female rats at dose levels of 0, 5, 25, 50, 75, and 125 mg/kg/day.

COMMENTS/RECOMMENDATIONS

The submitter reported that all personnel that might be exposed to the substance are being notified about the preliminary results.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: JUN 7 1990 APPROVED: James F. Darr 6/8/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0590-0996 Initial

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

General Electric Company provided a final report of an acute delayed neurotoxicity study with cyclic neopentanetetraylbis(octadecylphosphite) [Weston 618; CAS No. 3806-34-6] administered by gavage twice (on treatment days 1 and 22) to hens at doses of 0, 500, 2,000 or 5,000 mg/kg. General Electric reported that the subject chemical "is a commercial product used mainly for food packaging plastics formulated to comply with appropriate Food and Drug Administration regulations."

COMMENTS/RECOMMENDATIONS

It should be noted that the Agency previously received a TSCA Section 8(e) submission on another "Weston" product (8EHQ-1287-0706).

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will screen the reported information to determine the need for further assessment of the subject chemical at this time.

c) Copies of this status report will be sent to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this report will be sent also to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 APPROVED: James F. Darr 8/7/90

SUBJECT: Status Report[1] 8EHQ-0590-0997 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company submitted summarized findings of a rat dermal teratology study conducted at doses of 0, 7.5, 25, and 75 mg/kg/day with a research and development (R & D) pesticide identified generically as a "substituted diphenyl ether." Dow also reported that results of a teratology probe study of this substituted diphenyl ether were previously reported in FYI-OTS-1089-0715.

COMMENTS/RECOMMENDATIONS

The Agency has received other TSCA Section 8(e) as well as FYI submissions on substituted diphenyl ethers. The reader's attention is directed to 8E #'s 623 and 731, and FYI #'s 483 and 580.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the TSCA 8(e) and FYI submissions.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 26 1990 APPROVED: James F. Darr 7/31/90

SUBJECT: Status Report[1] 8EHQ-0590-0998 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided summarized preliminary findings of an oral pilot rat teratology study conducted at doses of 0, 10, 30, 100, 300, or 700 mg/kg/day during gestation days 6-15 with a research and development (R & D) compound identified generically as "aryloxy substituted nitrobenzene."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 29 1990 **APPROVED:** 9/11/90

SUBJECT: Status Report[1] **8EHQ-0690-0999**

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

TO: Frank D. Kover, Chief
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The American Cyanamid Company submitted the following summary information regarding the conduct and preliminary results of an inhalation teratology study of methyl methacrylate (MMA; CAS No. 80-62-6) in rats:

> "Groups of 25 presumed pregnant female Crl:CB BR rats were exposed to average methyl methacrylate (MMA) vapor concentrations of 0, 287, 664, 1185, and 1964 ppm. [The] animals were exposed for six hours per day from gestation day 6 through gestation day 15. Body weight and feed consumption were measured on study days 0, 6, 8, 10, 13, 16 and 20. Clinical signs were recorded daily. On gestation day 20, the dams received a visceral examination and uterine weights were recorded; the number of corpora lutea, implantation sites and resorptions were recorded. Fetal endpoints included location, sex and condition of each fetus, fetal weights, and external alterations. Half of the animals received a soft tissue examination; [the] fetuses were prepared for skeletal examinations.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All animals exposed to MMA survived the exposure period. Review of the data indicated a statistically significant decrease in maternal body weight in all MMA exposure groups on gestation day 8. By gestation day 10, there was a trend towards decreased weight but this difference was no longer significant. By study day 16, only dams in the two highest MMA exposure groups had statistically depressed body weights as compared to control. [The] feed consumption data paralleled the decrement in body weight. There were no treatment related clinical signs in the dams. Upon examination of the pups on gestation day 20, an unacceptable number of rats were found to be pregnant. Based on this, this study is considered to be invalid and will serve as the range-finding study for a repeat inhalation teratology study to be conducted. Examination of the pups from this [range-finding] study failed to detect any indication of embryolethality, embryotoxicity or soft tissue anomalies.

"The decrease in body weight seen here is comparable to weight decrements seen in male and female rats exposed to MMA vapor in a 10 day study sponsored by the National Toxicology Program (NTP TR 314; NIH Publication No. 87-2570). . . . ."

American Cyanamid stated that the subject teratology study had been "conducted for the Methacrylate Producers Association, of which CYRO Industries, a subsidiary of the American Cynamid Company, is a member."

USE AND EXPOSURE POTENTIAL

According to the **Condensed Chemical Dictionary** (10th Edition), methyl methacrylate has the following uses: "Monomer for polymethacrylic resins; impregnation of concrete."

COMMENTS/RECOMMENDATIONS

Based on a preliminary review of the summary findings presented in this Section 8(e) notice, the reported information appears not to have warranted submission to EPA under Section 8(e) of TSCA. In taking this position regarding Section 8(e)-reportability, however, it should be noted that EPA is not aware of any additional relevant information that was available to and/or considered by the company in deciding to report the subject findings under Section 8(e).

It should be noted that the Agency has received other Section 8(e) and "For Your Information" (FYI) submissions pertaining to methyl methacrylate. In addition, methyl methacrylate is the subject of

TSCA Section 8(a) and 8(d) information gathering rules. It should also be noted that the Chemical Testing Branch (CTB/ECAD/OTS) is currently reviewing available toxicologic and exposure information on a number of chemicals in the acrylate category.

a) The Chemical Screening Branch will ask American Cyanamid to submit a full copy of the report (including the actual experimental protocol, results of gross/histopathological examinations, results of statistical analyses, etc.), if available, from the "range-finding" inhalation teratology study cited in the submission.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will immediately inform the Chemical Testing Branch about all reported information.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 10 1990 **APPROVED:** James F. Darr 7/12/90

SUBJECT: Status Report[1] **8EHQ-0690-1000 S**

David R. Williams

FROM: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this Status Report)

The submitting company has claimed its company name and the exact identity of the subject chemical to be TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is an "imide" compound.

SUBMISSION DESCRIPTION

The submitter provided the following summary information about the conduct and preliminary results of an oral range-finding teratology study of the imide compound in New Zealand white rabbits:

> "Groups of five presumably pregnant rabbits were treated with the imide compound at dosage levels of 3, 6, 10, 15 and 25 mg/kg/day. The test article was suspended in 0.5% aqueous methylcellulose and administered orally at a dosage volume of 2 ml/kg. A concurrent control group of five rabbits received methylcellulose at an equivalent dosage volume. The treatment was performed during the critical period of organogenesis, from gestation day 6 through day 18.

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"All animals were observed daily for overt signs of toxicity. Body weights were measured on gestation days 0, 6, 9, 12, 15, 19, 24 and 29. The rabbits were sacrificed on gestation day 29 and necropsied. Pregnancy status was determined at that time.

"Mortality occurred in the 6, 15 and 25 mg/kg/day groups between gestation days 8 and 18. Clinical signs of toxicity were observed in all [of the imide] treated groups and included primarily rales, labored breathing or gasping, mucoid stools and reduced or no defecation. Additionally, salivation occurred shortly after dosing. Substantial body weight losses were noted in all [imide-treated] groups during treatment.

"A single abortion was noted in the control and 15 mg/kg/day groups. In addition, two rabbits aborted in the 25 mg/kg/day group. Although abortions are not unusual for rabbits, it appears that the abortions in the 15 and 25 mg/kg/day groups were treatment-induced as a result of the substantial [maternal] body weight loss and pathological changes. [The] pathological changes were correlated with clinical signs noted in these animals prior to death or abortion (rales, mucoid stools).

"In summary, maternal toxicity was evident at all dosage levels tested in this study, ranging from substantial in the 3 mg/kg/day group to excessive at dosage levels of 6 mg/kg/day and above. Consequently, dosage levels of 0.3, 1.5 and 3.0 mg/kg/day were selected for a subsequent teratology study."

USE/EXPOSURE POTENTIAL **(See NOTE on Page 3 of this Status Report)**

In view of the submitter's CBI claim, no information regarding the TSCA Chemical Substance Inventory status or use(s) of the tested imide will appear in this status report.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives complete copies of the final reports (including the actual experimental protocols, results of gross/histopathological examinations, results of statistical analyses, etc.) from the range-finding and subsequent teratology studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or

plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further OTS assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division/OTS for further distribution.

NOTE In a letter dated September 28, 1990 (8EHQ-1190-1000 S Supplement), the submitting company withdrew its TSCA CBI claim for the identity of the subject chemical substance and reported non-confidentially that the chemical is N-phenylmaleimide (CAS No. 941-69-5). It should be noted that EPA has received other TSCA Section 8(e) and "For Your Information" (FYI) submissions on this chemical.

James D. Darr 11/6/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 18 1990

APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0690-1001 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

NOR-AM Chemical Company provided summarized results from a 28-day rat repeat dose toxicity study of an experimental insecticide generically identified as a "halogenated alkyl ester." The accompanying cover letter stated that "neuronal degeneration was observed in rats at doses of 225 mg/kg (1/3 males) and 1000 mg/kg (2/3 males and 2/3 females). . . Clinical signs of neurological disorder were seen at 1000 mg/kg. No effects were seen at 50 mg/kg." The route of administration was not specified in the submission.

Along with the summary information, NOR-AM provided a copy of the draft Material Safety Data Sheet (MSDS) and label information for each experimental formulation.

COMMENTS/RECOMMENDATIONS

NOR-AM reports that "personnel who may have samples in their possession will be informed of the above data and further instructed on safe handling and disposal procedures."

a) The Chemical Screening Branch will request NOR-AM to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of statistical analyses, etc.) from the 28-day study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 10 1990 APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0690-1002

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

On behalf of certain members of the Glycol Ethers Panel (Olin Corporation, the Dow Chemical Company, Oxy Petrochemicals, Inc. and Union Carbide Chemicals and Plastics Company, Inc.), the Chemical Manufacturers Association (CMA) submitted preliminary results showing adverse male reproductive system effects in a rat subchronic neurotoxicity study of triethylene glycol monomethyl ether (TGME; CAS No. 112-35-6). The submission summarized the findings of a 90-day drinking water study in which rats received TGME at dose levels of 0, 0.4, 1.2, or 4 g/kg/day. CMA also reported that "a concurrently conducted dermal study showed no adverse testicular effects at the same exposure level, 4 g/kg/day, the highest dose investigated."

COMMENTS/RECOMMENDATIONS

CMA reported that "the final report on the study will be submitted to EPA in accordance with the provisions of the (TSCA Section 4) Testing Consent Order " (54 FR 13470).

It should be noted that TGME is the subject of TSCA Section 8(a) and 8(d) information gathering rules.

a) As was the case for the initial submission, the Chemical Screening Branch will notify the Chemical Testing Branch (CTB) about the receipt of any additional incoming information on TGME.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 23 1990 APPROVED: James D. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0690-1003

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company provided summarized results of acute and two-week inhalation toxicity studies on isoamylene oxide (CAS No. 5076-19-7) in rats. Additionally, Dow reported summarized results, including neurotoxic effects, of an acute dermal toxicity study in rats, conducted overseas by Dow's European subsidiary.

COMMENTS/RECOMMENDATIONS

Dow Chemical reported they do not, "manufacture, process or distribute isoamylene oxide, except that Dow obtained isoamylene from Europe for the purpose of conducting the...studies discussed above." Dow Chemical further reported they have communicated the data from these studies to Dow Europe.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 10 1990 APPROVED: James F Darr 7/24/90

SUBJECT: Status Report[1] 8EHQ-0690-1004 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Allied-Signal, Inc. submitted the summarized findings from an acute rat oral toxicity study of an R&D compound identified as an "aliphatic ketoxime." Possible neurotoxic effects were observed in the treated animals.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received another TSCA Section 8(e) submission on a compound identified as an aliphatic ketoxime (8EHQ-0690-1005 S).

Allied-Signal, Inc. reported that this compound is being evaluated in their laboratories and also by a few other companies "considering the use of this material." Allied-Signal, Inc. also reported that these "results have been communicated to those studying the use of the material."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the oral toxicity study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 10 1990 APPROVED: James F. Darr 7/24/90

SUBJECT: Status Report[1] 8EHQ-0690-1005 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Allied-Signal, Inc. submitted the summarized findings from acute oral and dermal toxicity studies of a compound identified as an "aliphatic ketoxime." Possible neurotoxic effects were observed in the treated animals (species not specified).

COMMENTS/RECOMMENDATIONS

It should be note that EPA has received another TSCA Section 8(e) submission on a compound identified as an aliphatic ketoxime (8EHQ-0690-1004 S).

Allied-Signal, Inc. reported that this compound is being evaluated in their laboratories and also by a few other companies "considering the use of this material." Allied-Signal, Inc. also reported that these "results have been communicated to those studying the use of the material."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the toxicity studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: 11 17 1990 APPROVED: James F. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0690-1006 S

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Procter & Gamble Company provided a final report of a pilot, range-finding, developmental toxicity study on an R&D chemical identified as "substituted organic amide" administered by gavage to pregnant rats at dose levels of 0, 6, 50, 100, 500, and 1000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

Procter & Gamble reported that R&D personnel working with this material are being advised of this TSCA §8(e) filing. They also stated that they are conducting a definitive developmental toxicity study and will forward a copy of the final results of this study to the EPA when available.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 3 1990 APPROVED: James F. Darr 8/15/90

SUBJECT: Status Report[1] 8EHQ-0690-1007

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

FMC Corporation reported summarized findings of a 28-day oral mouse range-finding study with tributyl phosphate (CAS No. 126-73-8) conducted at doses of 0, 100, 1,000, 5,000, or 20,000 ppm. At 20,000 ppm, all animals died or were sacrificed in a moribund condition within 10 days after initiation; neurotoxic signs (lethargy, tremors) were noted in these animals prior to death. FMC noted that this study was conducted in accordance with the final test rule for tributyl phosphate under TSCA Section 4 (54 FR 33400-15).

COMMENTS/RECOMMENDATIONS

Tributyl phosphate is the subject of TSCA Section 8(a) and 8(d) information gathering rules as well as a TSCA 8(c) request for records and reports regarding significant adverse reactions.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, FMC will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. FMC will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will notify the Chemical Testing Branch (CTB) of all reported information for inclusion in the ongoing TSCA Section 4 review of tributyl phosphate.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 26 1990 APPROVED: James F. Darr

SUBJECT: Status Report[1] 8EHQ-0690-1008

FROM: Jacqueline T. Favilla, Biologist Jacqueline T Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

BASF Corporation reported summarized preliminary results of an oral prenatal toxicity study of glutardialdehyde (CAS No. 111-30-8), administered at doses of 0, 5, 15, or 45 mg/kg/bw on days 7-19 post insemination to pregnant Himalayan rabbits. BASF also reported that all customers and BASF employees will be notified of the results of this study, and that additional information on glutardialdehyde will be submitted to EPA as it becomes available.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request BASF to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, BASF will be requested to describe the actions that it has taken or plans to take to reduce or eliminate exposure to the subject chemical. BASF will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, BASF will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of glutardialdehyde.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will screen the reported information to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 18 1990 APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0690-1009

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Union Carbide Chemicals and Plastics Company, Inc. submitted summarized results from a number of on-going in vivo and in vitro toxicity studies conducted with methyldimethoxysilane (MDMS, CAS No. 16881-77-9). Union Carbide stated that "this report concerns short times to death when MDMS was dosed by sustained occluded cutaneous application to rabbits." The toxicologic studies cited in this submission are as follows:

1. Rabbit acute percutaneous toxicity study,
2. Rat acute percutaneous toxicity study,
3. Rabbit peroral toxicity study,
4. Rat peroral toxicity study,
5. Acute vapor inhalation study in rats,
6. Primary skin irritation study in rabbits,
7. Primary eye irritation study in rabbits, and
8. In vitro bacterial mutagenicity assay (Ames).

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on organosilane compounds. A Chemical Hazard Information Profile was prepared in 1986 on several organosilane compounds. Immediately upon receipt of this Section 8(e) submission, the Chemical Screening Branch notified the Risk Analysis Branch (RAB/ECAD/OTS); RAB is expected to include this information in their ongoing review of organosilane compounds.

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a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As was the case with the initial submission, staff of the Chemical Screening Branch will notify the Risk Analysis Branch about the receipt of any additional incoming information on MDMS.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and RAB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 17 1990 APPROVED: James D. Darr 8/13/90

SUBJECT: Status Report[1] 8EHQ-0690-1010 S

FROM: Martha G. Price, Ph.D., Chemist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided preliminary results of a pilot rat teratology study on an R&D chemical identified as "aryloxy-alkoxy-nitrobenzene II" administered by gavage to mated female rats at dose levels of 0, 10, 30, 75, 150, and 300 mg/kg/day.

COMMENTS/RECOMMENDATIONS

The Agency has received another TSCA §8(e) submission, 8EHQ-0190-0862 S, on an "alkoxy aryloxy nitrobenzene."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 **APPROVED:** James F. Darr 8/17/90

SUBJECT: Status Report[1] **8EHQ-0690-1011 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted preliminary summarized results from a pilot rat teratology study conducted at doses of 0, 10, 30, 100, 300 and 600 mg/kg/day during gestation day 6-15 with a research and development (R & D) compound identified generically as "aryloxy-substituted alkyl carboxylic acid ester."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 26 1990 APPROVED: James F. Darr 7/31/90

SUBJECT: Status Report[1] 8EHQ-0690-1012 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted a summary report of a pilot rat teratology study conducted at doses of 0, 10, 30, 100, 300, or 700 mg/kg/day during gestation days 6-15 with a research and development (R & D) compound identified generically as "aryl-substituted amino amide."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 26 1990 APPROVED: James F. Darr 7/31/90

SUBJECT: Status Report[1] 8EHQ-0690-1013 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted preliminary results of an oral pilot teratology study in rats conducted at doses of 0, 10, 30, 100, 300, or 700 mg/kg/day during gestation days 6-15 with a research and development (R & D) compound identified generically as an "aryl methyl sulfone."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: **APPROVED:** James F. Darr 9/10/90

SUBJECT: Status Report[1] **8EHQ-0690-1014 S**

FROM: Martha G. Price, Ph.D., Chemist Martha G. Price
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE

The submitting company has claimed its company name and the exact identity of the subject chemical as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claims. In the "sanitized" version of its Section 8(e) notice, the company reported non-confidentially that the subject chemical is a "halogenated substituted benzene."

SUBMISSION DESCRIPTION

The submitting company provided information regarding the conduct and preliminary results of a developmental toxicty study in rats on halogenated substituted benzene, identified as "the compound" in the following summary:

> "In the developmental toxicity study in rats, the compound was administered by gavage to four groups of mated female rats at dose levels of 0, 100, 400, 800 and 1600 mg/kg/day during gestation days 6-15. Preliminary results indicate that maternal lethality/toxicity

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

occurred at the highest dose tested, with six of twenty-five females (25%) sacrificed. Five died, and one was sacrificed moribund by day 12 of gestation. All six were pregnant, while of the 19 surviving animals at this dose level, seventeen (89%) were pregnant. Decreased body weight gain and food consumption occurred in the 19 surviving animals and the other dose levels. Low to moderate maternal toxicity occurred in the 100, 400, and 800 mg/kg/day dose groups, decreased food consumption occurred in the 100 mg/kg/day dose groups, and decreased body weight gain and food consumption occurred in dose groups above 100 mg/kg/day. Embryo/fetotoxicity was manifested in this group as a decrease (11%) in the number of viable fetuses and mean fetal body weight (23%). Micropthalmia was detected in 35 (17%) fetuses from 7 (41.2%) litters, umbilical herniation of the intestine in 1 (0.5%) fetus and 1 (5.0%) litter, agnathia and aglossia in 3 fetuses (1.4%) from 3 (17.6%) litters, malpositioned pinnae in 1 fetus (0.5%) and 1 (5.9%) litter and a common truncus arteriosus in 1 fetus (0.5%) and 1 (5.9%) litter.

"Significantly similar findings were <u>not</u> observed in fetuses from any other treated group but maternal toxicity was exhibited in all groups. Although developmental toxicity was observed at 1600 mg/kg, there was excessive maternal mortality and toxicity at this dose level. These findings indicate the compound is less toxic to the embryo/ fetus than the maternal organisms."

<u>USE AND EXPOSURE POTENTIAL</u>

In view of the submitter's TSCA CBI claims, no information regarding the TSCA Chemical Substance Inventory status of the subject chemical will appear in this status report.

The submitter stated that the compound is used as a flame retardant in plastics.

<u>COMMENTS/RECOMMENDATIONS</u>

The submitter reported that the company has recently initiated a developmental toxicity study in rabbits and a two generation reproduction study in rats on halogenated substituted benzene.

a) The Chemical Screening Branch will ask the submitter to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the developmental toxicity study summarized in the submission as well as the two other cited studies which have been initiated on this compound.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be requested to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the submitter is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: MAR 3 1990 APPROVED: James F. Darr 4/15/90

SUBJECT: Status Report[1] 8EHQ-0690-1015

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Shell Oil Company provided final reports of five in vitro mutagenicity assays with Epon HPT Resin 1071 (EPIKOTE 1071, CAS No. 103490-06-8); weak positive responses were noted in two separate assays. In its cover letter, Shell Oil reported that this substance is the subject of a TSCA Section 5 "Pre-Manufacture Notice" (PMN No. P-86-500) and Consent Order and this information is being incorporated into the MSDS.

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Shell will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to EPIKOTE 1071. Shell will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will notify the Chemical Control Division (CCD/OTS) about all incoming information; CCD is responsible for implementing EPA's Section 5 "New Chemicals Program" (NCP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 **APPROVED:** James F. Darr 8/17/90

SUBJECT: Status Report[1] **8EHQ-0690-1016 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Eli Lilly and Company reported summarized preliminary findings of an *in vitro* mutagenicity assay and an acute oral toxicity study in mice conducted with a research compound identified generically as "substituted quinoline." Lilly also reported that the LC_{50} was found to be less than 50 mg/kg, the compound is labelled as hazardous, and that personnel have been notified of these findings.

COMMENTS/RECOMMENDATIONS

It should be noted here that the Agency has received another TSCA Section 8(e) submission on a compound identified generically as substituted quinoline. The reader's attention is directed to 8EHQ-1089-0833 S.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 APPROVED: Frank D. Kover

SUBJECT: Status Report[1] 8EHQ-0690-1017

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator/
CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Eastman Kodak Company provided preliminary summarized results of acute aquatic studies of fathead minnow (Pimephales promelas), daphnid (Daphnia magna), gammarid (Gammarus fasciatus), and rainbow trout and green algal (Selenastrum capricornutum) inhibition studies with crotonaldehyde (CAS #4170-30-3). Kodak submitted a Material Safety Data Sheet (MSDS).

COMMENTS/RECOMMENDATIONS

In its submission, Eastman Kodak Company stated that this chemical is subject to a TSCA Section 4 Testing Consent Order (40 CFR 799, November 9, 1989). It should also be noted that crotonaldehyde is the subject of TSCA Section 8(a) and Section 8(d) information gathering rules.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Kodak will be requested to describe the actions that it has taken or plans to take 1) to notify others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical.

b) The Chemical Screening Branch will notify the Chemical Testing Branch (CTB) of all reported information for inclusion in the ongoing TSCA Section 4 review of crotonaldehyde.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 18 1990 APPROVED: James F. Darr 7/25/90

SUBJECT: Status Report[1] 8EHQ-0690-1018

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Vista Chemical Company provided preliminary results of in vitro cytotoxicity and cell transformation assays of silicon carbide fibers (CAS No. 409-21-2), asbestos (CAS No. 1332-21-4) and various alumina whisker samples (CAS No. 1344-28-1) in cultured mammalian cells.

COMMENTS/RECOMMENDATIONS

Vista reported that they neither manufacture nor distribute silicon carbide fibers or asbestos. Vista stated that "the V6 [alumina material] is solely a research material at this time." Vista further reports that they have no current plans for "making V6 commercially available. . . [In addition], future recipients of the V6 material have been or will be appraised of these findings and advised of proper handling procedures with an appropriate Material Safety Data Sheet [MSDS]." Vista submitted a copy of the current MSDS with this submission. Vista reported that they are continuing their investigations of the biological activity of various fibrous materials.

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

a) The Chemical Screening Branch will request Vista to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, and results of any statistical analyses, etc.) from the studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the fibrous materials.

b) It should be noted that EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) submissions on asbestos and other fibrous compounds. Immediately upon receipt of this Section 8(e) submission, the Chemical Screening Branch notified the Chemical Control Division (CCD/OTS); CCD is currently collecting and evaluating information on asbestos and other fibrous materials.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 26 1990 APPROVED: James F. Darr 7/31/90

SUBJECT: Status Report[1] 8EHQ-0690-1019

FROM: Jacqueline T. Favilla, Biologist Jacqueline T Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

CIBA-GEIGY Corporation provided a final report of an oral 28-day subacute rat toxicity study conducted at doses of 0, 10, 50, 250, or 1000 mg/kg/day with XB 4458, the reaction product of 1-methyl imidazol, CAS No. 616-47-7 and zinc octoate, CAS No. 557-09-5. According to the cover letter of the submission, the product "is an imported research and development (R & D) material used as a latent accelerator for anhydride-cured epoxy resin systems for electrical power applications." CIBA-GEIGY reported that it has or will revise the Material Safety Data Sheet (MSDS) and notify potential customers and CIBA-GEIGY workers of the findings of this study.

COMMENTS/RECOMMENDATIONS

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 3 1990 APPROVED: James F. Darr

SUBJECT: Status Report[1] **8EHQ-0690-1020**

FROM: Jacqueline T. Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Occidental Chemical Corporation (OxyChem) provided a final report of a 28-day rat inhalation study conducted at doses of 0, 0.01, 0.03 or 0.10 mg/L with orthochlorobenzylchloride (OCBC), CAS No. 611-19-8. According to the cover letter of the submission, the NOAEL for OCBC was determined to be 0.03 mg/L, the compound may effect the hemopoietic system (changes in myeloid/erythroid ratios) and may be a pulmonary sensitizer (proliferative changes in the tracheobronchial lymph nodes and metaplastic changes in the respiratory tract at the high dose). OxyChem also stated that it no longer manufactures or sells this material.

COMMENTS/RECOMMENDATIONS

a) The company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 **APPROVED:** James F. Darr 8/17/90

SUBJECT: Status Report[1] **8EHQ-0790-1021**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Hoechst Celanese Corporation provided English summaries of rabbit skin and eye irritation studies of Diazo Y (benzenediazonium, 3-methyl-4-(1-pyrrolidinyl)-, trichlorozincate(1-), CAS No. 52572-38-0). Full final reports in German were also provided. Hoechst Celanese reported that it has notified its domestic supplier and its manufacturing facility of the results of these studies.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 **APPROVED:** 8/22/90

SUBJECT: Status Report[1] **8EHQ-0790-1022 S**

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided a final report of a 28-day rat oral toxicity study conducted on a substance identified generically as a "substituted hydrocarbyl sulfide," at doses of 0, 100, 300 or 1000 mg/kg/day.

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: JUL 27 1990 **APPROVED:** James F. Darr 8/17/90

SUBJECT: Status Report[1] **8EHQ-0790-1023 S**

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

BASF Corporation provided a final report on the results of an acute rat inhalation toxicity study of 1,1'-(4-methyl-1,3-phenylene)bis-1H-pyrrole-2,5-dione (CAS No. 6422-83-9). BASF reported that the LC_{50} was estimated to be 0.09 mg/L.

COMMENTS/RECOMMENDATIONS

BASF reported in its submission that "all BASF handling operations and industrial hygiene procedures are currently being reviewed to ensure that all exposure to the dust is minimized," and that employees will be notified of the new information from this study.

a) The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: AUG 3 1990 APPROVED: James F. Darr 8/14/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0790-1024

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

General Electric Company provided a draft report of a developmental rabbit toxicity study conducted at doses of 0, 50, 200 or 400 mg/kg/day with N-n-butyl-4-nitro-phthalimide (4-NBPI), CAS No. 54395-37-8. According to the cover letter of the submission, "this material is being evaluated for site-limited use as a monomer in the production of thermoplastic resin."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the developmental rabbit toxicity study cited in the submission. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 3 1990 APPROVED: James F. Darr 8/15/90

SUBJECT: Status Report[1] 8EHQ-0790-1025 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided summarized preliminary findings of an oral pilot rat teratology study conducted at doses of 0, 10, 25, 50, 100 or 200 mg/kg/day during gestation days 6-15 with a R & D compound identified generically as "haloalkyl amine."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: AUG 3 1990 APPROVED: James F. Darr 8/14/90

SUBJECT: Status Report[1] 8EHQ-0790-1026 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided summarized preliminary findings of an oral pilot rat teratology study conducted at doses of 0, 25, 50, 100, 200 or 300 mg/kg/day during gestation days 6-15 with a R & D compound identified generically as "aryloxy substituted benzenamine."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: AUG 3 1990 APPROVED: James F. Darr 8/14/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0790-1027

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

General Electric Company provided a draft report of a 10-day repeated exposure rat inhalation toxicity study conducted at doses of 0, 67, 200 or 670 mg/m^3 with 2,6-dimethylphenol (2,6-xylenol), CAS No. 576-26-1. According to the cover letter of the submission, "all male/female rats in 670 mg/m^3 group exhibited moderate squamous metaplasia of olfactory epithelium." The cover letter also states that the substance "is primarily used as a monomer in the production of thermoplastic resins."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the rat inhalation toxicity study cited in the submission. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 10 1990 APPROVED: James F. Darr 9/10/90

SUBJECT: Status Report[1] 8EHQ-0790-1028 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Rohm and Haas Company provided preliminary results of a two-week dietary screening study in male rats conducted at doses of 25, 100 or 400 ppm with six experimental pesticides generically identified as "family of bis(substituted phenyl), substituted amino heteromonocycles". The company reported that, "All six exploratory chemicals examined produced mortality and signs of neurotoxicity" during the study.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 13 1990 **APPROVED:** James F. Darr 10/3/90

SUBJECT: Status Report[1] **8EHQ-0790-1029**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head
Chemical Risk Identification Section
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Mobil Research and Development Corporation provided summary information regarding the conduct and results of carcinogenicity screening trials of three samples of rare-earth Y (REY) crystals, one sample of aluminum oxide and thirteen samples of proprietary particulates including six alumina oxide-based catalysts. The screening trials, sponsored by the Mobil Oil Corporation, were conducted at the Institute of Oncology in Bologna, Italy. In the submission, the Mobil Research and Development Corporation provided tables that describe the study design (TABLE 1) and significant results of the screening trials (TABLE 2); also included in the submission were tabularized results of comparative studies of a variety of asbestos and asbestos-related materials, as well as other fibrous and non-fibrous materials (TABLES 3 and 4). The submitted tables are located in the four page attachment to this status report.

In the cover letter to its Section 8(e) notice, the Mobil Research and Development Corporation provided the following statements about the relevance and significance of the reported findings:

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Direct injection methods for insoluble particulates are suitable as chronic hazard screening procedures which maximize the potential for adverse response, regardless of mechanism. Negative results tend to reassure, while strongly positive results can be cause for concern. Minimal responses may raise the possibility of a hazardous property, but are not suggestive of serious risk. The responses reported here are virtually the least that can be detected with this assay.

"Three mesotheliomas of serous cavities were observed in a test population of 120 rats injected with the sample of alumina, a response rate of 2.5% (TABLE 2). This minimally detectable rate may be judged against those elicited by various forms of asbestos in similar assays, 33-98% (TABLE 3).

"Although alumina injection was followed by mesotheliomas in serous cavities, the same material did not elicit a significant increase of tumors after subcutaneous injection in 60 rats.

"Six proprietary catalyst samples tested in this study were manufactured using the alpha-monohydrate form of alumina reported herein. None of the six catalyst samples elicited significant carcinogenic responses in any of the sites tested, 180 rats per sample. [The cover letter notes also that no data from the screening of the seven other proprietary particulates "were interpreted . . . as [being] indicative of carcinogenicity."]

"Non-fibrous alumina is widely considered to be an innocuous substance, based upon animal tests and extensive human experience. A recent EPA review of these extensive data resulted in the removal of non-fibrous aluminum oxide from the SARA Title III list of toxic substances (55 FR 5220; February 14, 1990).

"In a population of 60 male and female rats injected subcutaneously with one of the samples of REY crystals, anaplastic sarcoma was observed in 4 male rats, a response rate of 7% (TABLE 2). This rate may be evaluated against the response rates elicited by particulate and soluble carcinogens in similar assays, mostly in the range of 43-88% (TABLE 4).

"Of the three samples of REY crystals tested, only one [REY crystals TE 16462] is considered to have elicited a carcinogenic response. That same material did not elicit tumors after injection in serous cavities in 120 rats."

The submitter also stated that "although no tumors comparable to those in TABLE 2 were observed in 90 male and 90 female concurrent control animals, historical data indicate that 1 tumor in 60 rats in either the subcutaneous or intraperitoneal sites is not unexpected." The company also stated that "any mesothelioma in the intrapleural site is considered to be significant by the primary investigator, because of its rarity."

USE AND EXPOSURE POTENTIAL

Mobil Research and Development Corporation reported that the "alumina tested in this study was Versal Al_2O_3, a crystalline hydrated form of aluminum oxide also known as pseudoboehmite, or alpha-monohydrate." According to the submitter, this material "is used by Mobil Chemical Company as a binder or extender in the manufacture of zeolite-containing catalysts for petroleum and petrochemical process applications." This material may also be used "as a refractory specialty additive and as a reactant in the manufacture of low sodium grade aluminum nitrate." In addition Mobil stated that "the REY material is the Y form of the synthetic zeolite faujasite, a defined crystalline structure, that has been ion-exchanged with mixed rare earth (RE) cations. This material . . . is used primarily as the active component in petroleum cracking catalysts."

COMMENTS/RECOMMENDATIONS

The Mobil Research and Development Corporation stated that they have notified the manufacturer of the tested alumina sample, the American Petroleum Institute (API) and the Chemical Manufacturers Association (CMA) about the results of this study.

EPA has received a number of TSCA Section 8(e) and "For Your Information" (FYI) notices on alumina, asbestos, and other fibrous materials. Staff of the Chemical Control Division (CCD/OTS) are currently collecting/evaluating information on asbestos and other fibers. The Economics and Technology Division (ETD/OTS) is responsible for listing/delisting activities for chemicals on the Toxic Release Inventory (Section 313 of the Emergency Planning and Community Right-to-Know Act).

a) The Chemical Screening Branch will ask Mobil Research and Development Corporation to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross/histopathological examinations, results of statistical analyses, etc.) from the studies cited in the submission. Mobil will be asked also to provide the address of the Institute of Oncology in order for EPA to request full copies of the studies, the results of which appear in TABLES 3 and 4.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Mobil Research and Development Corporation will be requested to describe the actions that the company has taken or plans to take 1) to notify workers about the reported information, and 2) to reduce or eliminate exposure to alumina and REY TE-16462. Mobil Research and Development Corporation will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Mobil Research and Development Corporation will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which they are aware or that their company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to these chemicals.

b) As was the case for the initial submission, the Chemical Screening Branch will immediately inform CCD and ETD about the receipt of information on fibrous materials (CCD) and aluminum oxide (ETD). As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the other tested chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, CCD/OTS and ETD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

Table 1

Study Design

Sponsor:	Mobil Oil Corporation Princeton, New Jersey
Principal Investigator:	Cesare Maltoni, MD Institute of Oncology Bologna, Italy
Test Materials in this Report:	Alumina REY Crystals, TE-16460 REY Crystals, TE-16461 REY Crystals, TE-16462
Species:	Rat
Strain:	Sprague-Dawley, Charles River (Italy)
Sex:	Males and Females
Housing:	5/Makrolon™ Cage, sexes separate
Feed/Water:	Pellets/Tap in Glass Bottles, *ad lib.*
Injection Sites:	Subcutaneous Intraperitoneal Intrapleural
Dosage:	One test article, one site per rat; 25 mg of fine particulate in saline, one time
Experimental Groups:	30/Sex/Injection Site/Test Material
Controls:	30/Sex/Injection Site, Saline Injected
Age at Injection:	~4 weeks
Age at Termination:	105 - 110 weeks
Evaluations:	3x Daily Cage Observation 1x Weekly Palpation/Observation Monthly Body Weight Complete Gross Necropsy (moribund or sac) Histopathology (standard list, plus lesions)
Other Test Materials:	13 Proprietary Particulates
Total Test Population Size:	1620 males, 1620 females

Table 2

Test Results

Anaplastic Sarcomas in Subcutaneous Injection Sites†

(Number of Affected Animals per Group)

Site of Injection	Sex	Test Articles: Alumina	REY Crystals TE-16460	REY Crystals TE-16461	REY Crystals TE-16462
Subcutaneous	M	1	0	1	4*
	F	0	1	0	0

Mesotheliomas in Serosal Injection Sites†

(Number of Affected Animals per Group)

Site of Injection	Sex	Test Articles: Alumina	REY Crystals TE-16460	REY Crystals TE-16461	REY Crystals TE-16462
Intraperitoneal	M	2*	0	0	0
	F	0	0	0	0
Intrapleural	M	0	0	0	0
	F	1*	0	0	0

* Significant Response, 30 rats per sex per Group

† No tumors of these classes were observed in saline-injected control rats

Table 3

Results of Other Studies

Incidence of Mesotheliomas after Serosal Injection of Asbestos or Erionite in Sprague-Dawley Rats*

(percent of animals with local mesotheliomas)

Material	Intraperitoneal Injection	Intrapleural Injection
Crocidolite	98	45
Chrysotile (Canada)	80	65
Chrysotile (Canada)	75	33
Chrysotile (Rhodesia)	82	n.t.
Chrysotile (California)	73	n.t.
Amosite	90	n.t.
Anthophyllite	83	n.t.
Asbestos Cement	53	35
Erionite	50	88

*25 mg/site, one time; 20M and 20F/route/material

n.t. - not tested

Source: C. Maltoni, Institute of Oncology, Bologna, Italy

Table 4

Results of Other Studies

Incidence of Anaplastic Sarcomas after Subcutaneous Injection of Various Chemicals in Sprague-Dawley Rats*

Material	Dose (mg)	% with Anaplastic Sarcomas
Chromium Alum *	30	15
Basic Chromium Sulfate *	30	28
Lead Chromate *	30	63
Basic Lead Chromate *	30	68
Molybdenum Orange *	30	88
Basic Zinc Chromate *	30	13
Basic Zinc Chromate *	30	43
Silica-coated Lead Chromate *	30	65
Adriamycin **	2	65
Epirubicin ***	5	50
Epirubicin ***	3	68
Epirubicin ***	2	78
Idarubicin ***	1	43
Controls ****	0	0

* 20 rats/sex/group
** 40 M + 42 F
*** Interim result
**** 115 M + 145 F

Source: C. Maltoni, Institute of Oncology, Bologna, Italy

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 7 1990 APPROVED: James F. Darr 9/10/90

SUBJECT: Status Report[1] 8EHQ-0790-1030

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The U.S. Operating Committee of the Ecological and Toxicological Association of the Dyestuffs Manufacturing Industry (ETAD) submitted a draft report of an oral rat range-finding developmental toxicity test with C.I. Disperse Blue 79:1 Purified Presscake (CAS No. 3618-72-2) administered at dose levels of 0, 500, 1000 or 2000 mg/kg/day on gestation days 6-15. ETAD noted that this study, as well as a definitive full developmental toxicity study, are being conducted as part of the TSCA Section 4 Testing Consent Order for C.I. Disperse Blue 79 (40 CFR Part 799, 54 FR 48102).

COMMENTS/RECOMMENDATIONS

It should be noted here that C.I. Disperse Blue 79 is the subject of TSCA Section 8(a) and 8(d) information gathering rules.

a) The Chemical Screening Branch has notified the Chemical Testing Branch (CTB) of all reported information for inclusion in the ongoing TSCA Section 4 review of C.I. Disperse Blue 79.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, CTB/ECAD/OTS and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: AUG 30 1990 APPROVED: James F. Darr 9/10/90

SUBJECT: Status Report[1] 8EHQ-0790-1031 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Eli Lilly and Company submitted preliminary summarized results of an acute oral mouse toxicity study conducted at doses of 50, 500 or 2000 mg/kg with a research compound generically identified as "substituted pyridopyridimine." Lilly reported that, "there were no survivors following a single oral dose of 50 mg/kg of this compound. All deaths occured by hour 2. Antemortem signs of toxicity included hypoactivity, ataxia, low carriage, and coma."

COMMENTS/RECOMMENDATIONS

The company reported that this compound is labelled as hazardous, and that workers and others were notified of the reported toxicological findings.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 6 1990 APPROVED: James F. Darr 9/10/90

SUBJECT: Status Report[1] 8EHQ-0790-1032

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

ARCO Chemical Company reported an explosion and fire that occurred at the ARCO Chemical facility in Channelview, Texas on July, 5, 1990. The company also reported that, "Immediately after the incident, the company recovered approximately 250 fish which apparently died from the high chemical oxygen demand (COD) content of the water. No dead fish have been observed since July 10 and continued monitoring has indicated a return of normal fish activity in the area."

COMMENTS/RECOMMENDATIONS

ARCO Chemical Company stated that the EPA and other governmental authorities were notified in a timely manner of the incident.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA and EPA's Region VI office; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: AUG 30 1990 APPROVED: James F. Darr 9/10/90

SUBJECT: Status Report[1] 8EHQ-0790-1033

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB Jacqueline T. Favilla

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

CIBA-GEIGY Corporation submitted final reports of two oral rat toxicity studies (one 14-day, the other 28-day) conducted at dose levels of 0, 250, 500, 1000 and 2000 mg/kg/day (14-day) and 0, 5, 50, and 500 mg/kg/day (28-day) with a research and development (R & D) material identified as acetic acid, [[[3,5-bis(1,1-dimethylethyl)-4-hydroxy-phenyl]methyl]thio]-, C_{10-14}-isoalkyl esters (DP-118, TK 13011, CAS No. 118832-72-7). CIBA-GEIGY reported that this compound is being considered for use as an "antioxidant," and that the company will revise the MSDS and label, and notify workers and customers of the reported findings.

COMMENTS/RECOMMENDATIONS

a) The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 20 1990 APPROVED: D.R. Williams 9/20/90 for

SUBJECT: Status Report[1] 8EHQ-0790-1034

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Rohm and Haas Company submitted preliminary results of a case-control study of former employees at the Philadelphia plant exposed to DDT (CAS No. 50-29-3) and a group of pesticides with active ingredients having the CAS Nos. 72-56-0, 72-54-8, and 131-72-6. This study, a follow-up to a 1989 mortality study, reaffirmed cigarette smoking as a risk factor for pancreatic cancer and showed an association between pancreatic cancer and exposure to the previously listed chemicals. In its submission, the Rohm and Haas Company stated that it "no longer uses DDT as a raw material or manufactures any of the pesticides products referred to above at any location in the United States." The company also reported that the results of this study will be given to all former and current employees at their Philadelphia plant as well as the overseas plant where it continues manufacturing the pesticide products. In addition, Rohm and Haas Company reported that it will revise pertinent MSDSs, that the company is notifying EPA's Office of Pesticide Programs (OPP)/EPA under Section 6(a)(2) of FIFRA, and that the company is working with NIOSH to determine what, if any, additional studies are needed.

COMMENTS/RECOMMENDATIONS

Part VII of EPA's March 16, 1978 TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110) states that information need not be submitted to EPA under Section 8(e) of TSCA if the information has been submitted already to EPA in accordance with a mandatory reporting provision of another authority administered by the Agency (e.g., the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)). Therefore, if Rohm and Haas was required to submit and had submitted the subject epidemiologic findings to EPA under Section 6(a)(2) of FIFRA, duplicate submission to the Agency under Section 8(e) of TSCA would not have been necessary.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of any statistical analyses, etc.) from the epidemiologic study cited in this submission. In addition, the company will be asked to provide copies of Material Safety Data Sheets that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

DATE: SEP 7 1990 APPROVED: James D. Darr 9/6/90

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0790-1035

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Olin Corporation submitted preliminary results of an acute inhalation LC_{50} study conducted at doses of 0.05, 0.14, 0.16, 0.82, 1.40, or 1.50 mg/L with bis(1-hydroxy-2(1H)-pyridinethionato-O,S)-T-4) zinc (zinc pyrithione, CAS No. 13463-41-7).

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the inhalation study cited in the submission. In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, Olin Corporation will be requested to describe the actions that it has taken or plans to take to 1) to notify workers and other about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The Olin Corporation will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the Olin Corporation will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of zinc pyrithione.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: SEP 3 1990 APPROVED: James F. Darr 9/7/90

SUBJECT: Status Report[1] 8EHQ-0790-1036 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

Eli Lilly and Company submitted preliminary summarized results of an acute oral mouse toxicity study conducted at doses of 50, 500 or 2000 mg/kg with a research compound generically identified as "substituted quinazoline IV." Lilly reported that, "There were no survivors following a single oral dose of 50 mg/kg of this compound. The majority of deaths occurred within 4 hours of dosing and all deaths occurred by Test Day 3. Antemortem signs of toxicity included ataxia, low carriage, coma, lethargy, poor grooming, hunched posture, ptosis, piloerection, cool to the touch, and eyes white in color." Summarized results of a Gradient Plate Assay were also reported; it was determined that substituted quinazoline IV is not mutagenic in this assay.

COMMENTS/RECOMMENDATIONS

The company reported that this compound is labelled as hazardous, and that workers and others were notified of the reported toxicological findings.

The Agency has received other TSCA Section 8 (e) submissions on substituted quinazolines. The reader's attention is directed to 8E #'s 806, 808, and 819.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 13 1990 APPROVED: DRWilliams 9/13/90

SUBJECT: Status Report[1] 8EHQ-0790-1037 S

FROM: Jacqueline T. Favilla, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided a final report of an oral rat 28-day toxicity study conducted at doses of 0, 100, 330 or 1000 mg/kg bw/day with a research and development (R & D) compound identified generically as "substituted cyclohexane." According to the submission, adverse male reproductive system effects were observed in the study.

COMMENTS/RECOMMENDATIONS

The company reported that employees will be informed of the findings and that standards for developing and handling products containing the test material will be reviewed.

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: SEP 7 1990 APPROVED: James F. Darr 9/6/90

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0890-1038

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company submitted results of a preliminary fish sampling study of certain isomers of chlorinated dioxins and/or furans in two species. Samples were taken from the waste water canal outfall to the Brazos River at Dow's Freeport, Texas facility. The company reported, "The Toxic Equivalent Concentration for the dioxin/furan isomers was calculated to be 37.8 ppt in the croaker fillet and 15.3 ppt in the black drum fillet." Dow Chemical Company has reported the results of this preliminary study to the Texas Water Commission.

COMMENTS/RECOMMENDATIONS

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, EED/OTS, and EPA's Region VI Office; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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WASHINGTON, D.C 20460

DATE: SEP 3 1990 APPROVED: James F. Darr 9/7/90

SUBJECT: Status Report[1] 8EHQ-0890-1039 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: James F. Darr, Section Head, Chemical Risk Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential submitting company provided final reports of two positive skin sensitization studies in humans conducted with two research compounds generically identified as "mixture of sulfurized compounds". The company reported that these compounds are being considered for use as "lubricant components."

COMMENTS/RECOMMENDATIONS

The company reported that employees and customers will be informed of the skin sensitization findings. In addition, the company will add these findings to their Material Safety Data Sheets.

a) The Chemical Screening Branch will request the submitting company to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: SEP 24 1990 APPROVED: DRWilliams 9/25/90

SUBJECT: Status Report[1] 8EHQ-0890-1040

FROM: Paul N. McMahon, Biologist PNM
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
CSB/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Atochem North America, Inc. provided the final report from an acute dermal LD50 study in rabbits of a research and development (R&D) compound identified as poly(3,5-dithio-1,2,4-thiadiazole). According to the submitter, the dermal LD50 was found to be approximately 68 mg/kg. Atochem North America, Inc. reported that the test compound "has never been distributed in commerce, other than in small sample quantities for research and development." Atochem North America, Inc. further stated that they no longer manufacture, process or distribute this compound.

COMMENTS/RECOMMENDATIONS

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: MAY 20 1991 **APPROVED:** 5/20/91
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

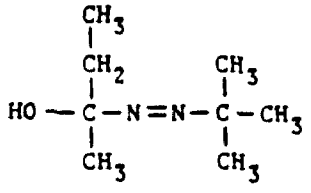
SUBJECT: Status Report[1] **8EHQ-0890-1041 Initial**
8EHQ-0491-1041 Supplement
8EHQ-0990-1065 Initial

FROM: Frank D. Kover, Chief
Chemical Screening Branch/ECAD/OTS

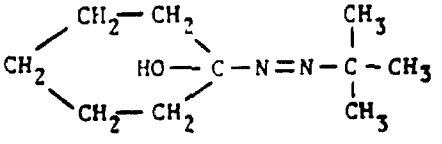
TO: Charles M. Auer, Director
Existing Chemical Assessment Division/OTS

NOTE

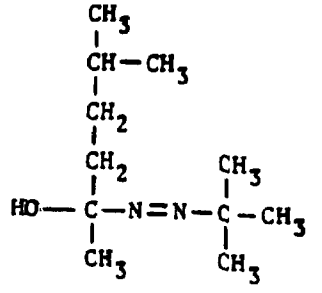
The reader's attention is directed also to "For Your Information" (FYI) submission file FYI-OTS-1080-0095 et seq., which contains additional toxicological and exposure information pertaining to the subject chemical substances. Many documents in this FYI file are of major importance for the purposes of this status report and are cited specifically by date throughout the status report. The exact identity, structure, CAS Registry Number and product tradename of each of the subject chemicals are presented below:



Lucel-4® (CAS No. 57910-79-9)
t-butylazo-2-hydroxybutane



Lucel-6® (CAS No. 54043-65-1)
1-((1,1-dimethylethyl)azo)cyclohexanol



Lucel-7® (CAS No. 64819-51-8)
2-t-butylazo-2-hydroxy-5-methylhexane

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

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SUBMISSION DESCRIPTION

8EHQ-0990-1065

In 8EHQ-0990-1065, Atochem North America, Inc. submitted the following information about a 1976 "incident in which workers reported adverse health effects that may have been the result of exposure to t-butylazo-2-hydroxy-butane (CAS No. 57910-79-9)," an azo foaming agent formerly manufactured by the Pennwalt Corporation (an Atochem predecessor) and sold under the trade name Lucel-4®.

> "In 1976, a company named Proform, Inc. [which is located in Eagan, Minnesota] purchased Lucel-4 from Pennwalt for use as an azo foaming agent in polyester foam spraying operations. In approximately September or October 1976, a Proform employee who operated a Lucel-4 spraying gun reported that he was experiencing difficulty with his balance, dizziness, headaches, nausea, and blurred vision. Ultimately, the physicians who examined him determined that he had a permanent partial impairment in the lower extremities. Although a conclusive identification of the cause was not indicated, the physicians who examined the employee believed that it was likely that these were neurotoxic effects resulting from exposure to Lucel-4.
>
> "In that same time period, a second Proform employee involved in the spraying of Lucel-4 reported symptoms such as lack of night vision, blurred day vision, and numbness of the extremities, and reportedly was hospitalized for approximately 30 days. Pennwalt never received any detailed or corroborating information concerning this second employee's reported injuries or their relationship to Lucel-4.
>
> "Finally, approximately 4-6 other Proform employees involved in the Lucel-4 operations reportedly consulted a physician in that same time period. Based on the limited information Pennwalt received, it appears that at least some of these workers may have exhibited neurotoxic symptoms, but none of them was injured on a prolonged or permanent basis.
>
> "The background facts indicate that Lucel-4 was used in connection with this incident in a manner contrary to Pennwalt's customer instructions and sound industrial hygiene practice, including improper ventilation, inadequate safety equipment, and failure of the employees to follow minimal safety precautions or to heed the repeated instructions of their supervisors about the use of the product. For example, the employee who suffered permanent partial disability ignored the repeated safety instructions and was regularly seen with Lucel-4 (which was blue in color) all over his face and hands. As a result, in

> a subsequent product liability lawsuit brought by this employee, the jury found that both Proform and the employee were negligent and that Pennwalt was not liable *in any way for* the employee's injuries."

EPA's FYI-OTS-1080-0095 file contains a number of letters/documents that pertain to Lucel-4. For example, this FYI file contains a December 22, 1976 letter from the Minnesota Department of Labor and Industry to the U.S. National Institute for Occupational Safety and Health (NIOSH) with the following attachments:

- A November 5, 1976 Minnesota Department of Health (MDOH) memorandum containing a report of a September 29/30, 1976 MDOH industrial hygiene investigation of Proform, Inc. According to a cover sheet to the MDOH industrial hygiene report, the objective of the MDOH investigation was to "evaluate an occupational disease report from an employee hospitalized allegedly because of exposure to Lucel-4 Azo Foaming Agent and styrene."

- An October 5, 1976 letter addressed from Pennwalt to MDOH containing a Product Bulletin, MSDS, and safe handling instructions for Lucel-4, as well as Lucel®-6 (another Pennwalt azo foaming agent; 1-((1,1-dimethylethyl)azo)-cyclohexanol; CAS No. 54043-65-1).

FYI-OTS-1080-0095 also contains a January 19, 1977 letter from NIOSH to Pennwalt regarding Lucel-4; an excerpt from this NIOSH letter follows:

> "The Minnesota Occupational Safety and Health Agency (MOSHA) has reported to the National Institute for Occupational Safety and Health (NIOSH) that a number of [Proform, Inc.] employees . . . using Lucel-4 have developed neurotoxic symptoms. In order to assess whether the reported medical problems are associated with Lucel-4, [it] is necessary to learn as much about the use patterns as possible. . . . ."

FYI-OTS-1080-0095 also contains a March 31, 1977 letter from Pennwalt to NIOSH in which the company provided a description of the manufacturing process for Lucel-4. Further, FYI-OTS-1080-0095 contains a letter dated April 5, 1977 in which NIOSH staff again asked Pennwalt to provide information relating to Lucel-4 use and exposure patterns. In a letter dated April 28, 1977 (also found in FYI-OTS-1080-0095), Pennwalt provided the requested information to NIOSH. (EPA's copy of this particular Pennwalt letter had been sanitized by NIOSH so as to not disclose the names of Pennwalt's Lucel-4 customers.) In this April 28, 1977 letter, Pennwalt stated that Lucel-4 "is an experimental compound for which . . . [Pennwalt is] attempting to develop a market." Pennwalt stated further that Proform had discontinued their use of Lucel-4 and returned their remaining Lucel-4 inventory stock to Pennwalt for sales credit.

Pennwalt also reported to NIOSH that "other than the [Proform] incident . . . [Pennwalt had] received no significant complaints relating to health from any [Lucel-4] users in the field."

It is important to note that FYI-OTS-1080-0095 also contains a December 17, 1980 letter from Pennwalt to NIOSH in which Pennwalt stated that Lucel-4 had been "discontinued due to an instance of customer misuse."

Also included in FYI-OTS-1080-0095 is a January 19, 1981 letter from Pennwalt to NIOSH containing copies of the final reports from the following toxicologic studies of Lucel-4 and Lucel-6:

Lucel-4

1) Acute Rabbit Dermal LD50 Study (LUCEL-4); International Research and Development Corp.; Report # 164-029; 8/10/73;

2) Acute Rat Oral LD50 Study (LUCEL-4); International Research and Development Corp.; Report # 164-032; 11/30/73;

3) Acute Rat Inhalation LC50 Study (LUCEL-4); International Research and Development Corp.; Report # 164-032; 12/5/73;

4) Subchronic (6-Month) Mouse Dermal Tox. Study (LUCEL-4); International Research and Development Corp.; Report # 164-047; 3/10/76;

5) Acute Rabbit Dermal LD50 Study (LUCEL-4); International Research and Development Corp.; Report # 164-061; 3/26/76;

6) Acute Rabbit Eye Irritancy Test (LUCEL-4); International Research and Development Corp.; Report # 164-061; 3/26/76;

7) Acute Rabbit Dermal Tox./Absorption Study (LUCEL-4); International Research and Development Corp.; Report # 164-064; 9/2/76; and

8) In Vitro Bacterial Mutagenicity Evaluation (LUCEL-4); Litton Bionetics, Inc.; No Report #; 8/77.

Lucel-6

1) Acute Rabbit Dermal LD50 Study (LUCEL-6); International Research and Development Corp.; Report # 164-046; 4/21/75;

2) Acute Rat Oral LD50 Study (LUCEL-6); International Research and Development Corp.; Report # 164-045; 4/21/75;

3) Acute Rat Inhalation LC50 Study (LUCEL-6); International Research and Development Corp.; Report # 164-044; 5/16/75;

4) Acute Rabbit Dermal Tox. Study (LUCEL-6); International Research and Development Corp.; Report # 164-050; 7/23/75;

Also included in Pennwalt's January 19, 1981 letter to NIOSH is a January 24, 1975 letter and summary final report from the Roswell Park Memorial Institute (Orchard Park Laboratories) regarding a chronic (52-week) Swiss mouse skin-painting carcinogenicity study conducted for Pennwalt on two chemical substances identified only as a "t-butylazo compound containing a nitrile function" and a "t-butylazo compound containing an hydroxy function." According to the "Summary" section of the final report, "No tumors were seen in mice painted with either of these compounds over a period of 52 weeks, using 2 or 3 concentrations ranging up to 5% in acetone." The "Results" section of the final report provides the following information regarding other study findings:

> "Some of the mice treated with 5% of . . . [the t-butylazo compound containing an hydroxy function] developed hydronephrosis and retention of urine in the bladder. This result was first noted during the 39th week when the mice were about 47 weeks old. Although hydronephrosis is seen occasionally in old Swiss mice, hydronephrosis with distended bladders of this degree and at this age is rare in . . . [the conducting laboratory's] colony. . . .[The investigator has] never seen so many cases in a small group of animals. . . .[The investigator concluded] that urinary obstruction was caused in these animals, in part at least, by the treatment. . . .[The investigator was] unable to find any gross physical abnormality in the [affected] animals that might cause this condition. Other animals in the same [treated] group similarly showed no gross abnormalities near the urinary tract. Microscopic examination disclosed hydronephrosis of the kidney, often with chronic cystitis. In a few [treated] animals, there was some indication of hyperplasia of the bladder or urethra epithelia, but this was not so pronounced as to indicate it was causally related to urinary obstruction. . . .[The laboratory investigator] cannot identify the mechanism by which the urinary obstruction occurred in these animals."

8EHQ-0890-1041

In 8EHQ-0890-1041, Atochem provided copies of the final reports from a 4-week rat inhalation toxicity study, a pilot rat dermal neurotoxicity study, and a 28-day rat dermal neurotoxicity study of 2-t-butylazo-2-hydroxy-5-methylhexane (BHMH; CAS No. 64819-51-8), an azo foaming agent formerly marketed by Pennwalt under the trade name Lucel-7®. Atochem's cover letter presents the following summary information about the conduct and results of these studies:

> 4-Week Subacute Inhalation Toxicity Study (International Research and Development Corp.; Report # 164-085; 3/26/81)
>
> ". . . Three groups (containing ten male and ten female rats each) were exposed to vapor concentrations of 0.01 mg/L, 0.1 mg/L, or 0.5 mg/L BHMH for six hours per day,

five days per week, for four weeks. The report stated that the results indicated that levels as low as 0.1 mg/L 'produced toxic effects as indicated by a failure to gain body weight normally and a possible hindlimb paralysis,' that 'levels approximating 0.1 mg/L were lethal after only a few exposures,' and that 'BHMH probably produced a biochemical lesion of the central or peripheral nervous system.'"

Pilot and 28-Day Rat Dermal Neurotoxicity Studies (Food & Drug Research Laboratories, Inc.; Report # 7247; 2/27/83)

". . . . In the pilot phase of the study, test rats were subjected to dermal application of Lucel-7 at six dose levels: 15, 50, 100, 175, 350, and 500 mg/kg body weight. The results indicated that 'dermal administration of Lucel-7 at levels of 100 mg/kg or greater, produced ataxia, hindlimb paralysis, and urinary incontinence,' and that 'the initial onset of these neurotoxic signs was dose dependent.' In the main phase of the study, test rats received dermal application of 100 mg/kg of five different test substances, as well as Lucel-7 as a positive control [. . . 'because of its known neurotoxic effects'] for five days per week for four weeks. The results indicated that neurotoxic effects, including hindlimb paralysis, ataxia, and urinary incontinence, were observed only in animals receiving Lucel-7 as a positive control. No effects were seen from exposure to the five test substances."

[NOTE: According to the final report, the five test substances were:

1. di-t-butylhydrazinium sulfate (CAS No. unknown);

2. Luazo-135-40XL (identity and CAS No. unknown);

3. 2-t-butylazo-2-(hydroxyethoxy)-4-methylpentane (CAS No. unknown);

4. t-butylhydrazine hydrochloride[2] (CAS No. 7440-27-3);

5. Luazo 82 (2-((1,1-dimethylethyl)azo)-2-methyl-butanenitrile (CAS No. 52235-20-8).]

In 8EHQ-0890-1041, Atochem also provided the following background information regarding the neurotoxic effects of Lucel-7 in animals and humans:

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[2] *t-Butylhydrazine hydrochloride is one of the subject chemicals in another recent Atochem TSCA Section 8(e) submission (8EHQ-0890-1042). The reader's attention is directed to the status report prepared for that submission.*

> "[T]he neurotoxicity of Lucel-7 has been widely reported in the scientific literature, including reports of animal studies and a worker exposure incident. (e.g., Horan JM, Kurt TL, Landrigan PH, et al., Neurologic Dysfunction from Exposure to 2-t-Butylazo-2-Hydroxy-5-Methylhexane (BHMH): A New Occupational Neuropathy, American Journal of Public Health 75: 513-517, 1985; Spencer PS, Beaubernard CM, Bischoff-Fenton MC, Kurt TL, Clinical and Experimental Neurotoxicity of 2-t-Butylazo-2-Hydroxy-5-Methylhexane, Annals of Neurology 17: 28-32, 1985; Spencer PS, Beaubernard CM, Bischoff MC, Kurt TL, Experimental Neurotoxicity of Lucel-7 (2-t-Butylazo-2-Hydroxy-5-Methylhexane), The Toxicologist 3:1, 1983, presented to the Society of Toxicologists in Las Vegas, NV (March 7-11, 1983); Kurt TL, Webb CR, Toxic Occupational Neuropathy: Texas, Morbidity Mortality Weekly Reports 29: 529-530, 1980.) In addition, the four-week subacute inhalation study [of Lucel-7] was previously submitted to the National Institute for Occupational Safety and Health [(NIOSH)] and is discussed in the above-mentioned article by Horan JM, Kurt TL, Landrigan PJ, et al."

Of particular interest and importance in FYI-OTS-1080-0095 is an October 29, 1980 letter from a consultant medical toxicologist in Texas addressed to Pennwalt; an excerpt from this letter follows:

> ". . .[S]everal cases of severe neurotoxicity related to Lucel-7 exposure [have been encountered] in a fiberglass tub foaming operation. These people have severe peripheral neuropathies of a sensory as well as motor nature that begin distally and proceed proximally. All of them, it appears, will have some permanent impairment, since severe objective findings are persisting many months after removal from exposure. In addition, these people have experienced early in their courses of toxicity the problems of decreased color vision, tunnel vision (loss of peripheral vision), and some have now developed cataracts. . . . ."

FYI-OTS-1080-0095 also contains a Morbidity and Mortality Weekly Report published by the U.S. Centers for Disease Control (CDC) on November 7, 1980; excerpts from the report follow:

> "In October, 1980, a medical toxicologist in Dallas, Texas reported to the National Institute for Occupational Safety and Health (NIOSH) that he had examined 4 persons, ages 25-33 years, who had dysfunction of central and peripheral nervous systems. All 4 persons were employed in the manufacture of reinforced plastic bathtubs at Lasco Industries [located] in Lancaster, Texas. Symptoms had been of subacute onset and included mixed motor-sensory peripheral neuropathy, loss of memory, decreased attention span, and loss of color and peripheral vision.

> "The first patient had onset in October 1979, 1 month after the introduction to the Lasco plant of a new foaming agent, Lucel-7 . . . All the other patients had onset by late December. As spray applicators, the 4 affected workers had direct contact with Lucel-7. The interval from the first exposure to this chemical to onset of symptoms ranged from approximately 2 to 4 weeks. Gloves and paper face masks were made available to workers at the plant by Lasco management from the beginning of Lucel-7 use, but wearing them was not required. Protective clothing was not generally available until after January 1980, and air-supplied respirators (which were recommended by the manufacturer [(Pennwalt)]) were not provided. Use of Lucel-7 was discontinued at Lasco in April 1980.
>
> "A NIOSH physician interviewed and examined the affected workers on October 24, 1980. He confirmed the presence of residual neurologic findings recorded by the medical toxicologist [in Texas]. Nerve conduction studies and electromyography documented the presence of distal, patchy peripheral neuropathy in all 4 [Lasco] workers."

Another significant document contained in FYI-OTS-1080-0095 is an internal Lasco Industries memorandum concerning the "Safe Handling of Lucel-7." This particular memorandum is dated November 1, 1979 (shortly after introduction of Lucel-7 into the facility) and was addressed to "Distribution." Some excerpts from this memorandum follow:

> "It is apparent from the symptoms that have occurred in two individuals that the Lucel-7 is and has been handled with some neglect to personal safety.
>
> "This material is very toxic, especially from a skin absorption standpoint. Personal contact with this liquid must be avoided at all costs. The failure of these individuals to do so has resulted in their present condition. . . . ."

FYI-OTS-1080-0095 also contains a letter dated November 4, 1980 from Pennwalt to NIOSH with the following attachments:

1) LUCEL-7 Product Bulletin;

2) LUCEL-7 Safe Handling Instructions to Customers;

3) LUCEL-7 Material Safety Data Sheet (MSDS);

4) Acute Rabbit Dermal LD50 and Acute Rat Inhalation Studies of LUCEL-7; Report # 164-070; International Research and Development Corp.; 5/27/77;

5) Primary Rabbit Eye Irritation and Acute Rat Oral LD50 Studies of LUCEL-7; Report # 164-071; International Research and Development Corp.; 10/14/77;

6) Acute (1-Hour) Rat Inhalation LC50 Study of LUCEL-7; Report # 164-071; International Research and Development Corp.; 11/10/77; and

7) In Vitro Bacterial Mutagenicity Evaluation of LUCEL-7; Litton Bionetics, Inc.; No Report #; 8/77.

FYI-OTS-1080-0095 also contains a November 28, 1980 letter from NIOSH to Pennwalt in which NIOSH asked Pennwalt to provide answers to a number of Lucel-4, Lucel-6 and Lucel-7 production, exposure, and human health-related questions. In Pennwalt's response letter dated December 17, 1980 (also included in FYI-OTS-1080-0095 but in NIOSH-sanitized form to protect the company's confidential business information), Pennwalt reported non-confidentially that since Lucel-7 had been in production, no Pennwalt workers had experienced any medical problems involving numbness, dizziness, or impairment of strength, balance, coordination or vision. Pennwalt also stated that there were no unusual or unexplained medical problems seen among workers involved in Lucel-4, Lucel-6 or Lucel-7 production.

In a supplemental TSCA Section 8(e) submission (8EHQ-0491-1041 Supplement), Atochem provided copies of the final reports of the following additional acute toxicity studies of Lucel-7:

1) Acute Dermal and Inhalation Toxicity Studies of Lucel-7 in Rats and Rabbits; Report # 164-068; International Research and Development Corp.; 4/1/77; and

2) Acute Inhalation Toxicity Study of Lucel-7 in Rats; Report # 164-074; International Research and Development Corporation; 10/2/78.

SUBMISSION EVALUATION

EPA's preliminary evaluation of a number of the previously cited Lucel-4, Lucel-6, Lucel-7 and other toxicologic studies follows.

Lucel-4

(Acute Rat Inhalation LC50 Study; Report # 164-032; 12/5/73)

Groups of 10 male rats were exposed by inhalation to concentrations of approximately 1.56, 3.125, 6.25, 25 or 50 mg/L Lucel-4 for one hour. All rats exposed to 6.25 mg/L or greater died within 4 days. All of the rats exposed to 1.56 or 3.125 mg/L survived for the entire 14 day observation period. Signs observed during exposure to 1.56 mg/L included eye squint, increased respiratory rate, dyspnea, lacrimation, erythema and ataxia. These signs were no

longer observed at 24 hours post-exposure, although 2 rats did exhibit transient corneal opacity. In addition to the previously mentioned signs, rats exposed to 3.125 mg/L also exhibited prostration and intermittent tremors. Most of the signs were still observed at 24 hours post-exposure. At 48 hours post-exposure, ataxia, decreased respiratory rate, and decreased motor activity were observed. Signs of neurotoxicity were still evident on post-exposure days 3-8. Decreased motor activity and circling movements were observed on days 3-7 with circling continuing on day 8.

Lucel-6

(Acute Rat Inhalation LC50 Study; Report # 164-044; 5/16/75)

Groups of 10 rats (5 per sex per group) were exposed via inhalation to concentrations of approximately 6.25, 12.5, 25, 100 and 200 mg/L Lucel-6 for one hour. None of the animals exposed to 6.25, 12.5 or 25 mg/L died during the exposure or the 14 day post-exposure observation period. Signs observed at all three doses during the exposure period included changes in motor activity, eye squint, erythema, salivation, lacrimation, clear nasal discharge, soft stool, tachypnea and dyspnea. Nasal porphyrin discharge at 12.5 mg/L, and tremors and hypersensitivity to touch at 12.5 and 25 mg/L, were also observed. Flaccidity was observed beginning on day one in the 6.25 and 12.5 mg/L groups and day two in the 25 mg/L group. Recovery did not occur during the 14 day observation period. There is no evidence to suggest that this effect does not represent a permanent neurological lesion. In the 12.5 mg/L group ataxia was reported in two rats on day 12 and one rat on days 13 and 14.

Exposure to higher concentrations of this compound (50 and 100 mg/L) produced death in female rats. One male in the 100 mg/L group also died. Signs of neurotoxicity observed at these dose levels in surviving animals included decreased motor activity, eye squint, salivation, lacrimation, flaccidity, ataxia, tremors, clonic convulsions and hypersensitivity to touch. A brief increase in motor activity prior to the decrease, circling movements, subconvulsive body jerking and prostration were also reported in the 100 mg/L group.

Nine of ten rats in the 200 mg/L exposure group died, making it impossible to evaluate the significance of reported signs. Deaths occurred within 72 hours of exposure with 3 within the first 24 hours and an additional 5 by 48 hours post-exposure. The one survivor, a male, continued to exhibit flaccidity and ataxia throughout the 14 day exposure period.

The investigator stated in the study synopsis that human inhalation exposure to this chemical substance should not be allowed.

Lucel-7

(Acute Rabbit Dermal and Acute Rat Inhalation Studies; Report # 164-068; 4/1/77)

This study was conducted with Lucel-7 to determine the acute dermal LD50 in rabbits and the acute inhalation LC50 in rats. The acute rabbit dermal LD50 for the chemical was found to be 707 mg/kg with confidence limits of 500-1000 mg/kg; no other effects were reported in the acute rabbit dermal toxicity portion study. The acute rat inhalation LC50 was found to be greater than 20 mg/L; additional effects reported included hypoactivity (4 rats on Day 1 and 2 rats on Day 2, and 1 rat on Days 3-6), ataxia (3 rats on Day 1, 1 rat on Days 2-5), and inability use hind legs (1 rat on Day 2 and 1 rat on Days 3 and 4).

(Acute Rabbit Dermal LD50 and Acute Rat Inhalation Studies; Report # 164-070; 5/27/77)

The rat inhalation portion of this study was conducted to determine the acute LC50 of Lucel-7. Ten rats were exposed to 20 mg/L for one hour. This concentration was determined to exceed the LC50 in that 6 of 10 rats died during exposure or during the post-exposure observation period. Signs seen in the 4 surviving rats included ataxia and hypoactivity.

(Acute (1-Hour) Rat Inhalation LC50 Study; Report # 164-071; 11/10/77)

A second acute rat inhalation study of Lucel-7 involved exposure to concentrations of approximately 2.55, 4.51, 7.94, 10.64 and 17.74 mg/L for one hour. The lowest concentration, 2.55 mg/L, resulted in no deaths. Signs of toxicity observed included eye squint, slight dyspnea and ataxia.

Slight ataxia, eye squint, salivation and nasal discharge were observed in the animals exposed to 4.51 mg/L. One death occurred on day one postexposure. Respiratory distress persisted for 7 days.

Exposure to a concentration of 7.94 mg/L resulted in dyspnea and ataxia, which persisted for 10 days. All female and 2 of 5 male rats died before the end of the 14 day observation period.

Rats exposed to 10.64 mg/L exhibited an initial increase in activity. This was followed by ataxia on the day of exposure and lack of coordination of movement and control of urination beginning on postexposure day 1. Two deaths occurred on the day of exposure, four deaths occurred during the next three days and two deaths occurred on day six postexposure; two rats survived for the entire 14 day observation period.

Exposure to 17.74 mg/L also led to an initial increase in activity followed by ataxia. The exposed animals lacked coordination and control of urination beginning postexposure day 1. None of the

exposed animals survived for the entire 14 day observation period. Four of the five male rats died within three hours of exposure. The remaining male and five females died on postexposure day 4.

(Acute Rat Inhalation Toxicity Study; Report # 164-074; 10/2/78)

This acute inhalation toxicity study of Lucel-7 in rats evaluated the effects of a single 6-hour exposure to 0.86 mg/L in 6 male and 6 female Charles River CD rats. The animals were observed for 14 days following the exposure. During the exposure, tremors were observed in 1 female rat after 2 hours, ataxia and slight dyspnea in all rats beginning at 3 hours and continuing through the end of the exposure period, and prostration and marked dyspnea (gasping) in all females after 5 hours. All female rats died before the end of the 14 day observation period; 1 died during exposure (after 40 minutes), 3 died on post-exposure Day 1, and the remaining 2 died on post-exposure Day 2. Although none of the exposed male rats died during the study, all male rats exhibited ataxia and dyspnea through post-exposure Days 3-4; 2 male rats continued to exhibit ataxia and dyspnea for the entire 14-day observation period.

(4-Week Subacute Rat Inhalation Study; Report # 164-085; 3/26/81)

Groups of 10 rats per sex per dose were exposed to Lucel-7 vapor concentrations of 0.01, 0.1 or 0.5 mg/L six hours per day, five days per week for 4 weeks. The study design was very poor; animals were observed for "pharmacotoxic" signs only once per week and perfusions were performed at the end of the study. However, signs of neurotoxicity were clearly seen. The lowest dose, 0.01 mg/L, produced restricted movement and incoordination of hindquarters in 20% of the animals. Animals exposed to 0.1 mg/L had no movement in their hindquarters or front legs. The animals recovered over a period of four weeks, with recovery progressing from limb paralysis to restricted movement to uncoordinated and awkward movement to normal. A single exposure to 0.5 mg/L also led to loss of all movement in hindquarters and front legs. All ten females in this group died as did 4 of the 10 males. The remaining six animals appeared to recover within two weeks.

This four-week inhalation study demonstrated that exposure to concentrations of Lucel-7 as low as 0.01 mg/L can produce neurotoxicity. The study investigator concluded that, Lucel-7 "probably produces a biochemical lesion of the central or peripheral nervous system." A workplace Lucel-7 exposure limit of 0.1 ug/L or less was recommended.

(Pilot Rat Dermal Neurotoxicity Study; Report # 7247; 2/17/83)

This study was designed to evaluate the potential neurotoxicity of Lucel-7 upon dermal exposure. Five rats per sex per group were exposed to 15, 50, 100, 175, 350 or 500 mg/kg of the test compound.

The study was planned for 28 days. However the 175, 350 and 500 mg/kg exposures were terminated on days 12, 11 and 5, respectively, due to severe toxicity. Lucel-7 doses of 100 mg/kg and higher produced clear evidence of neurotoxicity. Signs observed included ataxia, hindlimb paralysis and urinary incontinence. Firm evidence of neuropathology was observed in sections from both the spinal cord and the sciatic nerve.

(28-day Rat Dermal Neurotoxicity Study; Report # 7247; 2/17/83)

Ten male and ten female rats were dermally exposed to 100 mg/kg Lucel-7. Several signs of severe neurotoxicity were reported. Ataxia was observed beginning on postexposure day 23. Seven female and four male rats exhibited ataxia on at least one day between day 23 and the termination of the study. Hindlimb paralysis was seen in five female and two males rats. Urinary incontinence was found in four females and one male.

Histopathological evidence of neurotoxicity was also obtained. Eight of the females and one male had significant Wallerian type degeneration of the sciatic nerve. Evidence of morphological changes in the spinal cord was obtained from one male and three females.

Unidentified t-Butylazo Hydroxy Compound

(Chronic Swiss Mouse Dermal Application Study; Roswell Memorial Park Report; January 24, 1975)

Urinary retention was observed in some mice treated with 5% of this particular compound and was attributed to treatment. Considering that no gross abnormalities or pathological lesions were associated with this condition, there may be a neurological basis for the observed effect. The final report states that no mechanism by which the urinary obstruction occurred was identified. The study did not include evaluation of neurological function.

Although the investigator did not clearly report the incidence of urinary retention, some information is available. The exposure group originally contained 50 mice. Nineteen were reported dead within 20 weeks of treatment. Urinary retention was first noted during week 39, when 31 mice remained on study. Nine mice are listed in table 2 as having hydronephrosis and 14 with varying degrees of distended bladders. Therefore, 23 of 31, or about 75% of the mice surviving 39 weeks or more postexposure were affected.

General Statement on Lucel-4, Lucel-6 and Lucel-7

The available animal and human data indicate clearly that dermal and inhalation exposure to Lucel-4, Lucel-6 and Lucel-7 can result in serious neurotoxicological effects in animals and/or humans.

PRODUCTION INFORMATION

Lucel-4

In 8EHQ-0990-1065, Atochem stated that "Lucel-4 was a developmental substance and was never fully introduced as a commercial product." In addition, Atochem stated that "Pennwalt ceased production of Lucel-4 in 1979, and has not manufactured, processed or distributed the substance since that time." According to a December 17, 1980 letter from Pennwalt to NIOSH (located in FYI-OTS-1080-0095), Lucel-4 was "never released from commercial development. . . "

According to the non-confidential computerized version of EPA's initial TSCA Chemical Substance Inventory, Pennwalt reported that in 1977 the company manufactured 0-1000 pounds of Lucel-4 at the company's facility in Crosby, Texas. No TSCA Inventory Update Rule (IUR) data has been received by EPA to date for this chemical.

Lucel-6

According to that same December 17, 1980 letter from Pennwalt to NIOSH, Lucel-6 was never marketed by Pennwalt.

According to the non-confidential computerized version of EPA's initial TSCA Chemical Substance Inventory, Pennwalt reported that in 1977 the company manufactured 0-1000 pounds of Lucel-6 at the company's facility in Buffalo, New York. No TSCA Inventory Update Rule (IUR) data has been received by EPA to date for this chemical substance.

Lucel-7

In 8EHQ-0990-1041, Atochem stated that the company "no longer manufactures, processes, or distributes Lucel-7. . ." According to a November 10, 1980 letter from Pennwalt to NIOSH (found in FYI-OTS-1080-0095), Pennwalt discontinued all manufacture and sale of Lucel-7 in 1980 and announced a product recall in that same year.

According to the non-confidential computerized version of EPA's initial TSCA Chemical Substance Inventory, Pennwalt reported that in 1977 the company manufactured 0-1000 pounds of Lucel-7 at the company's facility in Buffalo, New York. No TSCA Inventory Update Rule (IUR) data has been received by EPA to date for this chemical.

COMMENTS/RECOMMENDATIONS

It is EPA's position that the neurotoxicologic effects observed in animals and humans following exposure to Lucel-4, Lucel-6, and Lucel-7 should have been reported in a timely manner to the Agency under Section 8(e), the "substantial risk" information reporting provision of TSCA. The following discussion provides the basis for EPA's position:

TSCA Section 8(e) states, "Any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains [(i.e., knows of or possesses)] information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."

The preface to Part V of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of the occurrence [of that serious effect]."

With regard to the seriousness of the effect, Part V of the policy statement explains that EPA considers the types of health effects for which substantial risk information must be reported to EPA include "(1) "Any instance of . . . serious or prolonged incapacitation, including the loss of or inability to use a normal bodily function with a consequent relatively serious impairment of normal activities, if one (or a few) chemical(s) is strongly implicated" or "(2) Any pattern of effects or evidence that the chemical substance can produce . . . toxic effects resulting in . . . serious or prolonged incapacitation." Information regarding these types of serious effects can be obtained either directly by the observation of their occurrence or inferred from designed studies in humans and/or animals as described in Part VI of the Section 8(e) policy statement. With regard to reports/studies of an undesigned, uncontrolled nature (e.g., reports concerning and evidence of effects in workers), Part VI states that the Agency anticipates that "reportable effects will generally occur in a pattern, where a significant common feature is exposure to the chemical. However, a single instance of . . . serious incapacitation in a human would be reportable if one (or a few) chemical(s) was strongly implicated." As an example of reportable information, Part VI of the policy statement presents the following scenario involving undesigned circumstances:

> "A group of exposed workers experiencing dizziness together with preliminary experimental results demonstrating neurological dysfunctions."

Part VI of the Section 8(e) policy statement explains further that a "person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."

With regard to the "fact or probability of its [(i.e., the serious effect's)] occurrence" criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., neurotoxicologic effects) are considered by EPA to be so serious that relatively little or no weight should be attached to the implicated chemical's exposure in determining whether a risk is substantial.

As set out in Part III of the TSCA Section 8(e) policy statement, a company is regarded as having obtained substantial risk information at the time any officer or employee capable of appreciating the significance of that information obtains (i.e., possesses or knows of) such information.

Parts III, IV and VIII of EPA's TSCA Section 8(e) policy statement explain that reportable information "obtained" by a company includes:

a) information obtained before January 1, 1977 and reviewed after January 1, 1977, but prior to March 16, 1978 (the publication date of EPA's TSCA Section 8(e) policy statement);

b) information obtained for the first time after January 1, 1977 but before March 16, 1978; or

c) information obtained by the company for the first time after March 16, 1978.

With regard to a) and b) above specifically, Part VIII of EPA's TSCA Section 8(e) policy statement explains further that reportable information includes not only written reports, memoranda and other such documents that were examined after January 1, 1977, but also information referred to in discussions and conferences in which a subject company participated after January 1, 1977.

Based on the preceding TSCA Section 8(e) policy-related discussion and considering EPA's evaluation of the information contained in the aforementioned Section 8(e) and FYI files, EPA has made the following TSCA Section 8(e)-reportability determination:

After January 1, 1977, Pennwalt "obtained" laboratory animal neurotoxicity information on Lucel-4, Lucel-6 and Lucel-7, and human neurotoxicity information on Lucel-4 and Lucel-7. The animal and human neurotoxicity findings

for Lucel-4, Lucel-6, and Lucel-7 reasonably support the conclusion that dermal and inhalation exposure to these structurally-related chemical substances can result in serious or prolonged incapacitation, including the loss of, or the inability to use, a normal bodily function with a consequent relatively serious impairment of normal activities.

Therefore, the animal and human neurotoxicity information that was obtained by Pennwalt prior to March 16, 1978 should have been submitted under Section 8(e) within 60 days of March 16, 1978; the animal and human neurotoxicity information obtained by Pennwalt after March 16, 1978 should have been submitted under Section 8(e) within 15 working days of the date on which the company obtained such information.

FURTHER EPA ACTIONS

a) The Chemical Screening Branch will ask Atochem to submit complete copies of the final reports (including actual experimental protocols, results of gross/histopathologic examinations, results of statistical analyses, etc.) from all studies that were performed by/for Pennwalt or about which Pennwalt was aware that were conducted to determine the toxicity of or the exposure to Lucel-4, Lucel-6 and Lucel-7 to the extent that such study reports are not in full already in the possession of EPA or the results published in full in the open scientific literature. The company will be asked also to report the exact identities and/or CAS Registry Numbers (if known) for 1) the two compounds cited in the January 24, 1975 final report of the 52-week Swiss mouse skin-painting study, and 2) test compounds 1., 2. and 3. in the 28-day rat dermal toxicity study in which Lucel-7 served as the positive control.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will continue its review of the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, OCM/OPTS/EPA and the TSCA Inventory Team/IMD/OTS/OPTS/EPA; copies of this status report will be provided also to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

DATE: MAY 20 1991 **APPROVED:** 5/20/91

SUBJECT: Status Report[1] **8EHQ-0890-1042**

FROM: Frank D. Kover, Chief
Chemical Screening Branch/ECAD

TO: Charles M. Auer, Director
Existing Chemical Assessment Division/OTS

SUBMISSION DESCRIPTION

Atochem North America, Inc. submitted full copies of final reports from dermal rat teratology and reproduction/fertility studies of SN5-5698-125 (a mixture of t-butylhydrazine hydrochloride (32%; CAS No. 7400-27-3) and ferric chloride (9%; CAS No. 7705-08-0); the balance of the tested mixture was not identified but is assumed to be water). In addition, Atochem submitted full copies of final reports from acute animal toxicity studies in which the oral LD50 for t-butylhydrazine hydrochloride was found to be ~800 mg/kg in rats and ~45 mg/kg in rabbits. Atochem provided the following summary information with regard to the conduct and results of the dermal rat teratology and reproduction/fertility studies:

Rat Teratology Study

"In the teratology study, twenty-five inseminated female rats were dermally exposed to 80, 150 or 800 mg/kg body weight of the tested substance on gestation days 6-15. The results showed a statistically significant increased incidence of incomplete skeletal ossification in the mid- and high-dose litters, and decreases in fetal body weight and fetal crown length in the high-dose litters. The study also showed substantial maternal toxicity, however, with

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

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> dermal irritation at all dose levels and a decreased body weight gain among high-dose animals during exposure to the substance."

The cover letter accompanying the provided final report noted that "No definite evidence for any teratogenic effect was obtained at any dose level studied. . . [In addition, the report stated that the skeletal findings were considered to be] variations related to maternal toxicity and stress, and that the decreases in fetal body weight and length are also considered secondary to maternal toxicity."

> Rat Reproduction Study
>
> "In the reproductive effects study, twelve male and twenty-four female rats were given daily dermal applications of the test substance at dose levels of 50, 160, or 500 mg/kg body weight, beginning nine and two weeks prior to mating, respectively. The results showed a dose-dependent decrease in the fertility index of treated females. It also showed significantly decreased numbers of corpora lutea, implantations, total and live fetuses on gestation day 14 and decreased litter size at birth in high-dose females, and a significantly decreased number of total and live fetuses present per implantation site on gestation day 14 at the mid-dose level."

The final report stated that "Taken together, these findings suggest that ovulation, fertilization or early pregnancy were adversely affected by repeated dermal exposure to 160 and 500 mg/kg body weight [of the test compound]. However, maternal stress related to dermal irritation and body weight loss may have also contributed to these findings." Atochem also noted that while "t-butylhydrazine hydrochloride is a minimal to slight skin irritant," ferric chloride "is very acidic and a severe skin irritant, and thus is a major cause of the observed dermal responses."

Submission Evaluation

The rat teratology toxicity study provides evidence of maternal toxicity after dermal exposure to 250 and 800 mg/kg as demonstrated by a significant reduction in mean body weight; exposure to 800 mg/kg also resulted in clinical signs of toxicity (alopecia and anorexia). There was also evidence of developmental toxicity after exposure to doses as low as 250 mg/kg. The exposure to 800 mg/kg resulted in a significant reduction in mean fetal body weight and mean fetal crown-rump length. At doses of 250 and 800 mg/kg, there was a dose-related increase in several skeletal variations (delayed ossification of the supraoccipital, absent hyoid); these differences were statistically significant in the high dose group. In addition, there was a significant increase in the incidence of a rudimentary 14th rib at 250 mg/kg and a significant incidence of wavy ribs at 800 mg/kg.

The modified one-generation rat reproduction toxicity study provided evidence of parental systemic toxicity after dermal exposure to 160 and 500 mg/kg as demonstrated by significant reductions in mean body weights. At the 500 mg/kg dose level, evidence of reproductive toxicity was observed. Male and female rats at this dose showed a reduction in the fertility index and the females were found to have a significant reduction in the number of corpora lutea and implantations. Histopathologic examination did not reveal any gross male reproductive system lesions, but it is not clear how complete the examination actually was. Developmental toxicity was also observed at 500 mg/kg as evidenced by increased pre- and post-implantation loss, as well as reduced litter size.

USE AND EXPOSURE POTENTIAL

In its Section 8(e) notice, Atochem stated that t-butylhydrazine hydrochloride (which is listed on the Agency's non-confidential initial TSCA Chemical Substance Inventory) is a component of a foam initiation product marketed by Atochem. Hand-written notations on the title pages of the rat teratology and reproduction/fertility studies identify the tested product as "Luperfoam 329." As stated previously, the tested product is a mixture that reportedly contains 32% t-butylhydrazine hydrochloride and 9% ferric chloride.

COMMENTS/RECOMMENDATIONS

The following discussion pertains to the TSCA Section 8(e)-applicability/reportability of the findings from the submitted rat dermal teratology and reproduction/fertility studies:

> TSCA Section 8(e) states "any person who manufactures, [imports,] processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the [EPA] Administrator has been adequately informed of such information."
>
> The preface to Part V of EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence." With regard to the seriousness of the effect, Part V explains that the Agency considers the types of health effects for which substantial risk information must be reported to include "any pattern of effects or evidence that the chemical substance or mixture can produce . . . birth defects . . .

or serious or prolonged incapacitation." The information concerning these types of serious effects can be obtained directly or inferred from designed studies (e.g., studies in animals) as described in Part VI of the Section 8(e) policy statement. Part VI explains also that a subject "person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."

With regard to the "fact or probability of its [(i.e., the serious effect's)] occurrence" criterion, Part V of the Section 8(e) policy statement explains that certain types of adverse health effects (e.g., birth defects) are considered so serious that relatively little or no weight should be attached to the tested chemical's exposure in determining whether a risk is substantial. Further, the Agency's response to Comment 31 in Appendix B of the TSCA Section 8(e) policy statement also explains that the occurrence of serious effects such as those described in Part V(a) of the policy statement (e.g., birth defects, serious or prolonged incapacitation) presuppose exposure to the chemical(s) and must be reported immediately.

Considering the preceding policy discussion and EPA's review of the information contained in 8EHQ-0890-1042, it is the Agency's position that the serious adverse reproductive/developmental effects observed in the two rat dermal studies of Luperfoam 329, which were conducted for Pennwalt in late 1984, do meet the reporting criteria outlined in the March 16, 1978 TSCA Section 8(e) policy statement and as such should have been submitted previously under Section 8(e) of TSCA.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Atochem will be asked to describe the actions the company has taken or plans to take 1) to notify workers and others about the reported information, and 2) to reduce or eliminate exposure to the subject product or its components. Atochem will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which they are aware or that they have conducted, are conducting or plan to conduct that are designed to determine the toxicity of or the exposure to the subject product or its components.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), the Chemical Screening Branch will screen the reported information to determine the need for further assessment of the subject product and/or its components.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and OCM/OPTS/EPA; in addition, copies of this report will be sent to the Environmental Assistance Division (EAD/OTS) for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: MAY 20 1991 APPROVED: 5/20/91 OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0890-1043

FROM: Frank D. Kover, Chief
Chemical Screening Branch/ECAD

TO: Charles M. Auer, Director
Existing Chemical Assessment Division/OTS

SUBMISSION DESCRIPTION

Atochem North America, Inc. submitted final reports of chronic rat and dog feeding studies involving diethylaminoethanol (DEAE; CAS No. 100-37-8). Atochem provided the following summary information with regard to the conduct and results of these studies which were performed in the mid-1960s for the Pennsalt Chemicals Corporation[2]:

Rat Study

"In the 2-year rat study, three groups of rats (initially consisting of 35 males and 35 females each) were fed DEAE for 24 months at dietary levels of 200, 500, or 1,000 ppm (periodically increased to 10,000 ppm). At six and twelve months each, five animals of each sex from each group were sacrificed and examined. Testicular atrophy was observed in none of the 34 control groups rats, three of 18 rats at the 200 ppm level, two of 17 rats at the 500 ppm level, and four of 15 rats at the 1,000 ppm level. The report concluded: '[I]t appears that testicular

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

[2] *The Pennsalt Chemicals Corporation is a forerunner of the Pennwalt Corporation which is a predecessor of Atochem.*

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atrophy detected within each of the test groups is a result of the ingestion of the test preparation, associated with the ageing of the animals since this finding was not encountered at the six (6) and twelve (12) month sacrifices. Statistical treatment of this data by means of a "t" test showed the findings to be significant at each of the three test levels. The test preparation does not appear to produce a dose-related effect at the levels employed for this study.'

"Testicular atrophy in aged rats is a commonly encountered finding; the absence of it in control animals in this study is surprising. There is no indication of the historical incidence of this finding . . . but in other laboratories similar incidences in control animals would be within the limits of normal expectation. In the absence of a dosage-response relationship and given the normal expectation of testicular atrophy in control animals, the results do not appear to be of toxicological significance."

Dog Study

"In the 1-year dog study, two groups of dogs (consisting of three males and three females each) were fed DEAE for 365 days at dietary levels of 500 ppm (Group I) and 1000 ppm (Group II), respectively; an additional group (Group III) was fed DEAE at 5000 ppm in the first 39 days of the study and at 2,000 ppm to survivors for the 134th day through termination of the study; and a fourth group (Group IV) was fed at 10,000 ppm DEAE until the death of all six animals. The results indicated that dogs of Groups III and IV 'exhibited severe cases of weakness, tremors, convulsions and ataxia,' with two Group III animals and all Group IV animals succumbing, and that all animals in Group II 'exhibited at various times tremors and/or shaking of the head from side to side.'

"Severe toxicity, inappetence and weakness preceded the death of Group III and IV animals administered 5000 and 10,000 ppm. These effects were so severe that the survivors at 5000 ppm were returned to a control diet after 39 days of treatment. The apparent CNS effects reported cannot be distinguished from generalized debilitation and malnutrition. The occasional tremors and/or head shaking noted from the 31st to 40th day of administration with subsequent recovery in 4 of 6 dogs at 1000 ppm does not appear to display the consistency normally associated with true CNS effects. In the absence of histopathological confirmation of a morphological lesion the observations are considered unlikely to be of toxicological significance. Moreover, the study indicated a no-effect level of 500 ppm DEAE, a level far in excess of any likely human exposure."

SUBMISSION EVALUATION

2-Year Rat Study

The terminal (2-year) sacrifice data from this chronic rat feeding study provide clear evidence of serious male reproductive system toxicity following dietary exposure to DEAE at doses as low as 200 ppm as demonstrated by a statistically significant incidence of testicular atrophy and reduced to absent spermatogenesis; similar effects were not observed in those animals sacrificed following 6 or 12 months of DEAE exposure. Further, there was no conclusive evidence of female rat reproductive system toxicity after exposure to the highest DEAE dose tested, which ranged from 1000 to 10,000 ppm over the 2-year study period.

The submitter argues that the observed adverse male reproductive system effects lack toxicological significance because such effects are typically seen in historical control animals. EPA believes, however, that the fact that the concurrent controls in this 2-year study did not exhibit any adverse testicular effects is overiding in terms of initial interpretation (and Section 8(e)-reportability) of the statistically significant incidence of testicular atrophy and reduced to absent spermatogenesis seen only in the DEAE-exposed male rats; the historical control data, in this case, may be of some value in later stages of EPA's assessment of the overall significance of the observed toxic effects.

1-Year Dog Study

Although the provided information shows that dogs receiving DEAE at a dietary dose of 500 ppm did not exhibit any gross signs of ill effects, clear distinguishable clinical signs of neurotoxicity were seen in the animals in the 1000 ppm and above dose groups. The gross signs of neurotoxicity observed in the 1000 ppm dose group dogs included tremors and shaking of the head from side to side; the dogs in the 5000 and 10,000 ppm groups experienced weakness, ataxia, tremors and convulsions. Based on the clear clinical signs of neurotoxicity observed in this chronic feeding study of DEAE in dogs, it would be of interest to know if the company conducted or plans to conduct any additional studies designed to assess further the neurotoxic effects of this chemical substance.

USE AND EXPOSURE POTENTIAL

Atochem reported that DEAE is "a substance marketed by Atochem (and its predecessor, Pennwalt Corporation) as an indirect food additive regulated by the [U.S.] Food & Drug Administration and also as an intermediate in the production of other chemicals." The **Condensed Chemical Dictionary** gives the following information on DEAE uses:

> "Water-soluble salts; fatty acid derivatives; textile softeners; pharmaceuticals; anti-rust compositions; emulsifying agents in acid media; derivatives containing tertiary amine groups; curing agent for resins."

COMMENTS/RECOMMENDATIONS

Atochem reported that these studies were already submitted "to the TSCA Interagency Testing Committee [(ITC)] in response to a Federal Register Notice seeking information in connection with a possible DEAE test rule under TSCA Section 4." Atochem stated further that these studies were also submitted previously to FDA "in connection with a food additive petition."

It should be noted that the Agency has also received a "For Your Information" (FYI) submission on DEAE (FYI-OTS-0689-0699 Init.).

The following discussion pertains to the TSCA Section 8(e)-applicability/reportability of certain serious toxicologic effects observed in the chronic DEAE feeding studies in rats and dogs:

> Section 8(e) states that "Any person who manufactures processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."
>
> The preface to Part V of EPA's TSCA Section 8(e) policy statement ("*Statement of Interpretation and Enforcement* Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978) explains that a "substantial risk of injury to health . . . is a risk of considerable concern because of (a) the seriousness of the effect . . . and (b) the fact or probability of its occurrence." With regard to the seriousness of the effect, Part V explains that the Agency considers the types of health effects for which substantial risk information must be reported to include "any pattern of effects or evidence that the chemical substance or mixture can produce . . . serious or prolonged incapacitation." The information concerning these types of serious effects can be obtained directly or inferred from designed studies (e.g., studies in animals) as described in Part VI of the Section 8(e) policy statement. Part VI explains also that a subject "person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence that reasonably supports that conclusion."
>
> With regard to the "fact or probability of its [(i.e., the serious effect's)] occurrence" criterion, Part V of EPA's TSCA Section 8(e) policy statement explains that certain types of adverse health effects (e.g., serious or prolonged incapacitation) are considered by the Agency to be so serious that relatively little or no weight should

be given to the tested chemical's exposure in determining whether a risk is substantial. Further, EPA's response to Comment 31 in Appendix B of the TSCA Section 8(e) policy statement also explains that the occurrence of serious effects such as those described in Part V(a) of the policy statement (e.g., serious or prolonged incapacitation) presuppose exposure to the chemical substance(s) and must be reported immediately to the Agency under Section 8(e) of TSCA.

Parts III, IV and VIII of the TSCA Section 8(e) policy statement provide the following information with regard to the time frames for reporting under Section 8(e):

- reportable information that was possessed by a subject company prior to January 1, 1977 and reviewed by the company after January 1, 1977, but before March 16, 1978, should have been submitted to the Agency within 60 days after March 16, 1978;

- reportable information possessed by or known to a subject company for the first time after January 1, 1977, but before March 16, 1978, should have been submitted to the Agency within 60 days after March 16, 1978; and

- reportable information possessed by or known to a subject company for the first time after March 16, 1978 should be submitted to EPA within 15 working days of the date on which such information was obtained.

Part VIII of the Section 8(e) policy statement explains further that reportable information includes not only written reports, memoranda and other such documents examined by a subject company after January 1, 1977, but also, for example, information referred to in discussions and/or conferences in which the company participated after January 1, 1977, as well as information relating to a chemical or mixture about which the subject company was assessing health and/or environmental effects.

With regard to reporting exemptions, Part VII of the TSCA Section 8(e) policy statement explains, for example, that information need not be submitted under Section 8(e) of TSCA if the information has been submitted already to the Agency under a mandatory reporting provision of TSCA or some other authority that is administered by the Agency (e.g., FIFRA, CERCLA). The Section 8(e) policy statement makes it clear, however, that there is no Section 8(e) reporting exemption for information that is submitted to another Federal agency. EPA's response to Comment 21 in Appendix B of the Section 8(e) policy statement explains

that until successful information exchange systems are in place and the policy statement is amended to exempt certain kinds of reports made to other Federal agencies, "substantial risk information must be reported to EPA." (emphasis added)

Considering the preceding policy discussion and EPA's evaluation of 8EHQ-0890-1043, it is EPA's position that the serious neurotoxicologic and male reproductive system effects observed in the chronic feeding studies of DEAE in dogs and rats, respectively, do meet the reporting criteria outlined in the March 16, 1978 TSCA Section 8(e) policy statement. In view of the fact that these chronic feeding studies of DEAE were conducted in the mid-1960s, the time frame for reporting to EPA under Section 8(e) would depend directly on the date(s) after January 1, 1977 that the company "reviewed" the results of these particular studies.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Atochem will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported findings, and 2) to reduce or eliminate exposure to DEAE. Atochem will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Atochem will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Atochem is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to DEAE. The company will be informed that the Agency is especially interested in the findings from any additional studies conducted by or for Pennwalt or any of its predecessors that address or which were designed specifically to evaluate the neurotoxicity or male reproductive system toxicity of DEAE.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of DEAE.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and OCM/OPTS; in addition, copies of this report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

DATE: OCT 4 1990 APPROVED: DR Williams 10/9/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0890-1044 S
8EHQ-0890-1044 S SUPP.

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

The 3M Company submitted final reports of in vitro mutagenicity assays of a compound generically identified as "tribromomethyl substituted heterocycle." In these studies the compound was "shown to be strongly positive in the Ames microsomal assay, both with and without activation, and also strongly positive in the S. cerevisiae recombinogenicity assay, both with and without activation." 3M noted that "this chemical has been manufactured and used solely as a research chemical by 3M and a small number of customers who have evaluated paper coated with small amounts of the chemical." 3M then referred EPA to TSCA Section 5 "Low Volume Exemption notices L90-220 and -353 for further information" regarding this chemical.

COMMENTS/RECOMMENDATIONS

3M noted that "as of this date all distribution outside 3M has been halted" and that "customers have been asked to return any unused product." They also noted that "all persons handling the chemical will be informed of the findings."

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

Immediately upon receipt of this Section 8(e) submission, the Chemical Screening Branch notified the Chemical Control Division (CCD/OTS); CCD is responsible for administering EPA's TSCA Section 5 "New Chemicals Program" (NCP).

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

a) As in the case of the initial TSCA Section 8(e) notice, the Chemical Screening Branch will immediately inform appropriate staff of CCD about the receipt of any further TSCA Section 8(e) data pertaining to the subject chemical.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, CCD/OTS and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 13 1990 APPROVED: James F. Darr 9/20/90

SUBJECT: Status Report[1] 8EHQ-0890-1045

FROM: Paul N. McMahon, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In the initial submission, R. T. Vanderbilt Company, Inc. submitted a draft report of an acute inhalation toxicology study of VANCIDE MZ-96 (zinc dimethyldithiocarbamate; CAS No. 137-30-4) in rats. According to the company, the obtained data show that the subject chemical "would be classified as very toxic."

COMMENTS/RECOMMENDATIONS

It was also mentioned in the submission that Vancide MZ-96 is a pesticidal product registered under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It was further reported that for a commercial product use subject to TSCA, VANCIDE MZ-96 "is treated with an antidusting oil to minimize the risk of exposure to airborne dust."

The Agency has received a "For Your Information" (FYI-OTS-0783-0252 et seq.) submission on the test chemical and a Chemical Hazard Information Profile (CHIP) on this chemical was prepared by the Chemical Screening Branch (CSB) in 1983.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the acute inhalation toxicology study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of OTS Existing Chemicals Program (ECP), staff of the Chemicals Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 19 1990 APPROVED: James F. Darr 9/20/90

SUBJECT: Status Report[1] 8EHQ-0890-1046

FROM: Paul N. McMahon, Biologist
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

E. I. Du Pont de Nemours & Company submitted preliminary results of a 2-week rat inhalation study with HCFC-132c (1,1-dichloro-1,2-difluoroethane; CAS No. 1842-05-3). Du Pont reported that "in this study, male rats were exposed for 6 hours/day, 5 days/week for 2 weeks to HCFC-132c at design concentrations of 0, 400, 2,000 and 10,000 ppm, followed by 2-week recovery period." According to the submission, adverse male reproductive system effects were observed in this study. In the submission, Du Pont reported that the subject chemical "is produced only in research quantities and is not used or sold commercially by Du Pont."

COMMENTS/RECOMMENDATIONS

The Agency has received numerous TSCA §8(e) and "For Your Information" (FYI) submissions on chlorofluorocarbons (CFCs). The Chemical Control Division (CCD/OTS) has been notified about this TSCA §8(e) submission for inclusion in their ongoing review of chlorofluorocarbons.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the inhalation study cited in the submission.

b) As was the case for the initial submission, the Chemical Screening Branch will immediately notify CCD/OTS about the receipt of all reported information.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS. In addition, copies of this status report will transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: SEP 24 1990 APPROVED: D.C. Williams for 9/25/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0890-1047 INIT & SUPP

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: James F. Darr, Section Head, Chemical Risk
Identification Section/CSB/ECAD/OTS

SUBMISSION DESCRIPTION

In the initial submission, the Dow Corning Corporation submitted summarized findings of an acute vapor phase inhalation limit test of Dow Corning X1-6145A Additive (Hexamethoxydisilylethane; CAS No. 18406-41-2) in rats. The company's supplemental submission contained a full copy of the final report of this acute inhalation study. According to Dow Corning, the "results suggest that the test material poses a significant acute inhalation hazard (LC50 <0.92 mg/L in the Sprague-Dawley rat) under the conditions of this study."

COMMENTS/RECOMMENDATIONS

In its initial submission, Dow Corning stated that the company is notifying customers about the reported toxicologic findings. In addition, Dow Corning stated that the company will be modifying the Material Safety Data Sheet (MSDS) to reflect the reported findings. According to the "ABSTRACT" section of the submitted final report, Dow Corning is planning to conduct a study to determine the acute inhalation LC50 value for the subject chemical in rats.

The Agency has received numerous TSCA §8(e) and "For Your Information" (FYI) submissions on organosilanes. In 1986, the Chemical Screening Branch prepared a Chemical Hazard Information Profile (CHIP) on several organosilanes.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the planned LC50 study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take to notify its own workers about the reported

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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toxicologic findings, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 18 1990 APPROVED: DRWilliams 9/18/90

SUBJECT: Status Report[1] 8EHQ-0890-1048 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

E. I. Du Pont de Nemours & Company submitted summarized findings of a skin irritation test in rabbits in which approximately 153-159 mg/kg/body weight of a research and development (R & D) chemical intermediate identified generically as "alkenoic acid, substituted-, alkyl ester" was applied to the clipped, intact skin of six New Zealand White rabbits. Du Pont reported that 2/6 rabbits died between 5 and 20 hours after treatment.

COMMENTS/RECOMMENDATIONS

Du Pont indicated that they have notified employees and the study contractor of these test results. In addition, Du Pont has recommended the use of butyl rubber gloves for hand protection.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: SEP 18 1990

APPROVED: DWilliams 9/18/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0890-1049 S**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential company provided summarized results of a subchronic rat inhalation study conducted at particle dose levels of 0, 6, 14 or 39 mg/m^3 6 hours/day, 5 days/week for 13 consecutive weeks with a compound generically identified as "an inorganic vanadium compound." The company indicated that this compound is an intermediate stream that is isolated during manufacture of a commercial catalyst.

COMMENTS/RECOMMENDATIONS

The company reported that workers handling these materials are required to wear respiratory protection and that the company is in the process of notifying workers of these experimental findings.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 13 1990 APPROVED: DRWilliams 9/13/90

SUBJECT: Status Report[1] 8EHQ-0890-1050 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Rohm and Haas Company submitted preliminary findings of a chronic mouse dietary study conducted at doses of 0, 0.1, 0.32, 1.0 or 10 ppm with a developmental pesticide identified generically as a "substituted phenoxyether derivative of a polyheterocycle." In the cover letter, Rohm and Haas reported that administration of the test compound "produced an increased incidence of hepatocellular adenomas in high dose (10 ppm) male and female CD-1 mice."

COMMENTS/RECOMMENDATIONS

Rohm and Haas Company stated that they have decided not to pursue further development of the test material as a herbicide candidate at this time and that all personnel who come in contact with the test material employ appropriate safety procedures designed to preclude any exposure.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: APPROVED: DRWilliams 9/18/90

SUBJECT: Status Report[1] 8EHQ-0890-1051 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Hoechst Celanese Corporation submitted final reports and/or summarized test results for a battery of in vitro genetic toxicity tests conducted for the Xerox Corporation with 1,5-naphthalenedisulfonic acid, 2-((4, 5-dihydro-3-methyl-5-oxo-1-(4-((2-(sulfooxy)ethyl)sulfonyl)phenyl)-1H-pyrazol-4-yl)azo)-, potassium sodium salt (CAS No. 85940-63-2).

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final reports (including the actual experimental protocol, data, results of any statistical analyses, etc.) from the bacterial mutagenicity assay and the chromosomal aberration assay (of the 50% product) cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: SEP 13 1990 APPROVED: David R. Williams 9/13/90

SUBJECT: Status Report[1] 8EHQ-0890-1052 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Rohm and Haas Company submitted summarized findings of a rat acute oral toxicity study conducted at doses of 1, 2 or 5 g/kg with an exploratory research chemical generically identified as a "halophenyl substituted monoheterocyclic compound." The following clinical signs indicating possible neurotoxic effects were observed in treated animals: slow righting reflex, hyperexcitability, teeth grinding and convulsions.

COMMENTS/RECOMMENDATIONS

In the cover letter, Rohm and Haas stated that all personnel who come in contact with the test material employ appropriate safety procedures designed to preclude any exposure.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: SEP 2 0 1990 APPROVED: David R. Williams 9/20/90

SUBJECT: Status Report[1] 8EHQ-0890-1053

FROM: Jacqueline T. Favilla, Biologist Jacqueline Favilla
Chemical Risk Identification Section/CSB

TO: David R.Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

American Cyanamid Company submitted on a non-confidential basis an abstract of a preliminary draft report of a NIOSH cohort mortality study of 18,254 workers who were exposed to ethylene oxide (CAS No. 75-21-8) at plants producing sterilized medical supplies and spices. The company stated that preliminary NIOSH data regarding a statistically significant excess of kidney and hematopoietic cancers were currently undergoing review with initial statistical calculations being reevaluated.

COMMENTS/RECOMMENDATIONS

The Agency has received numerous TSCA Section 8(e) submissions on ethylene oxide. EPA has also received a number of "For Your Information" (FYI) submissions on this chemical, including a summary of the preliminary cohort mortality study from NIOSH (FYI-OTS-0890-0780). In addition, the Chemical Screening Branch prepared a "Chemical Hazard Information Profile" (CHIP) on ethylene oxide in 1982. Finally, the Risk Analysis Branch (RAB/ECAD/OTS) is currently evaluating available toxicologic and exposure information on ethylene oxide, a Toxic Release Inventory (TRI) chemical.

a) The Chemical Screening Branch will request NIOSH to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of any statistical analyses, etc.) from the NIOSH cohort mortality study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, American Cyanamid will be asked to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported findings, and 2) to reduce or eliminate exposure to ethylene oxide. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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b) A copy of the initial Section 8(e) submission, this status report, and all additional reported information will be provided to the Risk Analysis Branch for inclusion in its ongoing screening of ethylene oxide.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 9 1990 APPROVED: D Williams 10/9/90

SUBJECT: Status Report[1] 8EHQ-0890-1054 S

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential company submitted summarized findings of an acute rabbit eye irritation study of a compound generically identified as "Substituted Amine Polymer." The company noted that in past eye irritation studies the substance "was found to be severely irritating", but it "caused no lethality." "In the present [eye irritation study] lethality was observed in a few batches. Due to this inconsistency and the batch to batch variability [the submitter concluded] that the toxicity was caused by a contaminant in the product."

COMMENTS/RECOMMENDATIONS

The company is in the process of characterizing the toxicity of the contaminant and "will submit the results when they become available." The company has notified their employees and customers of the results of the above mentioned study, but have "not initiated any changes in [their] standard industrial hygiene procedures . . ." although they are emphasizing to their customers and employees the precautions recommended in the MSDS.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from all studies cited in the submission including those involving the contaminant. The submitting company will also be asked to provide the exact chemical identity, including CAS No. (if known) of the contaminant.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be asked to provide copies of Material Safety Data Sheets and labels. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies

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(other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemicals.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 20 1990 APPROVED: DRWilliams 9/20/90

SUBJECT: Status Report[1] 8EHQ-0890-1055 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company submitted preliminary results of a dietary probe study in dogs conducted with a research and development (R & D) compound identified generically as a "substituted diphenyl ether." Dow reported that "animals receiving 350 mg/kg/day for one month exhibited decreased body weights, reduced food consumption and a variety of organ systems effects including degenerative effects in the testes."

COMMENTS/RECOMMENDATIONS

The Dow Chemical Company reported that "this information will be communicated to research personnel potentially exposed to this compound."

It should be noted here that the Agency has received other TSCA Section 8(e) as well as FYI submissions on substituted diphenyl ethers.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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WASHINGTON, DC 20460

OFFICE OF
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TOXIC SUBSTANCES

DATE: SEP 20 1990 APPROVED: DRWilliams 9/20/90

SUBJECT: Status Report[1] 8EHQ-0890-1056 S

FROM: Jacqueline T. Favilla, Biologist Jacqueline T. Favilla
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Chemical Company submitted summarized findings of a 1-year chronic dietary toxicity study in dogs conducted with a research and development (R & D) compound identified generically as a "substituted diphenyl ether." Dow reports that "animals receiving 25 mg/kg/day were removed from the study for reasons of morbidity or humane considerations due to dermatitis which apparently became infected by bacterial organisms resulting in illness and debility."

COMMENTS/RECOMMENDATIONS

The Dow Chemical Company reported that "this information will be communicated to research personnel potentially exposed to this compound."

It should be noted here that the Agency has received other TSCA Section 8(e) as well as FYI submissions on substituted diphenyl ethers.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: SEP 21 1990 APPROVED: D.R. Williams 9/24/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0990-1057

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The FMC Corporation submitted preliminary results of an acute rat oral toxicity study of phenol, isopropylated, phosphate (3:1) (CAS No. 68937-41-7; Durad^R 110/Kronitex^R 50). According to FMC, "one female exhibited signs of neurotoxicity (tremors and ataxia) between days 1 and 9."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received another TSCA Section 8(e) submission on a compound with the same Chemical Abstract Registry Number (8EHQ-1179-0317 et seq.) and numerous Section 8(e) and "For Your Information" (FYI) submissions on a variety of aryl phosphate compounds. The Chemical Testing Branch (CTB/ECAD/OTS) is currently collecting and evaluating information on aryl phosphate compounds. In addition, it should be noted that numerous aryl phosphate compounds have been the subject of 8(a) and 8(d) information gathering rules.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the acute oral toxicity study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

b) As was the case for the initial submission, the Chemical Screening Branch will notify the Chemical Testing Branch about the receipt of any additional incoming information on aryl phosphate compounds.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 12 1990 APPROVED: DRWilliams 10/15/90

SUBJECT: Status Report[1] 8EHQ-0990-1058 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION (See NOTE Below)

A confidential company submitted summarized results of two oral rat range-finding studies on two different formulations of an "unregistered pesticide" generically identified as "α-cyano carbocycliccarboxylate." In both range-finding studies, the test compound was administered to one male and one female rat at dose levels of 50, 500, 1000, 2500 or 5000 mg/kg. The submitter reported that the LD_{50} values for both studies were at or below 50 mg/kg, "a level considered to be highly toxic."

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocols, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the oral rat range-finding studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE In a December 14, 1990 followup letter (8EHQ-1290-1058 FLWP), the FMC Corporation reported non-confidentially that it was the submitter of this TSCA Section 8(e) submission.

DRWilliams 1/4/91

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 17 1990

APPROVED: D R Williams 10/17/90

SUBJECT: Status Report[1] 8EHQ-0990-1059 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential company provided summarized results of two rabbit eye irritation studies with a compound generically identified as an "alkaline oxidizer." In both studies, treatment-related signs of toxicity included: "severe corneal opacity, severe conjunctival irritation . . . and no reaction to light in the iris." The submitter reported that "based on the test results from the two studies, [the test compound] was judged to be corrosive since it produced damage which was considered to be irreversible."

COMMENTS/RECOMMENDATIONS

Although EPA is concerned in general about the acute toxicity of chemicals, it is not entirely clear to EPA that the acute toxicologic findings, as presented in this Section 8(e) submission, warranted reporting under Section 8(e) of TSCA. In making this initial statement about TSCA Section 8(e)-reportability, it must be noted that EPA has not received copies of the final reports of the subject studies, nor is EPA aware of any additional information that may have been available to or considered by the company in deciding to report the subject findings formally under Section 8(e) of TSCA.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the eye irritation studies cited in the submission. The submitter will also be asked to report the pH of this alkaline oxidizer.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been reivsed to reflect the reported findings. In addition, the company will be asked

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to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 20 1990 APPROVED: D Williams 9/21/90

SUBJECT: Status Report[1] 8EHQ-0990-1060 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company submitted summary results of acute toxicity and irritation studies on a R & D compound generically identified as "haloalkyl amine II." The submitter reported that the oral and dermal LD_{50} values were <50 mg/kg and <200 mg/kg, respectively. The company indicated that "the compound also proved to be toxic when placed in the conjunctival sac of the rabbit eye" but "is non-irritating to the skin."

COMMENTS/RECOMMENDATIONS

It should be noted that the Agency has received another TSCA Section 8(e) submission on a compound identified as a haloalkyl amine (8EHQ-0790-1025 S Init.).

The company reported that "appropriate personal protective measures, engineering controls and waste disposal procedures are utilized by the researchers in order to effectively control and minimize human and environmental exposure to this chemical." In addition, the submitter stated that "all potentially exposed workers have been notified of the" results of the studies.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the studies cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: SEP 20 1990 APPROVED: David R. Williams 9/20/90

SUBJECT: Status Report[1] 8EHQ-0990-1061

FROM: Paul N. McMahon, Biologist Paul N. McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
CSB/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Exxon Chemical Americas submitted summarized results of dose range finding studies of ≈ 99% CIS form 1,4-hexadiene (CAS No. 592-45-0) administered by inhalation to rats and mice, and via gavage to mice. The test compound is reportedly "being used in the development of new products by [Exxon's] research and development laboratories." It was reported that there was significant mortality in mice as compared to rats at low concentrations of the test compound by both routes. The company noted that "despite the suggestion from the literature and other sources that 1,4-hexadiene and other olefins and diolefins have low acute toxicity in rats, these data in mice suggest a strong and unexpected species difference in short term toxicity." The reader's attention is directed to the attachment to the status report, for further information regarding the conduct and results of the subject studies.

COMMENTS/RECOMMENDATIONS

According to Exxon they have "notified laboratory and other potentially exposed individuals of these findings" and appropriate protective procedures are being taken by individuals exposed to the test compound.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final reports (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the range finding studies cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and

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labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the reported findings.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

Attachment

"ATTACHMENT I

Material: 1,4-Hexadiene (99% cis)

Laboratory: Exxon Biomedical Sciences, Inc.
East Millstone, New Jersey

Test Species: B603F1 mice and Crl CDBR rats (males only)

Routes: Inhalation (rats and mice)
Oral Gavage (mice only)

Dose Groups and Findings:

A. Inhalation Study - 6 hours/day for 2 days

Concentration (vol. ppm in air)	Mortality	
	Rats	Mice
10,000	0/4	4/4
3,260	0/4	4/4
1,000	0/4	0/4

B. Oral Gavage Study - Single dose in ethanol

1,4-Hexadiene Dose (ml/kg)	Ethanol Carrier (ml/kg)	Mortality
		Mice
1.5	0.5	4/4
0.75	1.25	1/4
0.15	1.85	2/4
0.0	2.0	0/4"

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: SEP 2 6 1990 **APPROVED:** D.R. Williams 9/26/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0990-1062**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Eastman Kodak Company provided final reports of an acute rat inhalation study and a 4 week rat inhalation study conducted with a test material composed of 99.5% diisopropyl ketone (DIPK; CAS No. 565-80-0), isobutanol (CAS No. 78-83-1) and other unidentified components. According to the submitted final report of the acute rat inhalation study, "groups of 5 male and 5 female rats were exposed to a mean vapor concentration of 1462 or 2765 ppm of diisopropyl ketone (DIPK) by inhalation for a single six-hour period." Eastman Kodak stated that "the LC50 for a single six-hour inhalation exposure was greater than 2765 ppm of DIPK." The company's cover letter provided the following summary information regarding the conduct and results of the four week rat inhalation study:

> "Groups of five male and five female rats were exposed to 1221, 386, 128, or 0 ppm of diisopropyl ketone (DIPK) vapor 6 hrs/day, 5 days/week for a four-week period. There were no mortalities and no significant differences diagnostic of any toxicologic effect in physical and behavioral observations, body weight, hematology,

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

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> clinical chemistry, and necropsy examination. In comparison to the control group, all male rats in the DIPK-exposed groups exhibited an increase in the number and severity of intracellular hyalin droplets accumulating in the proximal convoluted tubules of the kidneys. Mean absolute and relative liver weights were significantly ($p<0.05$) heavier for the male and female 1221 ppm DIPK groups. In the 1221 ppm groups, hepatocyte hypertrophy was observed in four male and all female rats. Although mean absolute (female) and relative (male and female) liver weights were significantly ($p<0.05$) heavier for the 386 ppm DIPK groups in comparison to the control groups, the differences were very slight, and no microscopic evidence of hypertrophy was evident. The no-observed-effect level for this study was considered to be close to, but below 128 ppm DIPK based on accumulation of renal hyalin droplets. The no-observed-adverse-effect level was considered to be 386 ppm DIPK based on increased liver weights."

In addition, Eastman Kodak provided summary information from an acute oral toxicity study in rats, a dermal toxicity study in rats, a dermal irritation study in guinea pigs, an eye irritation study in rabbits and a skin sensitization study in guinea pigs. Eastman Kodak reported that "the test article was slightly toxic by the oral route with an estimated oral LD50 of 3536 mg/kg in rats. When applied to the skin, the test article had an estimated acute lethal dose of greater than 20 ml/kg for rats and did not produce abnormal clinical signs. The test article was a slight skin irritant, producing only slight erythema at the site of application. It was not a skin sensitizer. When placed in the eye, the test article produced only slight irritation."

Eastman Kodak reported that this new toxicity information has been incorporated into the DIPK Material Safety Data Sheet (MSDS).

USE AND EXPOSURE POTENTIAL

Eastman Kodak stated that they produce crude and refined grades of DIPK. The crude DIPK, "a co-product stream from another operation, has been sold as a boiler fuel or as an octane improver for blending into gasoline." Eastman Kodak reports that the production volume ranged from 125,000-300,000 kg/yr. Eastman Kodak reports that "refined DIPK-SG (the material used for toxicity testing)... has been sold to a limited number of customers as a specialty process solvent intended for use in closed systems, or as a chemical intermediate."

Eastman Kodak stated that DIPK production, drumming and tank truck loading operations are located outdoors. In addition, sampling

and truck loading operators reportedly "wear impervious gloves" and "operators drumming DIPK-SG use cross-ventilation fans and wear impervious gloves."

COMMENTS/RECOMMENDATIONS

In addition to providing copies of the revised DIPK MSDS and modified product label statements, Eastman Kodak reported that their customers will be notified of the reported findings.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Eastman Kodak will be requested to describe the actions that the company has taken or plans to take to notify its own workers about the reported information.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject compound at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

DATE: SEP 21 1990 APPROVED: DRWilliams 9/21/90

SUBJECT: Status Report[1] 8EHQ-0990-1063

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

On behalf of a number of companies (*), the Industrial Health Foundation, Inc. submitted summarized preliminary findings from an oral two-generation Sprague-Dawley rat reproductive toxicity study of methylethylketoxime (MEKO; CAS No. 96-29-7) conducted as part of a TSCA §4 test rule. According to the submitter, mortality occurred among the high dose (200 mg/kg/day) males and females by the end of the eighth week prior to mating; the low and mid doses in this study are 50 and 100 mg/kg/day. The submitter noted that a 1977 study of MEKO also conducted in Sprague-Dawley rats did not show any mortality after 13 weeks at oral doses of 225 mg/kg/day. The submitter also noted that the "only difference between the studies to this point is that the early study used methyl cellulose solution as the vehicle whereas the current study uses water solutions." Finally, the submitter stated that while the data from the present MEKO study are unexpected and currently unexplainable, the data do suggest "a greater degree of sub-acute toxicity from MEKO than previously inferred."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a "For Your Information" submission (FYI #763) on MEKO. In addition, EPA has issued TSCA §§ 8(a) and 8(d) rules on this chemical. Also, the Chemical Testing Branch (CTB/ECAD/OTS) is evaluating available toxicological and exposure information on MEKO under TSCA §4.

a) As was the case for the initial submission, the Chemical Screening Branch will provide a copy of this status report to the Chemical Testing Branch.

b) The Chemical Screening Branch will also send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

(*) Allied-Signal, Inc.; Huls America, Inc.; AKZO Chemicals, Inc.; Aceto Corporation; Mooney Chemical Inc.; Troy Chemical Company; and Dussek Campbell Ltd.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: SEP 26 1990 APPROVED: D R Williams 9/26/90

SUBJECT: Status Report[1] 8EHQ-0990-1064

FROM: Paul N. McMahon, Biologist P N McMahon
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Union Carbide Chemicals and Plastics Company, Inc. submitted preliminary results of a mouse oral developmental toxicity study using triethylene glycol (CAS No. 112-27-6). The submitting company provided the following summary information regarding the conduct and preliminary results of this developmental study:

> "Three groups each containing 30 plug-positive CD(TM)-1 mice, were given undiluted triethylene glycol by gavage on gestational days 6 through 15 at doses of 0.5, 5.0 and 10.0 ml/kg/day. An additional control group of 30 pregnant CD(TM)-1 mice were given deionized water at a dosage of 10 ml/kg/day."
>
> "1) Signs of maternal toxicity were present at 10.0 ml kg^{-1}, in the form of hypoactivity and rapid audible breathing.
>
> "2) Maternal relative kidney weight (but not absolute weight) was increased at 10 ml kg^{-1}. . . Histology of the kidneys was normal.

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"3) Fetal body weights (male, female, and combined) were statistically significantly reduced at 5.0 and 10.0 ml kg^{-1} . . . [The] gravid uterine weight showed a dose-related, though not statistically significant, decrease with increasing dosage.

"4) Statistically significant and dose related increases were seen in the incidence of six skeletal variants at 10.0 ml kg^{-1} [poorly ossified cervical centra, reduced number of caudal segments, proximal phalanges unossified, proximal phalanges poorly ossified, poorly ossified frontal bone, and poorly ossified supraoccipital bone] and two skeletal variants at 5.0 ml kg^{-1} [poorly ossified frontal bone and poorly ossified supraoccipital bone]."

The company summarized the above results by stating that, ". . . mice receiving undiluted triethylene glycol . . . over the period of organogenesis showed evidence of maternal toxicity at 10.0 ml kg^{-1}, and developmental toxicity (fetotoxicity) in the form of reduced fetal weights and skeletal variations at 5.0 and 10.0 ml kg^{-1}." The no-effect dosage level was reported to be 0.5 ml kg^{-1}.

USE AND EXPOSURE POTENTIAL

The Condensed Chemical Dictionary (10th Edition) states that triethylene glycol is used as "[a] solvent and plasticizer in vinyl, polyester and polystyrene resins; dehydration of natural gas; humectant in printing inks; [and as an] extraction solvent."

COMMENTS/RECOMMENDATIONS

In its submission, Union Carbide stated that " [it] is in the process of informing our customers and employees that [Union Carbide is] reporting to the EPA under TSCA Section 8(e) the information discussed herein."

It should be noted that the EPA has received a TSCA § 8(e) submission (8EHQ-0290-0693 Supplement) and a "For Your Information" (FYI) submission (FYI-OTS-0483-0240 Initial) on triethylene glycol.

a) The Chemical Screening Branch will ask Union Carbide to ensure that EPA receives a complete copy of the final report (including the actual experimental protocol, results of gross and histopathological examinations, results of statistical analyses, etc.) from the developmental toxicity study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Union Carbide will be requested to describe the actions that the company has taken or plans to take to reduce or eliminate exposure to the subject chemical. Union Carbide will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, Union Carbide will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which Union Carbide is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS (formerly the TSCA Assistance Office/OTS) for further distribution.

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8EHQ-0990-1065

NOTE: For the "status report" pertaining to 8EHQ-0990-1065, the reader's attention is directed to the status report prepared for 8EHQ-0890-1041.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: OCT 9 1990 APPROVED: D.R. Williams 10/9/90

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0990-1066 S

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Dow Corning Corporation submitted a final report from a Salmonella tryphimurium and Escherichia coli reverse mutation assay of an R&D compound generically identified as DOW CORNING X1-6169 Allyloxy Ketal. The company reported that "a dose related increase in revertant colonies [in] strain TA 1535 with and without metabolic activation . . ." Statistical significance was found at 1250 to 5000 micrograms/plate. According to Dow Corning, the compound "should be considered mutagenic under the conditions of [the] assay." The submitter stated that ". . . actual and potential exposure to [the subject chemical] is minimal." In addition, the submitter noted that "a search of the literature revealed no reports of genetic activity for [the] unketalized pre-cursor to the test material, . . ., a commercially available chemical substance, leading [them] to believe that the novel genetic activity of the ketalized derivative might represent substantial risk information."

COMMENTS/RECOMMENDATIONS

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risks posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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DATE: OCT 4 1990 APPROVED: D R Williams 10/9/90

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0990-1067

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

The Dow Corning Corporation submitted a final report covering two bacterial reverse mutation assays conducted with (3-chloropropyl)trimethoxysilane (DOW CORNING® Q1-2366 Silane) (CAS No. 2530-87-2). In the cover letter, it was noted that a significant increase in revertant colonies was noted, indicating that the test material "is considered mutagenic."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received other TSCA Section 8(e) submissions on this chemical (8EHQ-1089-0780, 8EHQ-1289-0780, 8EHQ-0190-0780, and 8EHQ-0690-0780) and numerous Section 8(e) and "For Your Information" (FYI) submissions on a variety of silane compounds. A Chemical Hazard Information Profile was prepared in 1986 on several organosilane compounds.

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

DATE: OCT 12 1990 APPROVED: DWilliams 10/15/90

SUBJECT: Status Report[1] 8EHQ-0990-1068

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION (See NOTE Below)

Pfister Chemical, Inc. submitted the final report of a rabbit eye irritation study conducted on 4-(dimethyl amino) benzenediazonium-5-sulfosalicylate (Diazo 8 SS; no known CAS No.). According to Pfister, this rabbit eye irritation study was conducted on Diazo 8 SS "as a part of a TSCA Section 5(a) premanufacture notice (PMN) submission." Pfister reported that "the results of the study indicated that four of the six test rabbits died within 24 hours after application of the test compound to the eyes. The remaining two rabbits were moribund and were sacrificed. . . On necropsy of the two moribund test animals, one exhibited discolored kidneys and hemorrhagic patches in the colon."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As was the case for the initial submission, the Chemical Screening Branch will notify the Chemical Control Division of the receipt of incoming information; CCD is responsible for administering the OTS TSCA Section 5 "New Chemicals Program" (NCP).

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE According to an MSDS provided by Pfister in a November 20, 1990 letter (8EHQ-1190-1068 FLWP), the CAS No. for the subject chemical is 124737-31-1.

James T. Tann 4/8/91

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 10 1990 APPROVED: DRWilliams 10/10/90

SUBJECT: Status Report[1] 8EHQ-0990-1069

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Mitsubishi Yuka America, Inc. submitted a final report of a guinea pig dermal sensitization study with a compound identified by the trade name MP-2000 or MP-2000x. The company noted that the test compound is a "condensate of aniline, o-toluidine and terephalaldehyde reaction product with maleic anhydride." Test animals were exposed to the following concentrations of the test compound: 25% (w/v) by intradermal induction, 50% (w/w) by topical induction, 50% (w/w) by topical challenge, and 25% and 50% (w/w) for topical rechallenge. According to the submitter "The test compound produced a 80% (16/20) sensitisation rate", which indicates that it is "a strong sensitiser to guniea pig skin." (See NOTE on page 2)

COMMENTS/RECOMMENDATIONS

The submitter also stated non-confidentiallly that the test compound was the subject of a Pre-Manufacturing Notice (PMN P88-426) under TSCA § 5. The submitter reported that this compound is only manufactured in Japan at this time and has not been imported to the United States.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the subject chemical.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE In a non-confidential supplemental letter dated November 6, 1990 (8EHQ-1190-1069 SUPP), Mitsubishi Yuka America, Inc. provided a copy of a Material Safety Data Sheet (MSDS) for the tested chemical substance. According to the submitted MSDS, the subject chemical has the following CAS Registry Number: 129217-90-9.

DWilliams 11/14/90

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: OCT 17 1990 APPROVED: DRWilliams 10/17/90

SUBJECT: Status Report[1] 8EHQ-0990-1070 S

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential company submitted summarized results and a final report of a 28-day rat feeding study of an R&D pesticide candidate generically identified as a "substituted nitrobenzene." The dose levels for the study were 0, 10, 100, 1000 or 10,000 ppm. The submitter noted that "the principal toxicological effect in [the] study was . . . lesions of the cornea and iris [which] were evident at levels of 10 ppm or more." It was also noted that "in males, the incidence of these lesions over the range 10-10,000 ppm was similar whereas in females the incidence was dose-dependent."

COMMENTS/RECOMMENDATIONS

The Agency has received several TSCA § 8(e) submissions on compounds generically identified as "substituted nitrobenzenes." The submitter also stated that they "are notifying all persons engaged in the evaluation of this class of compounds of these results . . ." and that "personal protection and work practices will be evaluated and modified if necessary."

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 22 1990 APPROVED: DRWilliams 10/24/90

SUBJECT: Status Report[1] 8EHQ-0990-1071 PNMcMahon

FROM: Paul N. McMahon, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Motorola Inc. submitted a summarized account of employee complaints following exposure to Multicore Solder X32B (comprised of 37% Lead; CAS No. 7439-92-1, 63% Tin; CAS No. 7440-31-5, and other proprietary materials) and Multicore TTC-1 Tip Tinner (comprised of between 50 to 60% Lead and 30 to 40 % Tin). Both of the above mentioned products are manufactured by Multicore Solders, Inc. and not by the submitter. Motorola noted that "effects . . . may have been caused by either one or both of the materials . . ." Some of the employee complaints associated with the use of these products included: headache, nausea, coughing, shortness of breath, bronchitis, irritated eyes, dizziness, stomach pain, fatigue, and disorientation.

COMMENTS/RECOMMENDATIONS

Motorola submitted copies of the Material Safety Data Sheets (MSDS) for both products and they noted that "[Motorola] removed these materials from manufacturing use at this facility." The Chemical Control Division (CCD/OTS) has been notified about this TSCA § 8(e) submission for inclusion in their ongoing review of Lead-containing Solder.

a) In view of the EPA's interests in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Motorola will be requested to ensure that EPA is apprised of any further significant information obtained by the company regarding the observed adverse human health effects.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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OFFICE OF
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TOXIC SUBSTANCES

DATE: OCT 16 [illegible] APPROVED: DRWilliams 10/17/90

SUBJECT: Status Report[1] 8EHQ-0990-1072

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The General Electric Company submitted the preliminary results of a medical examination program involving company workers who reportedly "have variable exposure to a number of chemical additives used in a resin compounding operation." An attached company communication reported the observation of "an excess of an abnormal thyroid function tests (TSH) in the borderline hypothyroid range. . .[that] occurred in 9 of 42 individuals in the exposed group as compared to 1 of 15 individuals in the reference group." General Electric Company reported that "if there is a workplace association, then it may be related to the use of brominated flame retardants such as octabromodiphenyl ether, CAS No. 32536-52-0." Also in this submission, General Electric Company provided a copy of a published article entitled "Hypothyroidism in Workers Exposed to Polybrominated Biphenyl" (A.K. Bahn et al., New England Journal of Medicine, Vol. 302, No. 1, pages 31-33, Jan. 3, 1980).

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a number of TSCA Section 8(e) submissions on brominated flame retardants, including octabromodiphenyl ether. Octabromodiphenyl ether is also the subject of TSCA Section 8(a) and 8(d) information gathering rules. In 1986, a Chemical Hazard Information Profile (CHIP) was completed on a number of brominated diphenyl ethers, including octabromodiphenyl ether. Immediately upon receipt of this Section 8(e) submission, the Chemical Screening Branch notified the Chemical Testing Branch (CTB/ECAD/OTS); CTB is currently collecting and evaluating information on octabromodiphenyl ether.

General Electric Company reported that "retests to confirm the observation and identify any intercurrent disease will be conducted."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives full copies of the "retests" cited in the submission.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemicals. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings.

b) As in the case of the initial TSCA Section 8(e) submission, the Chemical Screening Branch will immediately inform appropriate staff of CTB about the receipt of any additional incoming information.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CTB/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 17 1990 APPROVED: 10/17/90

SUBJECT: Status Report[1] 8EHQ-0990-1073 S

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential submitter provided summarized preliminary results of a rat teratology study of an R&D compound generically identified as an "aryloxy-substituted benzenamine II." In this study, the test compound was administered by gavage to mated female rats at dose levels of 0, 100, 300 or 1000 mg/kg/day during gestation days 6-15.

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received a TSCA Section 8(e) submission on a compound generically identified as an "aryloxy substituted benzenamine" (8EHQ-0790-1026 S).

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 26 1990 APPROVED: DRWilliams 10/28/90

SUBJECT: Status Report[1] 8EHQ-0990-1074

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The General Electric Company submitted a full copy of the final report of a rat intraperitoneal toxicity study conducted with resorcinol diphosphate (CR733S), a chemical reported to be the subject of a TSCA § 5 Pre-Manufacture Notice (PMN No. P89-234). The "SUMMARY" section from this report presents the following information regarding the conduct and results of this study:

> "CR733S was administered to male rats by intraperitoneal injection at a dose level of 500 mg/kg/day until the anticipated effect of multinucleated giant cells in the mesentery were confirmed by histopathology after 14 consecutive doses. After this, dosing terminated and the recovery phase began. Animals were sacrificed periodically up to about 6 months post-treatment to monitor the status of this lesion."

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[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

"Treatment related effects were produced by the intraperitoneal administration of 500 mg CR733S/kg. These effects included depressed plasma cholinesterase levels and inhibition of monocytic nonspecific esterase in the spleen, liver, bone marrow, and bronchoalveolar and peritoneal lavage. Histologically, a minimal granulomatous inflammatory response and minimal to slight fat necrosis were noted on the serosal and/or peritoneal surfaces of some abdominal organs. The intensity of both of these observations was decreased at 28 weeks compared to 15 days. Other incidental microscopic changes were not considered to be related to administration of CR733S."

COMMENTS/RECOMMENDATIONS

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, General Electric will be asked to describe the actions that the company has taken or plans to take 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemical. General Electric will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, General Electric will be asked to describe the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which General Electric is aware or that the company has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS; in addition, copies of this status report will be sent to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

DATE: OCT 12 1990

APPROVED: DRWilliams 10/15/90

SUBJECT: Status Report[1] 8EHQ-0990-1075 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

A confidential company provided summarized findings of an oral pilot rat teratology study of an R & D compound identified generically as "aryl propanoic acid ester." The test compound was administered to mated female rats at doses of 0, 25, 50, 100, 200 and 400 mg/kg/day during gestation days 6-15.

COMMENTS/RECOMMENDATIONS

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the pilot rat teratology study cited in the submission.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: OCT 18 1990 APPROVED: DRWilliams 10/18/90

SUBJECT: Status Report[1] 8EHQ-0990-1076 S Paul N McMahon

FROM: Paul N. McMahon, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Proctor & Gamble Company submitted summarized results and final reports of Irwin Dose-Range acute toxicity studies of "the amides from diethylenetriamine and hydrogenated tallow" (CAS No. 68920-82-1), and two compounds used for R&D purposes generically identified as "substituted organic ester" and "substituted organic alcohol." According to Procter & Gamble, the Irwin Dose-Range studies are pharmacological screens in which test animals receive a single dose of a test compound at levels which produce severe toxicity, including mortality. Procter & Gamble reported that "aberrations in motor and behavior functions were observed at the highest dose levels" in the performed studies. Procter & Gamble also reported, however, that "these observations can be interpreted as secondary to severe gastrointestinal effects (i.e., bloating and diarrhea, conditions commonly associated with the kinds of effects observed in these [types of] experiments." Proctor & Gamble noted that they are a processor of the amides from diethylenetriamine and hydrogenated tallow. Proctor & Gamble also noted that "[in] a 91-day oral subchronic study . . . [a] no effect level of 120 mg/kg/day was found "and that "reduced weight gain and some histopathological changes were . . . reported at the highest dose level of 1200 mg/kg/day."

COMMENTS/RECOMMENDATIONS

Proctor & Gamble reported that they "are advising employees working with [the substituted organic ester and the substituted organic alcohol]", and that "worker exposure to [the amides from diethylenetriamine and tallow] is minimal since all processing is done within closed systems."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the 91-day oral subchronic study of the amides from diethylenetriamine and hydrogenated tallow cited in the submission.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take to notify workers and others about the reported data. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of the amides from diethylenetriamine and hydrogenated tallow.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemicals at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF
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DATE: OCT 22 1990

APPROVED: D. Williams 10/22/90

SUBJECT: Status Report[1] 8EHQ-0990-1077

FROM: Judith M. Loranger, Biologist
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Eastman Kodak Company reported the detection of benzene (CAS No. 71-43-2) "in soil from one of five soil vapor sampling points on company property [exact site location not specified] at the limit of detection of 0.01 ppm." Kodak further reported that "ambient air monitoring showed no benzene at the limit of detection (0.01 ppm)." Eastman Kodak stated that these findings are not unexpected "in view of the ongoing investigation of the presence of chemicals in groundwater on company property at this site." Eastman Kodak concluded that "due to the hydrogeology of the area, groundwater in the affected region would not be expected to adversely affect known drinking water sources."

COMMENTS/RECOMMENDATIONS

Eastman Kodak reported that "authorities from local and state agencies, and Region II of EPA have been informed of our preliminary findings." In addition, Eastman Kodak reported that they "are in the process of investigating the source of the benzene, assessing the extent and level of the soil contamination, and determining any appropriate corrective action." Eastman Kodak is currently planning additional groundwater monitoring.

a) In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to ensure that EPA is apprised of any further significant monitoring information obtained by the company during its investigation into the reported environmental contamination.

b) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and EPA Region II; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 12 1990 APPROVED: DRWilliams 10/5/90

SUBJECT: Status Report[1] 8EHQ-0990-1078

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Allied-Signal Inc. submitted a summarized account of employee complaints following exposure to HOCUT 797-G, a semisynthetic cutting oil used as a coolant in machining operations. According to the submitter, "several employees . . . complained about experiencing sinus irritation, a gagging choking feeling, and bloody noses while using [HOCUT 797-G]." These complaints were mainly noted by the submitter's employees "during high speed machining, but not during lower speed machining operations." Two of the exposed individuals were examined by the submitter's medical staff, one employee was seen by his physician, and several others (who also complained of irritation) were not examined. Allied-Signal Inc. stated that their supplier of HOCUT 797-G (E. F. Houghton & Co.) had not received any reports of adverse effects to workers. The exposure level of the subject product was reported "to be within the governmental acceptable exposure level of 5 mg/m^3 [for mineral oil, one of a number of components of HOCUT 797-G]."

COMMENTS/RECOMMENDATIONS

Allied-Signal stated that "These complaints were noted by our employees and entered into [the company's] TSCA Section 8(c) allegation recordkeeping system," and that "[the company has] taken steps to eliminate the use of this material, and [has] implemented controls to preclude exposure where the use of this material is still required." Allied-Signal stated that they have notified employees who use the subject product of about the reported findings. Allied-Signal also provided a copy of the MSDS for HOCUT 797-G.

a) In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, Allied-Signal will be requested to ensure that EPA is apprised of any further significant information obtained by the company regarding the observed adverse human health effects.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject product and/or its components at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: OCT 18 1990 APPROVED: DRWilliams 10/19/90

OFFICE OF
PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0990-1079 S

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS

SUBMISSION DESCRIPTION

CIBA-GEIGY Corporation provided final reports of two in vitro mutagenicity studies conducted with an R&D pesticide generically identified as a "substituted oxadiazole." According to the cover letter, "the compound has been demonstrated to be clastogenic in a cytogenetic screening test in Chinese hamster primary embryo cells and to have mutagenic activity in one strain of Salmonella typhimurium (TA 100), after metabolic activation."

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY reported that "these evaluations are being conducted under the supervision of technically qualified personnel, knowledgeable in handling potentially hazardous chemicals" and that "further development work of this compound as a pesticide is on hold." In the cover letter, CIBA-GEIGY Corporation reported that they will revise their Material Safety Data Sheet and label to reflect the new findings. In addition, CIBA-GEIGY stated that they will "remind workers that this is an experimental compound and should be handled in such manner as to minimize or prevent any exposure."

Although a positive in vitro genotoxicity test, when considered alone, may not be sufficient to offer reasonable support for a conclusion of substantial risk (as that term is defined in EPA's TSCA Section 8(e) policy statement ("Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk" 43 FR 11110; March 16, 1978)), EPA does believe that such information is of value in assessing the possible risk(s) posed by exposure to the tested chemical or mixture. Further, EPA believes that a positive genotoxicity test result, in combination with other information (e.g., knowledge of actual/potential exposure to and/or high production of the tested chemical or mixture), would suggest the need, in many cases, to conduct further studies designed to determine the toxicity of or the exposure to that chemical substance or mixture. EPA expects the results of such additional studies to be considered also for submission under Section 8(e) of TSCA.

a) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

DATE: OCT 22 [illegible] **APPROVED:** DWilliams 10/24/90

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] **8EHQ-0990-1080 8**

Judith M Loranger

FROM: Judith M. Loranger, Biologist
Chemical Risk Identification Section/CSB

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

NOTE (See NOTE on Page 3 of this Status Report)

The submitting company has claimed its company name as TSCA Confidential Business Information (CBI). Staff of the Information Management Division will review all incoming correspondence related to the company's TSCA CBI claim.

SUBMISSION DESCRIPTION

The submitter provided a copy of a consultant-generated report evaluating the medical monitoring program and the results of urine cytology monitoring at their facilities that produces organic dyes. According to the submitter, the aromatic amines used in their facilities to manufacture these dyes include:

Amine Identity	CAS No.
Aniline	62-53-3
p-Butyl aniline	104-13-2
p-Cresidine	120-71-8
2,4-Dinitro aniline	97-02-9
p-Nitro aniline	100-01-6
o-tolidine	119-93-7
o-toluidine	95-53-4
p-toluidine	106-49-0
m-toluidine	108-44-1
2,5-xylidine	95-78-3
xylidines, mixed	1300-73-8

[1] *This status report is the result of a preliminary evaluation of information that has been submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Any review of this status report should take into account that the report may be based on incomplete information.*

The submitter reported that both o-toluidine and aniline are used in substantial quantities at a confidential location. The submitter reported that, as of June 1990, "approximately 40% of [the workers] have a 'Class 2' response to the urine cytology test at this facility and this percentage is substantially higher than was previously demonstrated." (The submitter defined a Class 2 response as an observation of abnormal cells, usually a reaction to inflammatory changes). The submitter further reported that "two (and now believed to be three) individuals have a 'Class 3' response (indicating the presence of dysplasia) where . . . no reports of dysplasia were [previously] noted."

USE AND EXPOSURE POTENTIAL

The submitter reported that o-toluidine and aniline "are handled in essentially closed systems at this facility." In addition the submitter reported that "the dye products manufactured from these amines typically contain low residual amounts of these amines." The submitter reported that "o-tolidine is no longer used at this location."

COMMENTS/RECOMMENDATIONS

It should be noted that EPA has received numerous of TSCA Section 8(e) and "For Your Information"(FYI) submissions on amine compounds. In addition, Chemical Hazard Information Profiles (CHIPs) were prepared on several of these amine compounds. Our records indicate that many of these chemicals were the subject of Section 8(a) and 8(d) information gathering rules. The Chemical Testing Branch (CTB/ECAD) is currently in the process of collecting and evaluating information on aniline and related compounds and the Risk Analysis Branch (RAB/ECAD) is reviewing information on o-toluidine and aniline.

a) The submitter will be requested to ensure that EPA is apprised of any further significant information obtained by the company during its investigation into the possible cause(s) of the observed adverse human health effects.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the submitter will be asked to describe the actions that they have taken or plan to take to 1) to notify workers/others about the reported information, and 2) to reduce or eliminate exposure to the subject chemicals. The submitter will be asked also to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the submitter will be asked to describe the nature and results, if available, of all

studies (other than those submitted already to EPA or those cited in the published scientific literature) about which they are aware or that they have conducted, are conducting or plan to conduct that are designed to determine the toxicity of or the exposure to the subject chemicals.

b) As was the case for the initial submission, the Chemical Screening Branch will notify the Chemical Testing Branch and Risk Analysis Branch of the receipt of additional incoming information related to this submission.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA, RAB/ECAD/OTS and CTB/ECAD/OTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

NOTE In a November 7, 1990 letter, Morton International Inc. stated that the company was withdrawing it CBI claims for company name and the location of the company's facility which is the subject of this Section 8(e) submission. According to the sanitized (i.e., non-confidential) version of a November 15, 1990 letter (8EHQ-1190-1080 S Followup Response), the subject facility is located in Paterson, New Jersey.

James D. Barr 4/8/91

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 12 19[illegible] APPROVED: DWilliams 10/15/90

SUBJECT: Status Report[1] 8EHQ-0990-1081

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The CIBA-GEIGY Corporation submitted summarized preliminary results of a 21-day rabbit dermal toxicity study of O-(1,3-dioxolan-2-yl-methyl)-2,2,2-trifluoro-4'-chloroacetophenone oxime (CAS No. 88485-37-4). According to CIBA-GEIGY, this compound "is at a very early stage of commercial development" as "a seed protectant chemical." The submitter noted that the test compound "has been reported to cause treatment-related kidney changes . . ." and that these "renal changes [were] characterized by cytoplasmic vacuolation of cortical tubules, tubular dilation, and the presence of tubular casts and/or tubular basophilia . . . in male rabbits at dermal doses of 0.125, 125 and 400 mg/kg and in females in the mid- and high-dose groups . . ."

COMMENTS/RECOMMENDATIONS

CIBA-GEIGY stated non-confidentially that a TSCA § 5 Premanufacture Notification (PMN No. P88-1764) was submitted for this compound and that a Notice of Commencement was filed on November 30, 1989. It was also noted that the company will "notify workers and customers of the new findings in accordance with the notification requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200)."

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the dermal toxicity study cited in the submission.

In view of EPA's interest in effective and appropriate hazard/risk communication, as well as company actions taken on a voluntary basis in response to new chemical toxicity/exposure data, the CIBA-GEIGY Corporation will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked to describe (by way of short summaries) the nature and results, if

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity/exposure of the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

DATE: OCT 17 1990 APPROVED: DRWilliams 10/17/90

SUBJECT: Status Report[1] 8EHQ-0990-1082

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

Hoechst Celanese Corporation submitted preliminary results of a guinea pig skin sensitization study of acetoxystyrene (CAS No. 2628-16-2). The submitter noted that "forty-eight hours after challenge exposure . . . the maximum number of responding animals was 18 out of the 19 test animals," and that "a positive response to the challenge dose was also observed in 12 of 19 animals with a 30% preparation of the test material . . ." According to Hoechst Celanese, "the response in pre-treated animals clearly indicates that acetoxystyrene is a potent skin sensitizer in guinea pigs . . ."

COMMENTS/RECOMMENDATIONS

According to the 1990 Supplement to the 1985 Edition of the TSCA Inventory, the test compound was the subject of a TSCA § 5 Premanufacture Notification (PMN) as indicated by the letter "P" which follows the CAS No.

a) The Chemical Screening Branch will request the submitting company to ensure that EPA receives a full copy of the final report (including the actual experimental protocol, results of gross/histopathologic examinations, results of any statistical analyses, etc.) from the guinea pig sensitization study cited in the submission.

In view of EPA's general interest in company actions that are taken on a voluntary basis in response to chemical toxicity/exposure data, the company will be requested to describe the actions that it has taken or plans to take 1) to notify workers and others about the reported data, and 2) to reduce or eliminate exposure to the subject chemical. The company will be asked to provide copies of Material Safety Data Sheets and labels that have been revised to reflect the reported findings. In addition, the company will be asked

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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to describe (by way of short summaries) the nature and results, if available, of all studies (other than those submitted already to EPA or those cited in the published scientific literature) about which the company is aware or that it has conducted, is conducting or plans to conduct that are designed to determine the toxicity of or the exposure to the subject chemical.

b) As part of the initial phase of the OTS Existing Chemicals Program (ECP), staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of the subject chemical at this time.

c) The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA, OPP/OPTS/EPA and CCD/OTS/OPTS; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

DATE: OCT 22 1990 APPROVED: DRWilliams 10/22/90

SUBJECT: Status Report[1] 8EHQ-0990-1083 S

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

A confidential company submitted summarized preliminary findings of a 96 hour acute carp toxicity study of 14 different R&D quinazolines and quinolines. According to the submitter "[the test] compounds are in the early investigative stages as potential pesticides." According to the submitter 2 compounds (#5 & # 11) caused 100% mortality at 1 ppb; 11 compounds produced 100 % mortality at 5 ppb or 25 ppb; and the 1 remaining compound caused 100% mortality at 100 ppb.

COMMENTS/RECOMMENDATIONS

The Agency has received TSCA § 8(e) submissions on several quinazoline and quinoline compounds as well as "For Your Information" (FYI) notices on several quinoline compounds. A Chemical Hazard Information Profile (CHIP) was prepared on quinoline (CAS No. 91-22-5) by staff of the Chemical Screening Branch in 1983. The submitter also noted that "information was previously submitted [by another company] to EPA concerning compound numbered 11 [as is designated in the submission] under section 8(e) of TSCA."

The Chemical Screening Branch will send copies of this status report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; in addition, copies of this status report will be transmitted to the Environmental Assistance Division/OTS for further distribution.

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[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DATE: OCT 22 1990 APPROVED: DRWilliams 10/22/90 OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Status Report[1] 8EHQ-0990-1084

FROM: Paul N. McMahon, Biologist Paul N McMahon
Chemical Screening Branch/ECAD/OTS

TO: David R. Williams, Section 8(e) Coordinator
Chemical Screening Branch/ECAD/OTS/OPTS

SUBMISSION DESCRIPTION

The Dow Corning Corporation provided a full copy of the final report of an acute oral LD50 study of silacyclobutane (CAS No. 287-29-6) administered to rats at dose levels of 400, 790, 1590 and 2000 mg/kg. According to the submitter, the LD50 for this research and development (R&D) chemical was found to be ~1539 mg/kg, indicating that the chemical was slightly toxic by oral administration. Dow Corning also noted that all animals receiving 2000 mg/kg died within 24 hours following administration of the test material and 8/10 animals receiving 1,590 mg/kg of the test material died within the first 2 days post-administration; no mortalities occurred in the 400 or 790 mg/kg groups. According to the "RESULTS" section of the provided final report, lethargy and ataxia were among the clinical signs observed in the 790, 1590 and 2000 mg/kg dose groups; tonic convulsions were seen in the 1590 and 2000 mg/kg dose groups.

COMMENTS/RECOMMENDATIONS

EPA has received numerous TSCA §8(e) and "For Your Information" (FYI) submissions on organosilane compounds. In 1986, the Chemical Screening Branch prepared a "Chemical Hazard Information Profile" (CHIP) covering a number of organosilanes.

a) As part of the initial phase of the OTS Existing Chemicals Program, staff of the Chemical Screening Branch will screen the reported information in order to determine the need for further assessment of this chemical substance.

b) The Chemical Screening Branch will send copies of this report to NIOSH, OSHA, CPSC, FDA, NTP, OSWER/EPA, OW/EPA, ORD/EPA, OAR/EPA and OPP/OPTS/EPA; copies of this report will be sent also to the Environmental Assistance Division/OTS for further distribution.

[1] This status report reflects information submitted to EPA under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). Statements made in this status report should not be regarded as expressing final Agency policy or intent with respect to the subject chemical(s). Full copies of non-confidential Section 8(e) notices are available for public inspection at EPA Headquarters, Northeast Mall (Room G-004), 401 "M" Street S.W., Washington, D.C. 20460. All requests for TSCA Section 8(e) notices should be addressed to EPA's Freedom of Information Office (A-101).

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APPENDIX A

THURSDAY, MARCH 16, 1978
PART V

federal register

ENVIRONMENTAL PROTECTION AGENCY

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TOXIC SUBSTANCES CONTROL ACT

Statement of Interpretation and Enforcement Policy; Notification of Substantial Risk

[6560-01]

ENVIRONMENTAL PROTECTION AGENCY

[FRL 849-2]

TOXIC SUBSTANCES CONTROL ACT

Notification of Substantial Risk Under Section 8(e)

AGENCY: Environmental Protection Agency.

ACTION: Statement of interpretation and enforcement policy.

SUMMARY: This action states EPA's interpretation of, and enforcement policy concerning, section 8(e) of the Toxic Substances Control Act (TSCA) (90 Stat. 2029, 15 U.S.C. 2607). The provisions of that section went into effect on January 1, 1977.

Section 8(e) states that "any person who manufactures, processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."

DATES: The policy expressed in this document is in effect as of the date of publication.

FOR FURTHER INFORMATION CONTACT:

Frank D. Kover, Assessment Division, Office of Toxic Substances (WH-557), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, 202-755-2110.

SUPPLEMENTARY INFORMATION: On September 9, 1977, the Agency proposed guidance (42 FR 45362) on its interpretation of and policy concerning the provisions of section 8(e). Although the proposed "guidance" was an interpretive rule and statement of policy exempt from the notice and public comment provisions of the Administrative Procedure Act (5 U.S.C. 553), the Agency solicited comments on several issues to make more informed decisions. On October 11, the comment period was extended from October 15 to October 31, 1977 (42 FR 54857). On November 4, 1977, a supplemental notice to the proposed guidance was published (42 FR 57744), deleting the November 15 date for reporting certain information obtained before 1977 and stating that a new date would be established in the final guidance.

In developing this policy statement, two meetings have been held (February 1, 1977, and October 26, 1977) with selected representatives of industry and environmental and other interested groups. Comments submitted pursuant to the February 1 meeting were addressed in the preamble to the September 9 proposal. Over 100 written comments have been submitted pursuant to the September 9 proposal from trade associations, businesses, environmental groups, labor unions, State and Federal agencies, and other interested parties. Appendix B describes significant issues raised in these comments and the Agency's response to them.

The major modifications to the September 9 proposal are summarized in points 1 through 7 below.

(1) Pursuant to some question over the definition and nature of "guidance," this document is now described more accurately as a "policy statement." It is exempt from the notice and public comment provisions of the Administrative Procedure Act, as well as provisions concerning delayed effective dates.

(2) Many commenters expressed the view that to apply these requirements to officers and employees of a business organization would result in ill-considered, premature reports and would unfairly subject employees to conflicting responsibilities as individual respondents and as corporate agents. Other commenters expressed support for the view that certain employees have a responsibility to report pertinent information, and felt that the phrase "capable of appreciating pertinent information" appropriately described those employees.

The September 9 proposal would have applied section 8(e) requirements to commercial establishments as well as to employees capable of appreciating pertinent information, but stipulated enforcement priorities intended to encourage corporate processing and centralized reporting of such information (42 FR 45363). The intent was to ensure that pertinent information obtained by employees is promptly and appropriately considered, while minimizing duplicative or ill-considered submissions.

The Agency now feels that these objectives would best be served by allowing commercial establishments—under certain conditions designed to ensure full disclosure—to assume exclusive responsibility for reporting to EPA any substantial-risk information obtained by individual officers or employees. Accordingly, this policy statement stipulates that individual officers and employees will have fully discharged their section 8(e) obligations once they have notified the designated responsible company supervisor or official of pertinent information, *provided*, that the employing company or firm has established, internally publicizes, and affirmatively implements procedures governing such notifications. These procedures, at a minimum, must: (1) Specify the information that must be reported; (2) indicate how the notifications are to be prepared and submitted; (3) note the Federal penalties for failing to report; and (4) provide a mechanism for promptly notifying officers and employees who have submitted reports of the company's disposition of those reports, including whether or not they were submitted to EPA (and if not, informing employees of their right to report to EPA, as protected by TSCA section 23). EPA believes these four criteria will ensure prompt and appropriate processing of pertinent information.

Establishment of such procedures notwithstanding, all officials responsible and having authority for the organization's execution of its section 8(e) obligations retain personal liability for ensuring that substantial-risk information is reported to EPA.

(3) The September 9 proposal stated, in Part III, that a person obtains information when he is aware that it "may suggest" substantial risk. Numerous commenters questioned the Administrator's authority to compel the reporting of information which "may suggest" substantial risk. The Administrator agrees that section 8(e) addresses information that "reasonably supports the conclusion" of substantial risk and has deleted the "may suggest" provision, but emphasizes that "reasonably supports the conclusion" of substantial risk is not identical to a conclusive demonstration of substantial risk. The former typically occurs, and must be reported, at an earlier stage. Part VI in this policy statement provides Agency interpretation of the types of information that "*reasonably support*" such a conclusion.

(4) Numerous commenters requested clarification of different aspects of Part V of the September 9 proposal ("Information Which Reasonably Supports a Conclusion of Substantial Risk"), particularly concerning environmental effects, and suggested different interpretations of what constitutes a "substantial risk". The Agency continues to focus in this policy statement on the effects set forth in the September 9 proposal, but clarifies that the substantiality of a risk is a function of both the seriousness of the effect and the probability of its occurrence (see Part V).

(5) Numerous commenters maintained that section 8(e) only applies prospectively to information obtained after January 1, 1977. The Agency disagrees, as explained in the preamble to the September 9 proposal. This policy statement continues to apply section 8(e) to information obtained before 1977 of which a person has

been aware since January 1, 1977. In response to requests for clarification, the statement defines what constitutes such awareness. In this manner, EPA intends to limit the need for searches of historical records and files.

(6) This policy statement now provides that any information published in scientific literature, in any language, is exempt if it is referred to in abstracts published by specified abstracting services.

(7) This policy statement describes in a new Part X how to submit claims of confidentiality.

Accordingly, the Administrator's interpretation of and policy towards section 8(e) is set forth below.

Dated: February 24, 1978.

DOUGLAS COSTLE
Administrator.

I. DEFINITIONS

The definitions set forth in TSCA section 3 apply to these requirements. In addition, the following definitions are provided for purposes of this policy statement:

The term "manufacture or process 'for commercial purposes' " means to manufacture or process: (1) For distribution in commerce, including for test marketing purposes, (2) for use as a catalyst or an intermediate, (3) for the exclusive use by the manufacturer or processor, or (4) for product research and development.

The term "person" includes any natural person, corporation, firm, company, joint-venture, partnership, sole proprietorship, association, or any other business entity, any State or political subdivision thereof, any municipality, any interstate body and any department, agency, or instrumentality of the Federal Government.

The term "substantial-risk information" means information which reasonably supports the conclusion that a chemical substance or mixture presents a substantial risk of injury to health or the environment.

II. PERSONS SUBJECT TO THE REQUIREMENT

Persons subject to section 8(e) requirements include both natural persons and business entities engaged in manufacturing, processing, or distributing in commerce a chemical substance or mixture. In the case of business entities, the president, chief executive officer, and any other officers responsible and having authority for the organization's execution of its section 8(e) obligations must ensure that the organization reports substantial-risk information to EPA. The business organization is considered to have obtained any information which any officer or employee capable of appreciating the significance of that information has obtained. It is therefore incumbent upon business organizations to establish procedures for expeditiously processing pertinent information in order to comply with the schedule set forth in Part IV.

Those officers and employees of business organizations who are capable of appreciating the significance of pertinent information are also subject to these reporting requirements. An employing organization may relieve its individual officers and employees of any responsibility for reporting substantial-risk information directly to EPA by establishing, internally publicizing, and affirmatively implementing procedures for employee submission and corporate processing of pertinent information. These procedures, at a minimum, must: (1) Specify the information that officers and employees must submit; (2) indicate how such submissions are to be prepared and the company official to whom they are to be submitted; (3) note the Federal penalties for failing to report; and (4) provide a mechanism for promptly advising officers and employees in writing of the company's disposition of the report, including whether or not the report was submitted to EPA (and if not informing employees of their right to report to EPA, as protected by TSCA section 23). An employee of any company that has established and publicized such procedures, who has internally submitted pertinent information in accordance with them, shall have discharged his section 8(e) obligation. Establishment of such procedures notwithstanding, all officials responsible and having authority for the organization's execution of its section 8(e) obligations retain personal liability for ensuring that the appropriate substantial-risk information is reported to EPA.

Business organizations that do not establish such procedures cannot relieve their individual officers and employees of the responsibility for ensuring that substantial-risk information they obtain is reported to EPA. While officers and employees of such organizations may also elect to submit substantial-risk information to their superiors for corporate processing and reporting, rather than to EPA directly, they have not discharged their individual section 8(e) obligation until EPA has received the information.

NOTE.—Irrespective of a business organization's decision to establish and publicize the procedures described above, it is responsible for becoming cognizant of any substantial-risk information obtained by its officers and employees, and for ensuring that such information is reported to EPA within 15 working days.

III. WHEN A PERSON WILL BE REGARDED AS HAVING OBTAINED INFORMATION

A person obtains substantial-risk information at the time he first comes into possession of or knows of such information.

NOTE.—This includes information of which a prudent person similarly situated could reasonably be expected to possess or have knowledge.

An establishment obtains information at the time any officer or employee capable of appreciating the significance of such information obtains it.

IV. REQUIREMENT THAT A PERSON "IMMEDIATELY INFORM" THE ADMINISTRATOR

With the exception of information on emergency incidents of environmental contamination [see Part V(c)] a person has "immediately informed" the Administrator if information is received by EPA not later than the 15th working day after the date the person obtained such information. Supplementary information generated after a section 8(e) notification should, if appropriate, be immediately reported. For emergency incidents of environmental contamination, a person shall report the incident to the Administrator by telephone as soon as he has knowledge of the incident (see Part IX for appropriate telephone contacts). The report should contain as much of the information required by Part IX as possible. A written report in accordance with Part IX (a) through (f) is to be submitted within 15 days.

Information currently in the possession of a person who is subject to reporting must be reported within 60 days of publication of this policy statement.

V. WHAT CONSTITUTES SUBSTANTIAL RISKS

A "substantial risk of injury to health or the environment" is a risk of considerable concern because of (a) the seriousness of the effect [see Subparts (a), (b), and (c) below for an illustrative list of effects of concern], and (b) the fact or probability of its occurrence. (Economic or social benefits of use, or costs of restricting use, are not to be considered in determining whether a risk is "substantial".) These two criteria are differentially weighted for different types of effects. The human health effects listed in Subpart (a) below, for example, are so serious that relatively little weight is given to exposure; the mere fact the implicated chemical is in commerce constitutes sufficient evidence of exposure. In contrast, the remaining effects listed in Subparts (b) and (c) below must involve, or be accompanied by the potential for, significant levels of exposure (because of general production levels, persistence, typical uses, common means of disposal, or other pertinent factors).

Note that: (1) The effects outlined below should not be reported if the re-

spondent has actual knowledge that the Administrator is already informed of them.

(ii) Information respecting these effects can be obtained either directly, by observation of their occurrence, or inferred from designed studies as discussed in Part VI.

The Agency considers effects for which substantial-risk information must be reported to include the following:

(a) *Human health effects*—(1) Any instance of cancer, birth defects, mutagenicity, death, or serious or prolonged incapacitation, including the loss of or inability to use a normal bodily function with a consequent relatively serious impairment of normal activities, if one (or a few) chemical(s) is strongly implicated.

(2) Any pattern of effects or evidence which reasonably supports the conclusion that the chemical substance or mixture can produce cancer, mutation, birth defects or toxic effects resulting in death, or serious or prolonged incapacitation.

(b) *Environmental effects*—(1) Widespread and previously unsuspected distribution in environmental media, as indicated in studies (excluding materials contained within appropriate disposal facilities).

(2) Pronounced bioaccumulation. Measurements and indicators of pronounced bioaccumulation heretofore unknown to the Administrator (including bioaccumulation in fish beyond 5,000 times water concentration in a 30-day exposure or having an n-octanol/water partition coefficient greater than 25,000) should be reported when coupled with potential for widespread exposure and any non-trivial adverse effect.

(3) Any non-trivial adverse effect, heretofore unknown to the Administrator, associated with a chemical known to have bioaccumulated to a pronounced degree or to be widespread in environmental media.

(4) Ecologically significant changes in species' interrelationships; that is, changes in population behavior, growth, survival, etc. that in turn affect other species' behavior, growth, or survival.

Examples include: (i) Excessive stimulation of primary producers (algae, macrophytes) in aquatic ecosystems, e.g., resulting in nutrient enrichment, or eutrophication, of aquatic ecosystems.

(ii) Interference with critical biogeochemical cycles, such as the nitrogen cycle.

(5) Facile transformation or degradation to a chemical having an unacceptable risk as defined above.

(c) *Emergency incidents of environmental contamination*—Any environmental contamination by a chemical substance or mixture to which any of the above adverse effects has been ascribed and which because of the pattern, extent, and amount of contamination (1) seriously threatens humans with cancer, birth defects, mutation, death, or serious or prolonged incapacitation, or (2) seriously threatens non-human organisms with large-scale or ecologically significant population destruction.

VI. Nature and Sources of Information Which "Reasonably Supports the Conclusion" of Substantial Risk

Information attributing any of the effects described in Part V above to a chemical substance or mixture is to be reported if it is one of the types listed below and if it is not exempt from the reporting requirement by reason of Part VII of this policy statement. A person is not to delay reporting until he obtains conclusive information that a substantial risk exists, but is to immediately report any evidence which "reasonably supports" that conclusion. Such evidence will generally not be conclusive as to the substantiality of the risk; it should, however, reliably ascribe the effect to the chemical.

Information from the following sources concerning the effects described in Part V will often "reasonably support" a conclusion of substantial risk. Consideration of corroborative information before reporting can only occur where it is indicated below.

(1) *Designed, controlled studies.* In assessing the quality of information, the respondent is to consider whether it contains reliable evidence ascribing the effect to the chemical. Not only should final results from such studies be reported, but also preliminary results from incomplete studies where appropriate. Designed, controlled studies include:

(i) In vivo experiments and tests.

(ii) In vitro experiments and tests. Consideration may be given to the existence of corroborative information, if necessary to reasonably support the conclusion that a chemical presents a substantial risk.

(iii) Epidemiological studies.

(iv) Environmental monitoring studies.

(2) *Reports concerning and studies of undesigned, uncontrolled circumstances.* It is anticipated here that reportable effects will generally occur in a pattern, where a significant common feature is exposure to the chemical. However, a single instance of cancer, birth defects, mutation, death, or serious incapacitation in a human would be reportable if one (or a few) chemical(s) was strongly implicated. In addition, it is possible that effects less serious than those described in Part V(a) may be preliminary manifestations of the more serious effects and, together with another triggering piece of information, constitute reportable information; an example would be a group of exposed workers experiencing dizziness together with preliminary experimental results demonstrating neurological dysfunctions.

Reports and studies of undesigned circumstances include:

(i) Medical and health surveys.

(ii) Clinical studies.

(iii) Reports concerning and evidence of effects in consumers, workers, or the environment.

VII. Information Which Need Not Be Reported

Information need not be reported if it:

(a) Has been published by EPA in reports;

(b) Has been submitted in writing to EPA pursuant to mandatory reporting requirements under TSCA or any other authority administered by EPA (including the Federal Insecticide, Fungicide and Rodenticide Act, the Clean Air Act, the Federal Water Pollution Control Act, the Marine Protection, Research, and Sanctuaries Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act), provided that the information: (1) Encompasses that required by Part IX (c) through (f); and (2) is from now on submitted within the time constraints set forth in Part IV and identified as a section 8(e) notice in accordance with Part IX(b);

(c) Has been published in the scientific literature and referenced by the following abstract services: (1) Agricola, (2) Biological Abstracts, (3) Chemical Abstracts, (4) Dissertation Abstracts, (5) Index Medicus, (6) National Technical Information Service.

(d) Is corroborative of well-established adverse effects already documented in the scientific literature and referenced as described in (c) above, unless such information concerns emergency incidents of environmental contamination as described in Part V(c), or

(e) Is contained in notification of spills under section 311(b)(5) of the Federal Water Pollution Control Act.

VIII. Information First Received by a Person Prior to the Effective Date of TSCA

Any substantial risk information possessed by a person prior to January 1, 1977, of which he is aware after that date shall be reported within 60 days of publication of this policy statement. The Agency considers that a person is "aware" of:

(a) Any information reviewed after January 1, 1977, including not only written reports, memoranda and other documents examined after January 1, 1977, but also information referred to in discussions and conferences in which the person participated after January 1, 1977;

(b) Any information the contents of which a person has been alerted to by date received after January 1, 1977, including any information concerning a chemical for which the person is presently assessing health and environmental effects;

(c) Any other information of which the person has actual knowledge.

IX. Reporting Requirements

Notices shall be delivered to the Document Control Officer, Chemical Information Division, Office of Toxic Substances (WH-557), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. (****)

A notice should:

(a) Be sent by certified mail, or in any other way permitting verification of its receipt by the Agency,

(b) State that it is being submitted in accordance with section 8(e),

(c) Contain the job title, name, address, telephone number, and signature of the person reporting and the name and address of the manufacturing, processing, or distributing establishment with which he is associated,

(d) Identify the chemical substance or mixture (including, if known, the CAS Registry Number),

(e) Summarize the adverse effects being reported, describing the nature and the extent of the risk involved, and

(f) Contain the specific source of the information together with a summary and the source of any available supporting technical data.

For emergency incidents of environmental contamination (see Part V(c)), a person shall report the incident to the Administrator by telephone as soon as he has knowledge of the incident (see below for appropriate telephone contacts). The report should contain as much of the information required by instructions (b) through (f) above as possible. A written report, in accordance with instructions (a) through (f) above, is to be submitted within 15 days. Twenty-four hour emergency telephone numbers are:

Region I (Maine, Rhode Island, Connecticut, Vermont, Massachusetts, New Hampshire), 617-223-7265.
Region II (New York, New Jersey, Puerto Rico, Virgin Islands), 201-548-8730.
Region III (Pennsylvania, West Virginia, Virginia, Maryland, Delaware, District of Columbia), 215-597-9898.
Region IV (Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida), 404-881-4062.
Region V (Wisconsin, Illinois, Indiana, Michigan, Ohio, Minnesota), 312-353-2318.
Region VI (New Mexico, Texas, Oklahoma, Arkansas, Louisiana), 214-749-3840.
Region VII (Nebraska, Iowa, Missouri, Kansas), 816-374-3778.
Region VIII (Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota), 303-837-3880.
Region IX (California, Nevada, Arizona, Hawaii, Guam), 415-556-6254.
Region X (Washington, Oregon, Idaho, Alaska), 206-442-1200.

X. Confidentiality Claims

(a) Any person submitting a notice to EPA under section 8(e) of TSCA may assert a business confidentiality claim covering all or part of the information contained in the notice. Any information covered by a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2 (41 FR 36902, September 1, 1976).

(b) If no claim accompanies the notice at the time it is submitted to EPA, the notice will be placed in an open file to be available to the public without further notice to the submitter.

(c) To assert a claim of confidentiality for information contained in a notice, the submitter must submit two copies of the notice.

(1) One copy must be complete. In that copy the submitter must indicate what information, if any, is claimed as confidential by marking the specified information on each page with a label such as "confidential," "proprietary," or "trade secret."

(2) If some information in the notice is claimed as confidential, the submitter must submit a second copy. The second copy must be complete except that all information claimed as confidential in the first copy must be deleted.

(3) The first copy of the notice will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2. The second copy will be placed in an open file to be available to the public.

(d) Any person submitting a notice containing information for which they are asserting a confidentiality claim should send the notice in a double envelope.

(1) The outside envelope should bear the same address outlined in section IX of this policy statement.

(2) The inside envelope should be clearly marked "To be opened only by the OTS Document Control Officer."

XI. Failure To Report Information

Section 15(3) of TSCA makes it unlawful for any person to fail or refuse to submit information required under section 8(e). Section 16 provides that a violation of section 15 renders a person liable to the United States for a civil penalty and possible criminal prosecution. Pursuant to section 17, the Government may seek judicial relief to compel submittal of section 8(e) information and to otherwise restrain any violation of section 8(e).

Appendix A.—Quick Reference Summary for Emergency Incidents of Environmental Contamination

A. What should be reported as an emergency incident

An emergency incident of environmental contamination is "any environmental contamination by a chemical substance or mixture . . . which, because of the pattern, extent and amount of contamination, (1) Seriously threatens humans with cancer, birth defects, mutation, death, or serious or prolonged incapacitation, or (2) seriously threatens non-human organisms with large scale or ecologically significant population destruction". (See Part V(c) for complete description.)

B. What need not be reported as an emergency incident

Information contained in notification of spills under section 311(b)(5) of the Federal Water Pollution Control Act (FWPCA). (For a complete list of exemptions to reporting, see Part VII.)

C. When and where to report emergency incidents

Emergency incidents of environmental contamination are to be reported immediately by telephone to the appropriate EPA Regional 24-hour telephone emergency line listed below.

Region I (Maine, Rhode Island, Connecticut, Vermont, Massachusetts, New Hampshire), 617-223-7265.
Region II (New York, New Jersey, Puerto Rico, Virgin Islands), 201-548-8730.
Region III (Pennsylvania, West Virginia, Virginia, Maryland, Delaware, District of Columbia), 215-597-9898.
Region IV (Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida), 404-881-4062.
Region V (Wisconsin, Illinois, Indiana, Michigan, Ohio, Minnesota), 312-353-2318.
Region VI (New Mexico, Texas, Oklahoma, Arkansas, Louisiana), 214-749-3840.
Region VII (Nebraska, Iowa, Missouri, Kansas), 816-374-3778.
Region VIII (Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota), 303-837-3880.
Region IX (California, Nevada, Arizona, Hawaii, Guam), 415-556-6254.
Region X (Washington, Oregon, Idaho, Alaska), 206-442-1200.

In addition, a written report, in accordance with instructions (a) through (f) of Part IX, is to be submitted within 15 days to the Document Control Officer, Chemical Information Division, Office of Toxic Substances (WH-557), 401 M Street SW., Washington, D.C. 20460.

Appendix B—Significant Comments and Responses

A. Persons subject to these requirements

Comment 1: Employees cannot be held subject to these requirements, since: (a) They only have a partial role in the manufacture, processing, or distribution of chemicals, (b) in other sections of TSCA, the term "person who manufactures, processes, or distributes" chemicals clearly refers to business organizations; "persons" should be consistently defined, and (c) the application of criminal penalties mandates a strict interpretation of this word.

(****) See NOTE on last page of Appendix A

Response: The Agency considers that different sections of TSCA, having different purposes, are appropriately directed to different respondents. In the case of section 8(e), officers and employees who are capable of appreciating the significance of information have a legitimate responsibility to be alert to and report substantial-risk information. The guidance has been modified so that natural persons and business entities can fulfill their section 8(e) obligations in different ways. Most officers and employees can discharge their section 8(e) obligations by submitting pertinent information to corporate superiors, provided that the company has established the risk-evaluation procedures characterized in Part II. In the case of a business organization, its president, chief executive officer, and other officials responsible and having authority for the business organization's execution of its section 8(e) obligations must ensure that the organization reports substantial-risk information to EPA.

Comment 2: Even if employees can be held subject to these requirements, they should not be. To do so would force employees and employers into conflicting positions, inviting internal corporate dissension and over- reporting. Further, individuals often do not have the overview necessary to reach considered, well-supported decisions. Corporate reporting by designated officials will provide EPA with more reliable data.

Response: The Agency considers that employees have a legitimate role in risk reporting; it is imperative that risk information obtained by employees be appropriately considered. Officers and employees can fulfill their role in the reporting of substantial-risk information, without the disadvantages described above, by reporting information to superiors for corporate consideration, and, having done so, will have discharged their obligation to EPA. This is contingent upon the establishment by the business organization of certain procedures for risk-evaluation, thereby assuring the appropriate consideration of such reports. Those officers responsible and having authority for the organization's execution of its section 8(e) obligations must ensure that the organization reports substantial-risk information to EPA.

Comment 3: Clarify which employees are covered, and the extent of their obligation. Are employees "capable of appreciating pertinent information" by virtue of rank, or knowledge? Are rank and file employees subject to these requirements, or just supervisory and managerial personnel, company toxicologists, etc.? Is an employee absolved of further responsibility if he reports to his supervisor?

Response: The Agency considers that the phrase "capable of appreciating the significance of pertinent information" appropriately describes those officers and employees who have a responsibility to be alert to and report substantial-risk information, including not only relatively senior corporate officers but also many corporate employees. The policy statement modifies the September 9 proposal, in response to the concerns expressed in Comments 2 and 3, to permit most officers and employees to discharge their obligation by submitting information to corporate superiors, subject to the conditions described in Part II.

Comment 4: Consultants and independent labs should not be subject to these requirements.

Response: Contractors and independent labs are not responsible for reporting information they have obtained directly to EPA; rather, their client manufacturers, processors and distributors are responsible for reporting such information.

B. THE "OBTAINING" OF INFORMATION

Comment 5: The "may suggest" criterion in Part III of the proposal serves to compel further examination of information that by itself is not subject to section 8(e) requirements. The statutory language calling for "reasonable support" does not support this. Further, risk assessment often requires anywhere *from months to several years of* study after preliminary results "suggest" risk, far exceeding the 15-day compliance period.

Response: The Agency does not intend to compel under section 8(e) examination of information that by *itself is not subject to* section 8(e) requirements and has deleted the "may suggest" provision, providing its interpretation of what constitutes evidence that "reasonably supports the conclusion" of substantial risk in a new Part VI.

Comment 6: Section 8(e) obligations are incurred upon obtaining conclusory substantial-risk information.

Response: The Agency disagrees, and considers that "reasonable support" of a conclusion of substantial risk is not identical to the conclusion itself. The former typically occurs, and must be reported, at an earlier stage.

Comment 7: The statement, in Part III of the proposal that a person has obtained information if he ". . . should know of the existence of such information not in his possession but which would be delivered to him on request," tends to compel an active search for substantial-risk information rather than the reporting of substantial-risk information a person "obtains." This is of particular concern to importers with limited access to information possessed by their suppliers.

Response: The Agency considers that section 8(e) applies to information which a person possesses or of which he knows. It is not intended to compel searches for information or extraordinary efforts to acquire information. The Agency further considers, however, that "known" information includes information which a prudent person similarly situated could reasonably be expected to know. Negligence or intentional avoidance of information does not absolve a person of his section 8(e) obligation. Part III has been modified to express these intentions.

Comment 8: Circumstances can exist when coming "into possession" of risk information does not correspond to an understanding of the implications of the information; "obtains" should be defined in terms of possession of information and awareness of its import.

Response: The "obtaining" of information occurs via persons who are "capable of appreciating the significance of pertinent information." There will likely be circumstances in which the evaluation of information clarifies its full import; the establishment of corporate procedures for processing risk-information prescribed in Part II will expedite this.

C. TIME ALLOWED FOR COMPLIANCE

Comment 9: Fifteen calendar days is insufficient to determine whether information which "may suggest" substantial risk should be reported; it is even insufficient to accommodate normal procedural time constraints (corporate processing, mailing, holidays, etc.).

Response: The Agency has changed the compliance period to 15 business days. It is imperative that procedures be established to expedite the reporting of substantial-risk information, not that reporting conform to existing procedures.

Comment 10: Allow from 30 to 90 days for the second phase of reporting; alternatively, do not prescribe a time limit for additional reporting.

Response: Having deleted the "may suggest" criterion, the Agency sees no need to provide a second phase to the reporting period. Supplemental information that is generated after a section 8(e) notification should, if appropriate, be immediately reported.

Comment 11: Allow from 30 to 120 days to report pre-1977 information; this period should commence: (a) upon final publication, (b) January 1, 1978, (c) following the inventory reporting period since many of the same corporate personnel will be implementing both requirements.

Response: The policy statement prescribes a 60 day reporting period, commencing immediately upon publication. Section 8(e) has been in effect since January 1, 1977; postponement in reporting substantial-risk information is not warranted.

D. EFFECTS AND INFORMATION THAT MUST BE REPORTED

Comment 12: The reporting of "any instance" of cancer, birth defects, etc., in humans is too broad and such information will be of little use; chemical workers, like the general population, develop cancers and other ailments of uncertain etiology.

Response: This policy statement clarifies that the reporting of single occurrences of human cancer or other serious effects will depend upon evidence strongly implicating one (or a few) chemical(s).

Comment 13: Dermal ailments and nausea are poorly chosen examples of precursor symptoms. Deleting these examples will avoid unduly emphasizing them when other symptoms may be more important, yet will not eliminate the obligation to report them if they are suspected precursors.

Response: The Agency agrees.

Comment 14: How are reportable data distinguished from routine tests including range tests such as LD_{50}'s?

Response: This policy statement directs the reporting of specified effects when unknown to the Administrator. Many routine tests are based on a knowledge of toxicity associated with a chemical; unknown effects occurring during such a range test may have to be reported if they are those of concern to the Agency and if the information meets the criteria set forth in Parts V and VI.

Comment 15: The most widespread "in vitro" test is the Ames test, which is subject to considerable debate. Clarify the circumstances under which positive results of in vitro tests must be reported.

Response: Part VI clarifies that the reporting of in vitro tests will depend upon the existence of corroborative information if necessary to reasonably support the conclusion of substantial risk.

Comment 16: The description of "extreme persistence" as a substantial risk is an example of the need to redefine Part V(c) ("Environmental Effects"). Persistence and bioaccumulation should be considered risks only when coupled with toxicity and significant exposure.

Response: Part V now clarifies those effects for which reporting depends upon a significant exposure potential. Persistence by itself is no longer itemized as a reportable effect but rather is considered to be a component of exposure potential; it may also underlie the measurements described in Part V(b)(1). Laboratory indicators of pronounced bioaccumulation are to be reported when coupled with potential for widespread exposure and any non-trivial adverse effect.

Comment 17: The n-octanol/water partition coefficient addresses a physico-chemical property, not biological effects, and is not alone an indicator of substantial risk; further, the values stated for the coefficient and the bioaccumulation factor in fish do not correspond.

Response: The Agency acknowledges the numerical error and has amended the values to correspond. This policy statement now directs the reporting of an experimental measurement of bioaccumulation when coupled with an adverse effect and potential for widespread exposure.

Comment 18: The requirement that information which "links" an effect to a chemical be reported is too broad and contradicts the statutory language of "reasonably supports".

Response: The Agency has provided in a new Part VI its interpretation of "reasonably supports".

Comment 19: A determination that information "reasonably supports the conclusion" of substantial risk cannot be made independently of considerations of use since the method and manner of using a chemical may influence the occurrence of an effect; in particular, the criteria should reflect a distinction between normal and abnormal uses of chemicals.

Response: The Agency considers that the appropriate components of a "substantial risk" with respect to a chemical are (a) the seriousness of the effect, and (b) total exposure potential. The method and manner of using a chemical is one of several factors determining its exposure potential. As described in Part V, the importance of exposure potential as a component of "substantial risk" depends upon the kind of effect of concern. Thus, the effects described in Part V(a) are so serious that relatively little weight is given to exposure; the effects described in Parts V (b) and (c) involve a significant exposure or exposure potential.

The Agency further considers that a definition of "normal" use for a particular chemical will often depend upon a knowledge of the risks associated with the chemical.

E. INFORMATION THAT NEED NOT BE REPORTED

Comment 20: Information published in scientific literature in languages other than English should be exempted if published in summary form by abstracting services. Can the accuracy of English language abstracts and commercial translations of foreign literature be assumed?

Response: This policy statement now provides that information published in scientific literature, whether in English or another language, is exempt from reporting if published in summary form by certain specified abstract services.

Comment 21: Information exchange systems with other Federal agencies should be immediately established so that respondents need not report to EPA information already reported to other Agencies, and vice versa. Such duplicative reports are unduly burdensome.

Response: EPA is coordinating this program with other agencies now. When this coordination is successfully completed, the policy statement will be amended to exempt from the reporting requirement information that has been submitted to other specified agencies. In the meantime, substantial-risk information must be reported directly to EPA; such a report does not discharge any reporting obligation to other agencies.

F. INFORMATION FIRST RECEIVED PRIOR TO THE EFFECTIVE DATE OF TSCA

Comment 22: The tense of the verb "obtains" reveals that section 8(e) was intended to be applied prospectively to information newly acquired after January 1, 1977. Utilize section 8(d) or other rules to acquire information obtained before then.

Response: As discussed in the preamble to the September 9 proposal, the Agency considers section 8(e) to apply to risk information possessed by or known to a person before, on, or after January 1, 1977. Concerning information first obtained before 1977, this policy statement continues to require reporting of information received if a person has been aware of it since January 1, 1977, for the reasons discussed in the September 9 preamble.

Comment 23: The term "aware" is too vague to be of any help in responding to these requirements. Since many corporate employees are potentially subject to these requirements, and given uncertainty over the extent to which they ought to be aware of pre-1977 information, this provision tends to compel the very file search it was intended to avoid. The term "aware" should be further defined, possibly in terms of actual knowledge.

Response: The Agency in Part VIII of this policy statement now defines the pre-1977 information of which a person is considered to be aware.

G. CONFIDENTIAL INFORMATION

Comment 24: EPA should delay guidance until procedures are published governing the treatment of confidential submissions.

Comment 25: EPA should treat all submissions as confidential until the information is verified.

Comment 26: EPA should automatically publish section 8(e) notices.

Response to Comments 24 through 26: EPA has included a new Part X which describes how to submit a claim of confidentiality and states that any or all of the information submitted may be claimed as confidential. Such information will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2.

H. MISCELLANEOUS

Comment 27: What is the statutory basis or need for guidance? What is its exact status under the Administrative Procedure Act?

Response: This policy statement sets forth EPA's interpretation of and policy concerning TSCA section 8(e). As an interpretive rule and statement of policy it is not subject to the comment period and delayed effective date provisions of the Administrative Procedure Act (5 U.S.C. 553). Although TSCA does not mandate a policy statement, the Agency of necessity must develop the criteria which will govern enforcement activities. Trade associations and businesses were among those who previously expressed interest in such a statement to guide their compliance.

Comment 28: Clarify whether these requirements apply to chemicals previously but no longer manufactured, processed, or distributed in commerce by a person.

Response: Information obtained before 1977 must be reported if the person has been aware of it since January 1, 1977, as prescribed by Part VIII. Concerning chemicals which a person has discontinued manufacturing, processing, or distributing since January 1, 1977, information obtained before the time of discontinuation is subject to these requirements. It is expected that the acquisition of information after that time will be minimal; however, should additional information be acquired, it may trigger the reporting described in Part VIII.

Comment 29: Clarify the meaning of "substantial risk" relative to other risks addressed by TSCA.

Response: A substantial risk is defined in Part V(a) of this policy statement as a risk of considerable concern because of (a) the seriousness of the effect, and (b) the fact or probability of its occurrence. As opposed to other risks addressed by TSCA, economic or social benefits of use, or costs of restricting use, are not to be considered in determining whether a risk is "substantial".

Comment 30: To what extent are "users" of chemicals subject to these requirements?

Response: The Agency considers that many industrial uses of chemicals actually fall within the scope of "processing" chemicals. A manufacturer, processor, or distributor who obtains substantial-risk information concerning chemicals he handles should be alert to the possibility he may have to report it.

Comment 31: Are chemicals manufactured, processed and distributed in commerce in small quantities solely for purposes of research and development subject to these requirements?

Response: In general, the Agency considers that much manufacturing, processing, and distribution in commerce of chemicals in small quantities solely for purposes of research and development is conducted for "commercial purposes". Such purposes would include the sale and distribution of such materials, as well as their use by the manufacturer or processor in activities (for example, product research and development and studies assessing the feasibility and safety of using chemicals) preceding his or a client's commercial use of such materials or others on a larger scale.

As described in Part V, the Agency considers that "substantial risks" depend in part upon an exposure potential. Thus, the occurrence of the effects described in Part V(a) presuppose exposure to the chemical and must be reported; reporting of the other effects will depend upon a potential for significant levels of exposure.

Comment 32: Are raw materials, intermediates, and inert ingredients produced or used in the manufacture of a pesticide subject to TSCA?

Response: The Administrator considers that raw materials, intermediates and inert ingredients produced or used in the manufacture of a pesticide are substances or mixtures which can be regulated under TSCA.

In order to be considered a pesticide, a substance must be intended for use as a pesticide. Raw materials, intermediates, and inert ingredients produced or used in the manufacture of a pesticide are not themselves regulated under FIFRA (unless they happen to be pesticides themselves) and, therefore, are subject to TSCA. The pesti-

cide regulations at 40 CFR 162.4 are consistent with this view.

Comment 33: Are intermediates and catalysts intended solely for use in the production of a food, food additive, drug, cosmetic, or device subject to TSCA?

Response: The Administrator considers that intermediates and catalysts intended solely for use in the production of a food, food additive, drug, cosmetic, or device are excluded from regulation under TSCA. The definitions of the FFDCA provide that chemical substances which are intended for use as a component of a food, food additive, drug, cosmetic, or device are encompassed within the meaning of such terms, respectively. The FDA considers intermediates and catalysts to be such components. Therefore, they are subject to regulation under the FFDCA. Any such substance is excluded from regulation under TSCA insofar as it is actually manufactured, processed, or distributed in commerce solely for use in the production of a food, food additive, drug, cosmetic, or device.

Comment 34: Employees should have the option to submit reports anonymously.

Response: EPA considers that any person may report information to EPA under TSCA. Those who are required to do so under section 8(e) are persons who manufacture, process, or distribute in commerce chemical substances or mixtures, including not only business entities but also such employees as described in Part II. In order to establish that such persons have discharged their obligations, and in order to encourage responsible review of the quality of information and the substantiality of risks, EPA believes that notifiers should identify themselves. Section 23 will adequately protect employees from discrimination pursuant to notifications they have made under section 8(e).

[FR Doc. 78-7064 Filed 3-15-78; 8:45 am]

NOTE

According to technical amendments published by EPA in the May 29, 1987 FEDERAL REGISTER (52 FR 20083), TSCA Section 8(e) submissions are to be addressed to the Agency as follows:

Document Processing Center (TS-790)
(Attn: Section 8(e) Coordinator)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 50-00-0 — CHEMICAL NAME: FORMALDEHYDE
SUBMISSION #: 8EHQ-0689-0804 — 8EHQ-0490-0924

CAS NUMBER: 50-29-3 — CHEMICAL NAME: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 50-29-3 — CHEMICAL NAME: DDT
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 62-53-3 — CHEMICAL NAME: ANILINE
SUBMISSION #: 8EHQ-0190-0864 — 8EHQ-0990-1080 S

CAS NUMBER: 62-53-3 — CHEMICAL NAME: BENZENAMINE
SUBMISSION #: 8EHQ-0190-0864 — 8EHQ-0990-1080 S

CAS NUMBER: 67-63-0 — CHEMICAL NAME: ISOPROPANOL
SUBMISSION #: 8EHQ-0290-0884

CAS NUMBER: 67-63-0 — CHEMICAL NAME: 2-PROPANOL
SUBMISSION #: 8EHQ-0290-0884

CAS NUMBER: 68-12-2 — CHEMICAL NAME: FORMAMIDE, N,N-DIMETHYL-
SUBMISSION #: 8EHQ-0590-0981

CAS NUMBER: 70-55-3 — CHEMICAL NAME: BENZENESULFONAMIDE, 4-METHYL-
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 70-55-3 — CHEMICAL NAME: P-TOLUENESULFONAMIDE
SUBMISSION #: 8EHQ-0490-0938

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 71-43-2 CHEMICAL NAME: BENZENE
SUBMISSION #: 8EHQ-0990-1077

CAS NUMBER: 71-55-6 CHEMICAL NAME: ETHANE, 1,1,1-TRICHLORO-
SUBMISSION #: 8EHQ-0889-0817 8EHQ-0490-0953

CAS NUMBER: 72-54-8 CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 72-56-0 CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-ETHYL-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 74-83-9 CHEMICAL NAME: METHANE, BROMO-
SUBMISSION #: 8EHQ-1189-0844

CAS NUMBER: 74-83-9 CHEMICAL NAME: METHYL BROMIDE
SUBMISSION #: 8EHQ-1189-0844

CAS NUMBER: 75-02-5 CHEMICAL NAME: ETHENE, FLUORO-
SUBMISSION #: 8EHQ-1289-0856

CAS NUMBER: 75-02-5 CHEMICAL NAME: VINYL FLUORIDE
SUBMISSION #: 8EHQ-1289-0856

CAS NUMBER: 75-15-0 CHEMICAL NAME: CARBON DISULFIDE
SUBMISSION #: 8EHQ-0390-0904

CAS NUMBER: 75-21-8 CHEMICAL NAME: ETHYLENE OXIDE
SUBMISSION #: 8EHQ-0890-1053

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 75-21-8 CHEMICAL NAME: OXIRANE
SUBMISSION #: 8EHQ-0890-1053

CAS NUMBER: 75-31-0 CHEMICAL NAME: 2-PROPANAMINE
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 75-34-3 CHEMICAL NAME: ETHANE, 1,1-DICHLORO-
SUBMISSION #: 8EHQ-0490-0953

CAS NUMBER: 75-35-4 CHEMICAL NAME: ETHENE, 1,1-DICHLORO-
SUBMISSION #: 8EHQ-0490-0953

CAS NUMBER: 75-71-8 CHEMICAL NAME: METHANE, DICHLORODIFLUORO-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 75-71-8 CHEMICAL NAME: REFRIGERANT 12
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 78-88-6 CHEMICAL NAME: 1-PROPENE, 2,3-DICHLORO-
SUBMISSION #: 8EHQ-0290-0892

CAS NUMBER: 78-93-3 CHEMICAL NAME: 2-BUTANONE
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 80-54-6 CHEMICAL NAME: BENZENEPROPANAL, 4-(1,1-DIMETHYLETHYL)-.ALPHA.-METHYL-
SUBMISSION #: 8EHQ-0490-0931 S

CAS NUMBER: 80-62-6 CHEMICAL NAME: METHYL METHACRYLATE
SUBMISSION #: 8EHQ-0490-0917 8EHQ-0690-0999 *

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 80-62-6 CHEMICAL NAME: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER
SUBMISSION #: 8EHQ-0490-0917 8EHQ-0690-0999 *

CAS NUMBER: 84-74-2 CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER
SUBMISSION #: 8EHQ-0590-0971

CAS NUMBER: 88-19-7 CHEMICAL NAME: BENZENESULFONAMIDE, 2-METHYL-
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 88-19-7 CHEMICAL NAME: O-TOLUENESULFONAMIDE
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 88-73-3 CHEMICAL NAME: BENZENE, 1-CHLORO-2-NITRO-
SUBMISSION #: 8EHQ-0590-0973

CAS NUMBER: 88-75-5 CHEMICAL NAME: PHENOL, 2-NITRO-
SUBMISSION #: 8EHQ-0590-0978

CAS NUMBER: 91-66-7 CHEMICAL NAME: BENZENAMINE, N,N-DIETHYL-
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 91-94-1 CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0490-0962

CAS NUMBER: 91-94-1 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0490-0962

CAS NUMBER: 92-87-5 CHEMICAL NAME: BENZIDINE
SUBMISSION #: 8EHQ-0190-0863

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 92-87-5 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 95-53-4 CHEMICAL NAME: BENZENAMINE, 2-METHYL-
SUBMISSION #: 8EHQ-0190-0864 8EHQ-0990-1080 S

CAS NUMBER: 95-53-4 CHEMICAL NAME: O-TOLUIDINE
SUBMISSION #: 8EHQ-0190-0864 8EHQ-0990-1080 S

CAS NUMBER: 95-78-3 CHEMICAL NAME: BENZENAMINE, 2,5-DIMETHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 95-78-3 CHEMICAL NAME: 2,5-XYLIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 96-23-1 CHEMICAL NAME: 2-PROPANOL, 1,3-DICHLORO-
SUBMISSION #: 8EHQ-0889-0812

CAS NUMBER: 96-29-7 CHEMICAL NAME: 2-BUTANONE, OXIME
SUBMISSION #: 8EHQ-0990-1063

CAS NUMBER: 97-02-9 CHEMICAL NAME: ANILINE, 2,4-DINITRO-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 97-02-9 CHEMICAL NAME: BENZENAMINE, 2,4-DINITRO-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 98-82-8 CHEMICAL NAME: BENZENE, (1-METHYLETHYL)-
SUBMISSION #: 8EHQ-1189-0846

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 98-82-8 CHEMICAL NAME: CUMENE
SUBMISSION #: 8EHQ-1189-0846

CAS NUMBER: 99-54-7 CHEMICAL NAME: BENZENE, 1,2-DICHLORO-4-NITRO-
SUBMISSION #: 8EHQ-0590-0972

CAS NUMBER: 99-54-7 CHEMICAL NAME: ORTHENE, NITRATED
SUBMISSION #: 8EHQ-0590-0972

CAS NUMBER: 100-00-5 CHEMICAL NAME: BENZENE, 1-CHLORO-4-NITRO-
SUBMISSION #: 8EHQ-0590-0980

CAS NUMBER: 100-01-6 CHEMICAL NAME: ANILINE, P-NITRO-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 100-01-6 CHEMICAL NAME: BENZENAMINE, 4-NITRO-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 100-37-8 CHEMICAL NAME: ETHANOL, 2-(DIETHYLAMINO)-
SUBMISSION #: 8EHQ-0890-1043

CAS NUMBER: 101-20-2 CHEMICAL NAME: TCC SOAP BACTERIOSTAT
SUBMISSION #: 8EHQ-0590-0968

CAS NUMBER: 101-20-2 CHEMICAL NAME: UREA, N-(4-CHLOROPHENYL)-N'-(3,4-DICHLOROPHENYL)-
SUBMISSION #: 8EHQ-0590-0968

CAS NUMBER: 101-68-8 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[4-ISOCYANATO-
SUBMISSION #: 8EHQ-0289-0784 8EHQ-0290-0876

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 102-06-7 CHEMICAL NAME: DPG ACCELERATOR
SUBMISSION #: 8EHQ-0590-0990

CAS NUMBER: 102-06-7 CHEMICAL NAME: GUANIDINE, N,N'-DIPHENYL-
SUBMISSION #: 8EHQ-0590-0990

CAS NUMBER: 103-30-0 CHEMICAL NAME: BENZENE, 1,1'-(1,2-ETHENEDIYL)BIS-, (E)-
SUBMISSION #: 8EHQ-0490-0939

CAS NUMBER: 103-30-0 CHEMICAL NAME: STILBENE, TRANS-
SUBMISSION #: 8EHQ-0490-0939

CAS NUMBER: 104-13-2 CHEMICAL NAME: ANILINE, P-BUTYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-13-2 CHEMICAL NAME: BENZENAMINE, 4-BUTYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-42-7 CHEMICAL NAME: ANILINE, P-DODECYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-42-7 CHEMICAL NAME: BENZENAMINE, 4-DODECYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-76-7 CHEMICAL NAME: 1-HEXANOL, 2-ETHYL-
SUBMISSION #: 8EHQ-0390-0910 S

CAS NUMBER: 106-49-0 CHEMICAL NAME: BENZENAMINE, 4-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 106-49-0 CHEMICAL NAME: P-TOLUIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 106-99-0 CHEMICAL NAME: 1,3-BUTADIENE
SUBMISSION #: 8EHQ-0390-0901 8EHQ-0390-0902

CAS NUMBER: 107-11-9 CHEMICAL NAME: 2-PROPEN-1-AMINE
SUBMISSION #: 8EHQ-1089-0830

CAS NUMBER: 107-15-3 CHEMICAL NAME: 1,2-ETHANEDIAMINE
SUBMISSION #: 8EHQ-0589-0801

CAS NUMBER: 107-30-2 CHEMICAL NAME: METHANE, CHLOROMETHOXY-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 108-10-1 CHEMICAL NAME: 2-PENTANONE, 4-METHYL-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 108-44-1 CHEMICAL NAME: BENZENAMINE, 3-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 108-44-1 CHEMICAL NAME: M-TOLUIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 111-30-8 CHEMICAL NAME: GLUTARDIALDEHYDE
SUBMISSION #: 8EHQ-0690-1008

CAS NUMBER: 111-30-8 CHEMICAL NAME: PENTANEDIAL
SUBMISSION #: 8EHQ-0690-1008

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 111-92-2 CHEMICAL NAME: 1-BUTANAMINE, N-BUTYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 112-27-6 CHEMICAL NAME: ETHANOL, 2,2'-[1,2-ETHANEDIYLBIS(OXY)]BIS-
SUBMISSION #: 8EHQ-0990-1064

CAS NUMBER: 112-35-6 CHEMICAL NAME: ETHANOL, 2-[2-(2-METHOXYETHOXY)ETHOXY]-
SUBMISSION #: 8EHQ-0690-1002

CAS NUMBER: 112-96-9 CHEMICAL NAME: OCTADECANE, 1-ISOCYANATO-
SUBMISSION #: 8EHQ-0689-0802

CAS NUMBER: 115-10-6 CHEMICAL NAME: METHANE, OXYBIS-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 115-86-6 CHEMICAL NAME: PHOSPHORIC ACID, TRIPHENYL ESTER
SUBMISSION #: 8EHQ-0590-0975 8EHQ-0590-0976

CAS NUMBER: 117-08-8 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 4,5,6,7-TETRACHLORO-
SUBMISSION #: 8EHQ-0490-0948

CAS NUMBER: 117-08-8 CHEMICAL NAME: TETRATHAL
SUBMISSION #: 8EHQ-0490-0948

CAS NUMBER: 119-90-4 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY-
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 119-90-4 CHEMICAL NAME: O-DIANISIDINE
SUBMISSION #: 8EHQ-0190-0863

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 119-93-7 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL-
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0990-1080 S

CAS NUMBER: 119-93-7 CHEMICAL NAME: O-TOLIDINE
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0990-1080 S

CAS NUMBER: 120-71-8 CHEMICAL NAME: BENZENAMINE, 2-METHOXY-5-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 120-71-8 CHEMICAL NAME: P-CRESIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 123-86-4 CHEMICAL NAME: ACETIC ACID, BUTYL ESTER
SUBMISSION #: 8EHQ-0290-0880

CAS NUMBER: 124-09-4 CHEMICAL NAME: 1,6-HEXANEDIAMINE
SUBMISSION #: 8EHQ-0590-0979

CAS NUMBER: 124-64-1 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, CHLORIDE
SUBMISSION #: 8EHQ-0689-0804 8EHQ-0290-0877

CAS NUMBER: 126-73-8 CHEMICAL NAME: PHOSPHORIC ACID TRIBUTYL ESTER
SUBMISSION #: 8EHQ-1189-0847 8EHQ-0690-1007

CAS NUMBER: 127-19-5 CHEMICAL NAME: ACETAMIDE, N,N-DIMETHYL-
SUBMISSION #: 8EHQ-0590-0981

CAS NUMBER: 131-57-7 CHEMICAL NAME: METHANONE, (2-HYDROXY-4-METHOXYPHENYL)PHENYL-
SUBMISSION #: 8EHQ-1289-0855

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 131-72-6 CHEMICAL NAME: 2-BUTENOIC ACID, 2-(1-METHYLHEPTYL)-4,6-DINITROPHENYL ESTER, (E)-

SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 137-30-4 CHEMICAL NAME: VANCIDE MZ-96

SUBMISSION #: 8EHQ-0890-1045

CAS NUMBER: 137-30-4 CHEMICAL NAME: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (T-4)-

SUBMISSION #: 8EHQ-0890-1045

CAS NUMBER: 140-88-5 CHEMICAL NAME: ACRYLIC ACID, ETHYL ESTER

SUBMISSION #: 8EHQ-0490-0917

CAS NUMBER: 140-88-5 CHEMICAL NAME: ETHYL ACRYLATE

SUBMISSION #: 8EHQ-0490-0917

CAS NUMBER: 140-88-5 CHEMICAL NAME: 2-PROPENOIC ACID, ETHYL ESTER

SUBMISSION #: 8EHQ-0490-0917

CAS NUMBER: 142-73-4 CHEMICAL NAME: GLYCINE, N-(CARBOXYMETHYL)-

SUBMISSION #: 8EHQ-0490-0946

CAS NUMBER: 149-30-4 CHEMICAL NAME: 2(3H)-BENZOTHIAZOLETHIONE

SUBMISSION #: 8EHQ-0889-0813

CAS NUMBER: 151-32-6 CHEMICAL NAME: HEXANEDIOIC ACID, DINONYL ESTER

SUBMISSION #: 8EHQ-0590-0982

CAS NUMBER: 287-29-6 CHEMICAL NAME: SILACYCLOBUTANE

SUBMISSION #: 8EHQ-0990-1084

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 288-13-1 CHEMICAL NAME: 1H-PYRAZOLE
SUBMISSION #: 8EHQ-0789-0807 S

CAS NUMBER: 288-88-0 CHEMICAL NAME: 1H-1,2,4-TRIAZOLE
SUBMISSION #: 8EHQ-0489-0792

CAS NUMBER: 409-21-2 CHEMICAL NAME: SILICON CARBIDE FIBERS
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 409-21-2 CHEMICAL NAME: SILICON CARBIDE, (SIC)
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 420-04-2 CHEMICAL NAME: CYANAMIDE
SUBMISSION #: 8EHQ-0490-0952 S

CAS NUMBER: 420-04-2 CHEMICAL NAME: CYANAMIDE, HYDROGEN
SUBMISSION #: 8EHQ-0490-0952 S

CAS NUMBER: 463-58-1 CHEMICAL NAME: CARBON OXIDE SULFIDE, (COS)
SUBMISSION #: 8EHQ-0290-0892

CAS NUMBER: 513-35-9 CHEMICAL NAME: 2-BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 541-85-5 CHEMICAL NAME: 3-HEPTANONE, 5-METHYL-
SUBMISSION #: 8EHQ-0489-0793

CAS NUMBER: 541-85-5 CHEMICAL NAME: KETONE, ETHYL-SEC-AMYL
SUBMISSION #: 8EHQ-0489-0793

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 542-88-1 CHEMICAL NAME: BIS(CHLOROMETHYL)ETHER (BCME)
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 542-88-1 CHEMICAL NAME: METHANE, OXYBIS[CHLORO-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 553-26-4 CHEMICAL NAME: 4,4'-BIPYRIDINE
SUBMISSION #: 8EHQ-1089-0831

CAS NUMBER: 556-52-5 CHEMICAL NAME: GLYCIDOL
SUBMISSION #: 8EHQ-0789-0809 *

CAS NUMBER: 556-52-5 CHEMICAL NAME: OXIRANEMETHANOL
SUBMISSION #: 8EHQ-0789-0809 *

CAS NUMBER: 557-09-5 CHEMICAL NAME: OCTANOIC ACID, ZINC SALT
SUBMISSION #: 8EHQ-0690-1019

CAS NUMBER: 563-46-2 CHEMICAL NAME: 1-BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 565-80-0 CHEMICAL NAME: 3-PENTANONE, 2,4-DIMETHYL-
SUBMISSION #: 8EHQ-0990-1062

CAS NUMBER: 576-26-1 CHEMICAL NAME: PHENOL, 2,6-DIMETHYL-
SUBMISSION #: 8EHQ-0790-1027

CAS NUMBER: 592-45-0 CHEMICAL NAME: 1,4-HEXADIENE
SUBMISSION #: 8EHQ-0990-1061

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 598-73-2 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-
SUBMISSION #: 8EHQ-1289-0859

CAS NUMBER: 611-19-8 CHEMICAL NAME: BENZENE, 1-CHLORO-2-(CHLOROMETHYL)-
SUBMISSION #: 8EHQ-0690-1020

CAS NUMBER: 612-83-9 CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-, DIHYDROCHLORIDE
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 612-83-9 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-, DIHYDROCHLORID
E
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 616-45-5 CHEMICAL NAME: 2-PYRROLIDINONE
SUBMISSION #: 8EHQ-1089-0829

CAS NUMBER: 616-47-7 CHEMICAL NAME: 1H-IMIDAZOLE, 1-METHYL-
SUBMISSION #: 8EHQ-0690-1019

CAS NUMBER: 646-06-0 CHEMICAL NAME: 1,3-DIOXOLANE
SUBMISSION #: 8EHQ-0889-0817

CAS NUMBER: 762-49-2 CHEMICAL NAME: ETHANE, 1-BROMO-2-FLUORO-
SUBMISSION #: 8EHQ-0889-0818 S

CAS NUMBER: 768-52-5 CHEMICAL NAME: BENZENAMINE, N-(1-METHYLETHYL)-
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 793-24-8 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-
SUBMISSION #: 8EHQ-0590-0966

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 793-24-8 CHEMICAL NAME: SANTOFLEX 13
SUBMISSION #: 8EHQ-0590-0966

CAS NUMBER: 919-30-2 CHEMICAL NAME: 1-PROPANAMINE, 3-(TRIETHOXYSILYL)-
SUBMISSION #: 8EHQ-0389-0780

CAS NUMBER: 919-30-2 CHEMICAL NAME: SILANE A-1100
SUBMISSION #: 8EHQ-0389-0780

CAS NUMBER: 941-69-5 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1-PHENYL-
SUBMISSION #: 8EHQ-0690-1000 S

CAS NUMBER: 998-30-1 CHEMICAL NAME: SILANE, TRIETHOXY-
SUBMISSION #: 8EHQ-1089-0832

CAS NUMBER: 1300-73-8 CHEMICAL NAME: BENZENAMINE, AR,AR-DIMETHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 1300-73-8 CHEMICAL NAME: XYLIDINE (MIXED)
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 1309-64-4 CHEMICAL NAME: ANTIMONY OXIDE (SB203)
SUBMISSION #: 8EHQ-0589-0797

CAS NUMBER: 1318-23-6 CHEMICAL NAME: ALUMINUM OXIDE, ALPHA-MONOHYDRATE
SUBMISSION #: 8EHQ-0790-1029

CAS NUMBER: 1318-23-6 CHEMICAL NAME: BOEHMITE, (AL(OH)O)
SUBMISSION #: 8EHQ-0790-1029

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 1332-21-4 CHEMICAL NAME: ASBESTOS
SUBMISSION #: 8EHQ-0690-1018 8EHQ-0790-1029

CAS NUMBER: 1336-36-3 CHEMICAL NAME: 1,1'-BIPHENYL, CHLORO DERIVS.
SUBMISSION #: 8EHQ-0490-0933

CAS NUMBER: 1336-36-3 CHEMICAL NAME: POLYCHLORINATED BIPHENYLS (PCB)
SUBMISSION #: 8EHQ-0490-0933

CAS NUMBER: 1344-28-1 CHEMICAL NAME: ALUMINA WHISKERS
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 1344-28-1 CHEMICAL NAME: ALUMINUM OXIDE (AL203)
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 1429-50-1 CHEMICAL NAME: DEQUEST 2041
SUBMISSION #: 8EHQ-0490-0940

CAS NUMBER: 1429-50-1 CHEMICAL NAME: PHOSPHONIC ACID, [1,2-ETHANEDIYLBIS[NITRILOBIS(METHYLENE)]]T ETRAKIS-
SUBMISSION #: 8EHQ-0490-0940

CAS NUMBER: 1453-58-3 CHEMICAL NAME: 1-H-PYRAZOLE, 3-METHYL-
SUBMISSION #: 8EHQ-0389-0786 S

CAS NUMBER: 1477-55-0 CHEMICAL NAME: 1,3-BENZENEDIMETHANAMINE
SUBMISSION #: 8EHQ-0390-0909 *

CAS NUMBER: 1634-04-4 CHEMICAL NAME: PROPANE, 2-METHOXY-2-METHYL-
SUBMISSION #: 8EHQ-0390-0900

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 1842-05-3 CHEMICAL NAME: ETHANE, 1,1-DICHLORO-1,2-DIFLUORO-
SUBMISSION #: 8EHQ-0890-1046

CAS NUMBER: 1842-05-3 CHEMICAL NAME: HCFC-132C
SUBMISSION #: 8EHQ-0890-1046

CAS NUMBER: 2155-38-6 CHEMICAL NAME: BA 42'580
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 2155-38-6 CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-[2-[2-(OXIRANYLMETHOXY)ETHOXY]ETHYL]-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 2421-28-5 CHEMICAL NAME: 3,3',4,4'-BENZOPHENONETETRACARBOXYLIC ACID DIANHYDRIDE
SUBMISSION #: 8EHQ-0589-0796

CAS NUMBER: 2421-28-5 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-CARBONYLBIS-
SUBMISSION #: 8EHQ-0589-0796

CAS NUMBER: 2479-46-1 CHEMICAL NAME: BENZENAMINE, 4,4'-(1,3-PHENYLENEBIS(OXY)BIS-
SUBMISSION #: 8EHQ-0390-0898

CAS NUMBER: 2479-46-1 CHEMICAL NAME: RODA
SUBMISSION #: 8EHQ-0390-0898

CAS NUMBER: 2512-29-0 CHEMICAL NAME: BUTANAMIDE, 2-[(4-METHYL-2-NITROPHENYL)AZO]-3-OXO-N-PHENYL-
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2512-29-0 CHEMICAL NAME: PERMANENT YELLOW G TYPE
SUBMISSION #: 8EHQ-0490-0962

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 2512-29-0 CHEMICAL NAME: C. I. PIGMENT YELLOW 14
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2524-03-0 CHEMICAL NAME: PHOSPHOROCHLORIDOTHIOIC ACID, O,O-DIMETHYL ESTER
SUBMISSION #: 8EHQ-0290-0878 8EHQ-0290-0892

CAS NUMBER: 2530-87-2 CHEMICAL NAME: DOW CORNING Q1-2366 SILANE
SUBMISSION #: 8EHQ-0990-1067

CAS NUMBER: 2530-87-2 CHEMICAL NAME: SILANE, (3-CHLOROPROPYL)TRIMETHOXY-
SUBMISSION #: 8EHQ-0990-1067

CAS NUMBER: 2536-05-2 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[2-ISOCYANATO-
SUBMISSION #: 8EHQ-0289-0784

CAS NUMBER: 2540-99-0 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-SULFONYLBIS-
SUBMISSION #: 8EHQ-0489-0795

CAS NUMBER: 2540-99-0 CHEMICAL NAME: 4,4'-SULFONYLBIS(PHTHALIC ANHYDRIDE)
SUBMISSION #: 8EHQ-0489-0795

CAS NUMBER: 2591-86-8 CHEMICAL NAME: 1-PIPERIDINECARBOXALDEHYDE
SUBMISSION #: 8EHQ-0590-0974

CAS NUMBER: 2628-16-2 CHEMICAL NAME: PHENOL, 4-ETHENYL-, ACETATE
SUBMISSION #: 8EHQ-0990-1082

CAS NUMBER: 2628-16-2 CHEMICAL NAME: STYRENE, ACETOXY-
SUBMISSION #: 8EHQ-0990-1082

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 2716-10-1 CHEMICAL NAME: BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS-

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 2716-10-1 CHEMICAL NAME: EPIKURE 1061

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 2716-12-3 CHEMICAL NAME: BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS[2,6-DIMETHYL-

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 2716-12-3 CHEMICAL NAME: EPIKURE 1062

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 3081-14-9 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N,N'-BIS(1,4-DIMETHYLPENTYL)-

SUBMISSION #: 8EHQ-0590-0977

CAS NUMBER: 3081-14-9 CHEMICAL NAME: SANTOFLEX 77

SUBMISSION #: 8EHQ-0590-0977

CAS NUMBER: 3388-03-2 CHEMICAL NAME: ARALDITE CY-175

SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3388-03-2 CHEMICAL NAME: BAKELITE ERL-4234

SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3388-03-2 CHEMICAL NAME: BA 42'579

SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3388-03-2 CHEMICAL NAME: ERL-4234

SUBMISSION #: 8EHQ-1189-0847

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 3388-03-2 CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-

SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3520-72-7 CHEMICAL NAME: PERMANENT ORANGE G TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 3520-72-7 CHEMICAL NAME: C.I. PIGMENT ORANGE 13

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 3520-72-7 CHEMICAL NAME: 3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-PHENYL-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 3618-72-2 CHEMICAL NAME: ACETAMIDE, N-[5-[BIS[2-(ACETYLOXY)ETHYL]AMINO]-2-[(2-BROMO-4,6-DINITROPHENYL)AZO]-4-METHOXYPHENYL]-

SUBMISSION #: 8EHQ-0790-1030

CAS NUMBER: 3618-72-2 CHEMICAL NAME: C. I. DISPERSE BLUE 79:1 (PURIFIED PRESSCAKE)

SUBMISSION #: 8EHQ-0790-1030

CAS NUMBER: 3806-34-6 CHEMICAL NAME: 2,4,8,10-TETRAOXA-3,9-DIPHOSPHASPIRO[5.5]UNDECANE, 3,9-BIS(OCTADECYLOXY)-

SUBMISSION #: 8EHQ-0590-0996

CAS NUMBER: 3806-34-6 CHEMICAL NAME: WESTON 618

SUBMISSION #: 8EHQ-0590-0996

CAS NUMBER: 4109-96-0 CHEMICAL NAME: CHLOROSILANE A-199

SUBMISSION #: 8EHQ-0689-0803

CAS NUMBER: 4109-96-0 CHEMICAL NAME: SILANE, DICHLORO-

SUBMISSION #: 8EHQ-0689-0803

CAS NUMBER: 4170-30-3 CHEMICAL NAME: 2-BUTENAL

SUBMISSION #: 8EHQ-0690-1017

CAS NUMBER: 4170-30-3 CHEMICAL NAME: CROTONALDEHYDE

SUBMISSION #: 8EHQ-0690-1017

CAS NUMBER: 4351-70-6 CHEMICAL NAME: PHOSGARD C-22-R

SUBMISSION #: 8EHQ-0490-0947

CAS NUMBER: 4351-70-6 CHEMICAL NAME: PHOSPHONIC ACID, [1-[[(2-CHLOROETHOXY)(2-CHLOROETHYL)PHOSPHINYL]OXY]ETHYL]-, 1-[BIS(2-CHLOROETHOXY)PHOSPHINYL]ETHYL 2-CHLOROETHYL ESTER

SUBMISSION #: 8EHQ-0490-0947

CAS NUMBER: 4531-49-1 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2-METHOXYPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 4531-49-1 CHEMICAL NAME: PERMANENT YELLOW GG TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 4531-49-1 CHEMICAL NAME: C. I. PIGMENT YELLOW 17

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5076-19-7 CHEMICAL NAME: ISOAMYLENE OXIDE

SUBMISSION #: 8EHQ-0690-1003

CAS NUMBER: 5102-83-0 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2,4-DIMETHYLPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5102-83-0 CHEMICAL NAME: PERMANENT YELLOW GR TYPE

SUBMISSION #: 8EHQ-0490-0962

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 5102-83-0 CHEMICAL NAME: C.I. PIGMENT YELLOW 13

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5567-15-7 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(4-CHLORO-2,5-DIMETHOXYPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5567-15-7 CHEMICAL NAME: PERMANENT YELLOW HR TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5567-15-7 CHEMICAL NAME: C. I. PIGMENT YELLOW 83

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5979-28-2 CHEMICAL NAME: BUTANAMIDE, N,N'-(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS[2-[(2,4-DICHLOROPHENYL)AZO]-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5979-28-2 CHEMICAL NAME: PERMANENT YELLOW NCG TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5979-28-2 CHEMICAL NAME: C. I. PIGMENT YELLOW 16

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-85-6 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[3-OXO-N-PHENYL-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-85-6 CHEMICAL NAME: PERMANENT YELLOW DBG TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-85-6 CHEMICAL NAME: C. I. PIGMENT YELLOW 12

SUBMISSION #: 8EHQ-0490-0962

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 6358-87-8 CHEMICAL NAME: C. I. PIGMENT RED 38

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-87-8 CHEMICAL NAME: 1H-PYRAZOLE-3-CARBOXYLIC ACID, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[4,5-DIHYDRO-5-OXO-1-PHENYL-, DIETHYL ESTER

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-87-8 CHEMICAL NAME: VULCAN FAST RED B

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6419-19-8 CHEMICAL NAME: DEQUEST 2000

SUBMISSION #: 8EHQ-0490-0937

CAS NUMBER: 6419-19-8 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-

SUBMISSION #: 8EHQ-0490-0937

CAS NUMBER: 6422-83-9 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1,1'-(4-METHYL-1,3-PHENYLENE)BIS-

SUBMISSION #: 8EHQ-0790-1023 S

CAS NUMBER: 7085-85-0 CHEMICAL NAME: 2-PROPENOIC ACID, 2-CYANO-, ETHYL ESTER

SUBMISSION #: 8EHQ-0989-0821 S

CAS NUMBER: 7400-27-3 CHEMICAL NAME: HYDRAZINE, (1,1-DIMETHYLETHYL)-, MONOHYDROCHLORIDE

SUBMISSION #: 8EHQ-0890-1042

CAS NUMBER: 7439-92-1 CHEMICAL NAME: LEAD

SUBMISSION #: 8EHQ-0990-1071

CAS NUMBER: 7440-31-5 CHEMICAL NAME: TIN

SUBMISSION #: 8EHQ-0990-1071

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 7705-08-0 CHEMICAL NAME: IRON CHLORIDE (FECL3)
SUBMISSION #: 8EHQ-0890-1042

CAS NUMBER: 7723-14-0 CHEMICAL NAME: PHOSPHORUS
SUBMISSION #: 8EHQ-0889-0820

CAS NUMBER: 9014-92-0 CHEMICAL NAME: POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(DODECYLPHENYL)-.OMEGA.-HYDROXY-
SUBMISSION #: 8EHQ-0490-0942

CAS NUMBER: 9014-92-0 CHEMICAL NAME: STEROX DJ SURFACTANT
SUBMISSION #: 8EHQ-0490-0942

CAS NUMBER: 9016-87-9 CHEMICAL NAME: ISOCYANIC ACID, POLYMETHYLENEPOLYPHENYLENE ESTER
SUBMISSION #: 8EHQ-0289-0784

CAS NUMBER: 10578-42-4 CHEMICAL NAME: BA 42'581
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 10578-42-4 CHEMICAL NAME: 7-OXABICYCLO[4.1.0]HEPTANE, 3-[(OXIRANYLMETHOXY)METHYL]-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 11097-69-1 CHEMICAL NAME: AROCHLOR 1254
SUBMISSION #: 8EHQ-0490-0933

CAS NUMBER: 13463-41-7 CHEMICAL NAME: ZINC, BIS(1-HYDROXY-2(1H)-PYRIDINETHIONATO-O,S)-, (T-4)-
SUBMISSION #: 8EHQ-0790-1035

CAS NUMBER: 13463-41-7 CHEMICAL NAME: ZINC PYRITHIONE
SUBMISSION #: 8EHQ-0790-1035

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 13565-96-3 CHEMICAL NAME: BISMUTH MOLYBDENUM OXIDE, (BI2MO06)

SUBMISSION #: 8EHQ-0389-0789

CAS NUMBER: 13586-68-0 CHEMICAL NAME: 2-PROPENAL, 3-[4-(1,1-DIMETHYLETHYL)PHENYL]-2-METHYL-

SUBMISSION #: 8EHQ-0490-0931 S

CAS NUMBER: 14024-41-0 CHEMICAL NAME: IRIDATE(3-), HEXACHLORO-, TRIPOTASSIUM, (OC-6-11)-

SUBMISSION #: 8EHQ-0590-0991 S

CAS NUMBER: 14059-33-7 CHEMICAL NAME: BISMUTH VANADIUM OXIDE, (BIV04)

SUBMISSION #: 8EHQ-0389-0789

CAS NUMBER: 14697-48-4 CHEMICAL NAME: HEXANEDIOIC ACID, DIHEPTYL ESTER

SUBMISSION #: 8EHQ-0590-0982

CAS NUMBER: 15793-73-4 CHEMICAL NAME: PERMANENT ORANGE RL TYPE

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 15793-73-4 CHEMICAL NAME: C. I. PIGMENT ORANGE 34

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 15793-73-4 CHEMICAL NAME: 3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-(4-METHYLPHENYL)-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 15827-60-8 CHEMICAL NAME: DEQUEST 2060

SUBMISSION #: 8EHQ-0490-0950 8EHQ-0490-0951

CAS NUMBER: 15827-60-8 CHEMICAL NAME: PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[2,1-ETHANEDIYLNITRILOBIS(METHYLENE)]]TETRAKIS-

SUBMISSION #: 8EHQ-0490-0950 8EHQ-0490-0951

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 16714-68-4 CHEMICAL NAME: PROPANE, 1,1,2,2,3-PENTACHLORO-

SUBMISSION #: 8EHQ-0290-0892

CAS NUMBER: 16881-77-9 CHEMICAL NAME: SILANE, DIMETHOXYMETHYL-

SUBMISSION #: 8EHQ-0690-1009

CAS NUMBER: 17095-24-8 CHEMICAL NAME: 2,7-NAPHTHALENEDISULFONIC ACID, 4-AMINO-5-HYDROXY-3,6-BIS[[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]AZO]-, TETRASODIUM SALT

SUBMISSION #: 8EHQ-0290-0885

CAS NUMBER: 17095-24-8 CHEMICAL NAME: C.I. REACTIVE BLACK 5

SUBMISSION #: 8EHQ-0290-0885

CAS NUMBER: 18406-41-2 CHEMICAL NAME: 2,7-DIOXA-3,6-DISILAOCTANE, 3,3,6,6-TETRAMETHOXY-

SUBMISSION #: 8EHQ-0890-1047

CAS NUMBER: 18406-41-2 CHEMICAL NAME: DOW CORNING X1-6145A ADDITIVE

SUBMISSION #: 8EHQ-0890-1047

CAS NUMBER: 20592-85-2 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-, SODIUM SALT

SUBMISSION #: 8EHQ-0490-0937

CAS NUMBER: 22042-96-2 CHEMICAL NAME: DEQUEST 2061

SUBMISSION #: 8EHQ-0490-0950

CAS NUMBER: 22042-96-2 CHEMICAL NAME: DEQUEST 2066

SUBMISSION #: 8EHQ-0490-0950

CAS NUMBER: 22042-96-2 CHEMICAL NAME: PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[(2,1-ETHANEDIYLNITRILO)BIS(METHYLENE)]]TETRAKIS-, SODIUM SALT

SUBMISSION #: 8EHQ-0490-0950

CAS NUMBER: 25103-58-6 CHEMICAL NAME: TERT-DODECANETHIOL
SUBMISSION #: 8EHQ-0590-0994 *

CAS NUMBER: 25339-17-7 CHEMICAL NAME: ISODECANOL
SUBMISSION #: 8EHQ-0390-0911 S

CAS NUMBER: 25550-98-5 CHEMICAL NAME: PHOSPHOROUS ACID, DIISODECYL PHENYL ESTER
SUBMISSION #: 8EHQ-0490-0963

CAS NUMBER: 26140-60-3 CHEMICAL NAME: TERPHENYL
SUBMISSION #: 8EHQ-0590-0983

CAS NUMBER: 26616-47-7 CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-, HOMOPOLYMER
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 26760-64-5 CHEMICAL NAME: BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 26760-64-5 CHEMICAL NAME: ISOAMYLENE
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 27344-41-8 CHEMICAL NAME: BENZENESULFONIC ACID, 2,2'-([1,1'-BIPHENYL]-4,4'-DIYLDI-2,1-ETHENEDIYL)BIS-, DISODIUM SALT
SUBMISSION #: 8EHQ-0989-0822

CAS NUMBER: 27344-41-8 CHEMICAL NAME: FAT 65029/G
SUBMISSION #: 8EHQ-0989-0822

CAS NUMBER: 32536-52-0 CHEMICAL NAME: BENZENE, 1,1'-OXYBIS-, OCTABROMO DERIV.
SUBMISSION #: 8EHQ-0990-1072

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 34364-42-6 CHEMICAL NAME: PHOSPHORIC ACID, (1-METHYL-1-PHENYLETHYL)PHENYL DIPHENYL EST ER

SUBMISSION #: 8EHQ-0590-0975 8EHQ-0590-0976

CAS NUMBER: 34643-46-4 CHEMICAL NAME: PHOSPHORODITHIOIC ACID, O-(2,4-DICHLOROPHENYL)-, O-ETHYL S-P ROPYL ESTER

SUBMISSION #: 8EHQ-0989-0823

CAS NUMBER: 34643-46-4 CHEMICAL NAME: PROTHIOFOS

SUBMISSION #: 8EHQ-0989-0823

CAS NUMBER: 34643-46-4 CHEMICAL NAME: TOKUTHION

SUBMISSION #: 8EHQ-0989-0823

CAS NUMBER: 37871-12-8 CHEMICAL NAME: BENZENE, (1,1-DIMETHYLETHYL)ETHYL-

SUBMISSION #: 8EHQ-0290-0893

CAS NUMBER: 38051-10-4 CHEMICAL NAME: PHOSGARD 2XC20

SUBMISSION #: 8EHQ-0490-0944

CAS NUMBER: 38051-10-4 CHEMICAL NAME: PHOSPHORIC ACID, 2,2-BIS(CHLOROMETHYL)-1,3-PROPANEDIYL TETRA KIS(2-CHLOROETHYL) ESTER

SUBMISSION #: 8EHQ-0490-0944

CAS NUMBER: 38444-13-2 CHEMICAL NAME: BENZOIC ACID, 4-METHOXY-, 4-PENTYLPHENYL ESTER

SUBMISSION #: 8EHQ-0290-0894

CAS NUMBER: 38638-05-0 CHEMICAL NAME: PHOSPHORIC ACID, NONYLPHENYL DIPHENYL ESTER

SUBMISSION #: 8EHQ-0590-0975 8EHQ-0590-0976

CAS NUMBER: 38888-98-1 CHEMICAL NAME: BENZENE, (PHENYLETHYL)-

SUBMISSION #: 8EHQ-0590-0984

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 38970-72-8 CHEMICAL NAME: CYCLOHEXANE, 1,1'-(1,1,3-TRIMETHYL-1,3-PROPANEDIYL)BIS-

SUBMISSION #: 8EHQ-0490-0949

CAS NUMBER: 38970-72-8 CHEMICAL NAME: HLD

SUBMISSION #: 8EHQ-0490-0949

CAS NUMBER: 47073-92-7 CHEMICAL NAME: CYANIC ACID, ETHYLIDENEBIS-4,1-PHENYLENE ESTER

SUBMISSION #: 8EHQ-0189-0781 S

CAS NUMBER: 52572-38-0 CHEMICAL NAME: BENZENEDIAZONIUM, 3-METHYL-4-(1-PYRROLIDINYL)-, TRICHLOROZINCATE(1-)

SUBMISSION #: 8EHQ-0790-1021

CAS NUMBER: 52572-38-0 CHEMICAL NAME: DIAZO Y

SUBMISSION #: 8EHQ-0790-1021

CAS NUMBER: 54395-37-8 CHEMICAL NAME: 1H-ISOINDOLE-1,3-(2H)-DIONE, 2-BUTYL-5-NITRO-

SUBMISSION #: 8EHQ-0790-1024

CAS NUMBER: 55157-25-0 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-, HOMOPOLYMER

SUBMISSION #: 8EHQ-0190-0860 S

CAS NUMBER: 55566-30-8 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT)

SUBMISSION #: 8EHQ-0689-0804 8EHQ-0290-0877

CAS NUMBER: 56982-91-3 CHEMICAL NAME: SILICATE, TETRAMETHYL AMMONIUM

SUBMISSION #: 8EHQ-0390-0899 *

CAS NUMBER: 57910-79-9 CHEMICAL NAME: 2-BUTANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-

SUBMISSION #: 8EHQ-0990-1065

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 57910-79-9 CHEMICAL NAME: LUCEL-4
SUBMISSION #: 8EHQ-0990-1065

CAS NUMBER: 61788-32-7 CHEMICAL NAME: TERPHENYL, HYDROGENATED
SUBMISSION #: 8EHQ-0590-0983

CAS NUMBER: 61791-26-2 CHEMICAL NAME: AMINES, TALLOW ALKYL, ETHOXYLATED
SUBMISSION #: 8EHQ-0190-0871 S

CAS NUMBER: 63402-26-6 CHEMICAL NAME: HYDRAZINECARBOXALDEHYDE, 2-(4-AMINOPHENYL)-
SUBMISSION #: 8EHQ-0189-0779

CAS NUMBER: 63449-88-7 CHEMICAL NAME: BUTANOIC ACID, 1-CYCLOHEXYLETHYL ESTER
SUBMISSION #: 8EHQ-0490-0943

CAS NUMBER: 63470-53-1 CHEMICAL NAME: GOLD, DIMETHYL-1,1,1-TRIFLUORO-2,4-PENTANEDIONATO
SUBMISSION #: 8EHQ-0589-0800

CAS NUMBER: 64800-83-5 CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-
SUBMISSION #: 8EHQ-0590-0984

CAS NUMBER: 64819-51-8 CHEMICAL NAME: 2-HEXANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-5-METHYL-
SUBMISSION #: 8EHQ-0890-1041

CAS NUMBER: 64819-51-8 CHEMICAL NAME: LUCEL-7 AZO FOAMING AGENT
SUBMISSION #: 8EHQ-0890-1041

CAS NUMBER: 65701-07-7 CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, 4,4'-CARBONYLBIS-, AR,AR'-DIETHYL ESTER, COMPD. WITH 1,3-BENZENEDIAMINE
SUBMISSION #: 8EHQ-0590-0967

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 65701-07-7 CHEMICAL NAME: SKYBOND 700 POLYIMIDE RESIN
SUBMISSION #: 8EHQ-0590-0967

CAS NUMBER: 66070-54-0 CHEMICAL NAME: 1-DECENE, POLYMER WITH 1-OCTENE, HYDROGENATED
SUBMISSION #: 8EHQ-0590-0985 *

CAS NUMBER: 67762-90-7 CHEMICAL NAME: SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILIC A
SUBMISSION #: 8EHQ-0590-0985 *

CAS NUMBER: 68398-19-6 CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-, MONO-AR-ETHYL DERIV.
SUBMISSION #: 8EHQ-0590-0984

CAS NUMBER: 68412-24-8 CHEMICAL NAME: NAPHTHALENE, 1,2,3,4-TETRAHYDRO-, C1-4-ALKYL DERIVS.
SUBMISSION #: 8EHQ-0590-0984

CAS NUMBER: 68515-75-3 CHEMICAL NAME: HEXANEDIOIC ACID, DI-C7-9-BRANCHED AND LINEAR ALKYL ESTERS
SUBMISSION #: 8EHQ-0590-0982

CAS NUMBER: 68515-81-1 CHEMICAL NAME: ISONONYL ALCOHOL
SUBMISSION #: 8EHQ-0390-0912 S

CAS NUMBER: 68648-87-3 CHEMICAL NAME: ALKYLATE 215
SUBMISSION #: 8EHQ-0590-0965

CAS NUMBER: 68648-87-3 CHEMICAL NAME: ALKYLATE 230
SUBMISSION #: 8EHQ-0590-0970

CAS NUMBER: 68648-87-3 CHEMICAL NAME: BENZENE, C10-16-ALKYL DERIVS.
SUBMISSION #: 8EHQ-0590-0965 8EHQ-0590-0970

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 68855-24-3 CHEMICAL NAME: BENZENE, C14-30-ALKYL DERIVS.
SUBMISSION #: 8EHQ-0590-0969

CAS NUMBER: 68855-24-3 CHEMICAL NAME: THERMINOL 55
SUBMISSION #: 8EHQ-0590-0969

CAS NUMBER: 68908-87-2 CHEMICAL NAME: BENZENE, 1,3-DIMETHYL-, BENZYLATED
SUBMISSION #: 8EHQ-0490-0941

CAS NUMBER: 68920-82-1 CHEMICAL NAME: AMIDES, FROM DIETHYLENETRIAMINE AND HYDROGENATED TALLOW
SUBMISSION #: 8EHQ-0990-1076 S

CAS NUMBER: 68937-41-7 CHEMICAL NAME: DURAD 110
SUBMISSION #: 8EHQ-0990-1057

CAS NUMBER: 68937-41-7 CHEMICAL NAME: KRONITEX 50
SUBMISSION #: 8EHQ-0990-1057

CAS NUMBER: 68937-41-7 CHEMICAL NAME: PHENOL, ISOPROPYLATED, PHOSPHATE (3:1)
SUBMISSION #: 8EHQ-1189-0847 8EHQ-0990-1057

CAS NUMBER: 70205-95-7 CHEMICAL NAME: BUILDER U
SUBMISSION #: 8EHQ-0490-0945

CAS NUMBER: 70205-95-7 CHEMICAL NAME: OXOACETIC ACID HOMOPOLYMER, SODIUM SALT
SUBMISSION #: 8EHQ-0490-0945

CAS NUMBER: 71050-62-9 CHEMICAL NAME: 2-PROPENOIC ACID, POLYMER WITH SODIUM PHOSPHINATE
SUBMISSION #: 8EHQ-0190-0866 S

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 71130-60-4 CHEMICAL NAME: PHENOL, 2-[(ETHYLAMINO)METHYL]-4-NITRO-

SUBMISSION #: 8EHQ-0190-0867 *

CAS NUMBER: 73160-32-4 CHEMICAL NAME: 2-BUTANONE, O,O'-(ETHENYLMETHYLSYLYLENE)DIOXIME, (E,Z)-

SUBMISSION #: 8EHQ-0889-0810 S

CAS NUMBER: 83261-15-8 CHEMICAL NAME: L-2-CHLOROPROPRIONIC ACID, ISOBUTYL ESTER

SUBMISSION #: 8EHQ-0490-0936

CAS NUMBER: 85940-63-2 CHEMICAL NAME: 1,5-NAPHTHALENEDISULFONIC ACID, 2-[[4,5-DIHYDRO-3-METHYL-5-OXO-1-[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]-1H-PYRAZOL-4-YL]AZO]-, POTASSIUM SODIUM SALT

SUBMISSION #: 8EHQ-0890-1051 S

CAS NUMBER: 88485-37-4 CHEMICAL NAME: ACETOPHENONE OXIME, O-(1,3-DIOXOLAN-2-YL-METHYL)-2,2,2-TRIFLUORO-4'-CHLORO-

SUBMISSION #: 8EHQ-0990-1081

CAS NUMBER: 88485-37-4 CHEMICAL NAME: ETHANONE, 1-(4-CHLOROPHENYL)-2,2,2-TRIFLUORO-, O-(1,3-DIOXOLAN-2-YLMETHYL)OXIME

SUBMISSION #: 8EHQ-0990-1081

CAS NUMBER: 94317-64-3 CHEMICAL NAME: N-(N-BUTYL)THIOPHOSPHORIC TRIAMIDE

SUBMISSION #: 8EHQ-0490-0934 S

CAS NUMBER: 94857-19-9 CHEMICAL NAME: 1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, POLYMER WITH 1,3-BIS(1-ISOCYANATO-1-METHYLETHYL)BENZENE

SUBMISSION #: 8EHQ-0290-0880

CAS NUMBER: 101657-77-6 CHEMICAL NAME: CYANIC ACID, METHYLENEBIS(2,6-DIMETHYL-4,1-PHENYLENE) ESTER

SUBMISSION #: 8EHQ-0189-0781 S

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 103112-35-2 CHEMICAL NAME: 1(H)-1,2,4-TRIAZOLE-3-CARBOXYLATE, ETHYL 1-(2,4-DICHLOROPHENYL)-5-TRICHLOROMETHYL-

SUBMISSION #: 8EHQ-0490-0960

CAS NUMBER: 103490-06-8 CHEMICAL NAME: EPIKOTE 1071

SUBMISSION #: 8EHQ-0690-1015

CAS NUMBER: 103490-06-8 CHEMICAL NAME: EPON HPT RESIN 1071

SUBMISSION #: 8EHQ-0690-1015

CAS NUMBER: 106990-43-6 CHEMICAL NAME: CHIMASSORB 119

SUBMISSION #: 8EHQ-1089-0836

CAS NUMBER: 106990-43-6 CHEMICAL NAME: 1,3,5-TRIAZINE-2,4,6-TRIAMINE, N,N'''-[1,2-ETHANEDIYLBIS[[[4,6-BIS[BUTYL(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)AMINO]-1,3,5-TRIAZIN-2-YL]IMINO]-3,1-PROPANEDIYL]]-BIS[N',N''-DIBUTYL-N',N''-BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)-

SUBMISSION #: 8EHQ-1089-0836

CAS NUMBER: 118832-72-7 CHEMICAL NAME: ACETIC ACID, [[[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]METHYL]THIO]-, C10-14-ISOALKYL ESTERS

SUBMISSION #: 8EHQ-0790-1033

CAS NUMBER: 118832-72-7 CHEMICAL NAME: DP-118

SUBMISSION #: 8EHQ-0790-1033

CAS NUMBER: 122185-09-5 CHEMICAL NAME: DECANE, 1,10-BIS-TRIMETHOXYSILYL-

SUBMISSION #: 8EHQ-1089-0837 S

CAS NUMBER: 124737-31-1 CHEMICAL NAME: BENZENEDIAZONIUM, 4-(DIMETHYLAMINO)-, 5-SULFOSALICYLATE

SUBMISSION #: 8EHQ-0990-1068

APPENDIX B: STATUS REPORTS BY CAS NUMBER

CAS NUMBER: 124737-31-1 CHEMICAL NAME: DIAZO B SS

SUBMISSION #: 8EHQ-0990-1068

CAS NUMBER: 129217-90-9 CHEMICAL NAME: CONDENSATE OF ANILINE, O-TOLUIDINE AND TEREPHTHALALDEHYDE, REACTION PRODUCT WITH MALEIC ANHYDRIDE

SUBMISSION #: 8EHQ-0990-1069

CAS NUMBER: 129217-90-9 CHEMICAL NAME: MP-2000

SUBMISSION #: 8EHQ-0990-1069

CAS NUMBER: 127-19-5 CHEMICAL NAME: ACETAMIDE, N,N-DIMETHYL-

SUBMISSION #: 8EHQ-0590-0981

CAS NUMBER: 3618-72-2 CHEMICAL NAME: ACETAMIDE, N-[5-[BIS[2-(ACETYLOXY)ETHYL]AMINO]-2-[(2-BROMO-4,6-DINITROPHENYL)AZO]-4-METHOXYPHENYL]-

SUBMISSION #: 8EHQ-0790-1030

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETANILIDE, HETEROCYCLIC SUBSTITUTED

SUBMISSION #: 8EHQ-0190-0865 S 8EHQ-0190-0869 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED

SUBMISSION #: 8EHQ-0290-0889 S 8EHQ-0490-0955 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (I)

SUBMISSION #: 8EHQ-0390-0896 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (II)

SUBMISSION #: 8EHQ-0390-0897 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (III)

SUBMISSION #: 8EHQ-0490-0923 S

CAS NUMBER: 123-86-4 CHEMICAL NAME: ACETIC ACID, BUTYL ESTER

SUBMISSION #: 8EHQ-0290-0880

CAS NUMBER: CONFIDENT CHEMICAL NAME: ACETIC ACID ESTER, SUBSTITUTED

SUBMISSION #: 8EHQ-0290-0887 S

CAS NUMBER: 118832-72-7 CHEMICAL NAME: ACETIC ACID, [[[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]METHYL]THIO]-, C10-14-ISOALKYL ESTERS

SUBMISSION #: 8EHQ-0790-1033

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0290-0890 S
CHEMICAL NAME: ACETOPHENONE OXIME

CAS NUMBER: 88485-37-4
SUBMISSION #: 8EHQ-0990-1081
CHEMICAL NAME: ACETOPHENONE OXIME, O-(1,3-DIOXOLAN-2-YL-METHYL)-2,2,2-TRIFLUORO-4'-CHLORO-

CAS NUMBER: 140-88-5
SUBMISSION #: 8EHQ-0490-0917
CHEMICAL NAME: ACRYLIC ACID, ETHYL ESTER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0821 S
CHEMICAL NAME: ACRYLIC POLYMER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1059 S *
CHEMICAL NAME: ALKALINE OXIDIZER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1048 S
CHEMICAL NAME: ALKENOIC ACID, SUBSTITUTED-, ALKYL ESTER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0920 S
CHEMICAL NAME: ALKENOYL DISUBSTITUTED CYCLOALKANE

CAS NUMBER: 68648-87-3
SUBMISSION #: 8EHQ-0590-0965
CHEMICAL NAME: ALKYLATE 215

CAS NUMBER: 68648-87-3
SUBMISSION #: 8EHQ-0590-0970
CHEMICAL NAME: ALKYLATE 230

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0389-0787 S
CHEMICAL NAME: ALKYL HETEROCYCLE

CAS NUMBER: CONFIDENT CHEMICAL NAME: ALLYLOXY KETAL
SUBMISSION #: 8EHQ-0990-1066 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ALLYLOXY PRECURSOR, UNKETALIZED
SUBMISSION #: 8EHQ-0990-1066 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ALPHA-CYANOCARBOCYCLIC CARBOXYLATE
SUBMISSION #: 8EHQ-0990-1058 S

CAS NUMBER: 1344-28-1 CHEMICAL NAME: ALUMINA WHISKERS
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 1318-23-6 CHEMICAL NAME: ALUMINUM OXIDE, ALPHA-MONOHYDRATE
SUBMISSION #: 8EHQ-0790-1029

CAS NUMBER: 1344-28-1 CHEMICAL NAME: ALUMINUM OXIDE (Al_2O_3)
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: NONE CHEMICAL NAME: ALUMINUM PRODUCTION PROCESS
SUBMISSION #: 8EHQ-0390-0915

CAS NUMBER: CONFIDENT CHEMICAL NAME: AMIDE, ARYL-SUBSTITUTED AMINO
SUBMISSION #: 8EHQ-0690-1012 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: AMIDE, HALOALKYL HETEROAROMATIC
SUBMISSION #: 8EHQ-0590-0995 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: AMIDE, HETEROCYCLIC
SUBMISSION #: 8EHQ-1289-0853 S 8EHQ-0490-0918 S

CAS NUMBER: 68920-82-1
SUBMISSION #: 8EHQ-0990-1076 S
CHEMICAL NAME: AMIDES, FROM DIETHYLENETRIAMINE AND HYDROGENATED TALLOW

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0690-1006 S
CHEMICAL NAME: AMIDE, SUBSTITUTED ORGANIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0290-0873 S
CHEMICAL NAME: AMINE, AROMATIC
8EHQ-0390-0905 S *

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0927 S
CHEMICAL NAME: AMINE, ARYL

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0790-1025 S
CHEMICAL NAME: AMINE, HALOALKYL

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1060 S
CHEMICAL NAME: AMINE, HALOALKYL, (II)

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1289-0854 S
CHEMICAL NAME: AMINE, HETEROCYCLIC
8EHQ-0590-0989 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0959 S
CHEMICAL NAME: AMINE METAL COMPLEX

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1054 S
CHEMICAL NAME: AMINE POLYMER, SUBSTITUTED

CAS NUMBER: 61791-26-2
SUBMISSION #: 8EHQ-0190-0871 S
CHEMICAL NAME: AMINES, TALLOW ALKYL, ETHOXYLATED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0961 S
CHEMICAL NAME: AMINO ACID (I)

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0790-1029
CHEMICAL NAME: AMOSITE

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0825 S
CHEMICAL NAME: ANILIDE (III), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0825 S
CHEMICAL NAME: ANILIDE (II), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0825 S
CHEMICAL NAME: ANILIDE (I), SUBSTITUTED

CAS NUMBER: 62-53-3
SUBMISSION #: 8EHQ-0190-0864
CHEMICAL NAME: ANILINE
8EHQ-0990-1080 S

CAS NUMBER: 104-13-2
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: ANILINE, P-BUTYL-

CAS NUMBER: 104-42-7
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: ANILINE, P-DODECYL-

CAS NUMBER: 100-01-6
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: ANILINE, P-NITRO-

CAS NUMBER: 97-02-9
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: ANILINE, 2,4-DINITRO-

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0790-1029
CHEMICAL NAME: ANTHOPHYLLITE

CAS NUMBER: 1309-64-4
SUBMISSION #: 8EHQ-0589-0797
CHEMICAL NAME: ANTIMONY OXIDE (SB203)

CAS NUMBER: 3388-03-2
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: ARALDITE CY-175

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: ARALDITE CY-185

CAS NUMBER: 11097-69-1
SUBMISSION #: 8EHQ-0490-0933
CHEMICAL NAME: AROCHLOR 1254

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0289-0782 S
CHEMICAL NAME: AROMATIC SULFONAMIDE, SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0390-0913 S
CHEMICAL NAME: ARYL ALKYL HETEROCYCLIC CARBOXYLATE

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0290-0879 S
CHEMICAL NAME: ARYL DIESTER, HALO ALKYL SUBSTITUTED

CAS NUMBER: 1332-21-4
SUBMISSION #: 8EHQ-0690-1018
CHEMICAL NAME: ASBESTOS
8EHQ-0790-1029

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0790-1029
CHEMICAL NAME: ASBESTOS CEMENT

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0824 S
CHEMICAL NAME: AZOLE CARBOXAMIDE, ARYL SUBSTITUTED

CAS NUMBER: 3388-03-2
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: BAKELITE ERL-4234

CAS NUMBER: 3388-03-2
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: BA 42'579

CAS NUMBER: 2155-38-6
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: BA 42'580

CAS NUMBER: 10578-42-4
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: BA 42'581

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1189-0842 S
CHEMICAL NAME: BENZDIOXOLCARBONITRILE, SUBSTITUTED

CAS NUMBER: 62-53-3
SUBMISSION #: 8EHQ-0190-0864
CHEMICAL NAME: BENZENAMINE
8EHQ-0990-1080 S

CAS NUMBER: 1300-73-8
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: BENZENAMINE, AR,AR-DIMETHYL-

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0790-1026 S
CHEMICAL NAME: BENZENAMINE, ARYLOXY SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1073 S
CHEMICAL NAME: BENZENAMINE (II), ARYLOXY SUBSTITUTED

CAS NUMBER: 91-66-7 CHEMICAL NAME: BENZENAMINE, N,N-DIETHYL-
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 768-52-5 CHEMICAL NAME: BENZENAMINE, N-(1-METHYLETHYL)-
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 120-71-8 CHEMICAL NAME: BENZENAMINE, 2-METHOXY-5-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 95-53-4 CHEMICAL NAME: BENZENAMINE, 2-METHYL-
SUBMISSION #: 8EHQ-0190-0864 8EHQ-0990-1080 S

CAS NUMBER: 97-02-9 CHEMICAL NAME: BENZENAMINE, 2,4-DINITRO-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 95-78-3 CHEMICAL NAME: BENZENAMINE, 2,5-DIMETHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 108-44-1 CHEMICAL NAME: BENZENAMINE, 3-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-13-2 CHEMICAL NAME: BENZENAMINE, 4-BUTYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 104-42-7 CHEMICAL NAME: BENZENAMINE, 4-DODECYL-
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 106-49-0 CHEMICAL NAME: BENZENAMINE, 4-METHYL-
SUBMISSION #: 8EHQ-0990-1080 S

APPENDIX C: STATUS REPORTS BY CHEMICAL NAME

CAS NUMBER: 100-01-6 CHEMICAL NAME: BENZENAMINE, 4-NITRO-

SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 2479-46-1 CHEMICAL NAME: BENZENAMINE, 4,4'-(1,3-PHENYLENEBIS(OXY)BIS-

SUBMISSION #: 8EHQ-0390-0898

CAS NUMBER: 2716-10-1 CHEMICAL NAME: BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS-

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 2716-12-3 CHEMICAL NAME: BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS[
2,6-DIMETHYL-

SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 71-43-2 CHEMICAL NAME: BENZENE

SUBMISSION #: 8EHQ-0990-1077

CAS NUMBER: 68648-87-3 CHEMICAL NAME: BENZENE, C10-16-ALKYL DERIVS.

SUBMISSION #: 8EHQ-0590-0965 8EHQ-0590-0970

CAS NUMBER: 68855-24-3 CHEMICAL NAME: BENZENE, C14-30-ALKYL DERIVS.

SUBMISSION #: 8EHQ-0590-0969

CAS NUMBER: 3081-14-9 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N,N'-BIS(1,4-DIMETHYLPENTYL)-

SUBMISSION #: 8EHQ-0590-0977

CAS NUMBER: 793-24-8 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-

SUBMISSION #: 8EHQ-0590-0966

CAS NUMBER: 52572-38-0 CHEMICAL NAME: BENZENEDIAZONIUM, 3-METHYL-4-(1-PYRROLIDINYL)-, TRICHLOROZIN
CATE(1-)

SUBMISSION #: 8EHQ-0790-1021

CAS NUMBER: 124737-31-1
SUBMISSION #: 8EHQ-0990-1068
CHEMICAL NAME: BENZENEDIAZONIUM, 4-(DIMETHYLAMINO)-, 5-SULFOSALICYLATE

CAS NUMBER: 84-74-2
SUBMISSION #: 8EHQ-0590-0971
CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER

CAS NUMBER: 65701-07-7
SUBMISSION #: 8EHQ-0590-0967
CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, 4,4'-CARBONYLBIS-, AR,AR'-DIETHYL ESTER, COMPD. WITH 1,3-BENZENEDIAMINE

CAS NUMBER: 1477-55-0
SUBMISSION #: 8EHQ-0390-0909 *
CHEMICAL NAME: 1,3-BENZENEDIMETHANAMINE

CAS NUMBER: 64800-83-5
SUBMISSION #: 8EHQ-0590-0984
CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-

CAS NUMBER: 68398-19-6
SUBMISSION #: 8EHQ-0590-0984
CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-, MONO-AR-ETHYL DERIV.

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0690-1014 S
CHEMICAL NAME: BENZENE, HALOGENATED SUBSTITUTED

CAS NUMBER: 38888-98-1
SUBMISSION #: 8EHQ-0590-0984
CHEMICAL NAME: BENZENE, (PHENYLETHYL)-

CAS NUMBER: 80-54-6
SUBMISSION #: 8EHQ-0490-0931 S
CHEMICAL NAME: BENZENEPROPANAL, 4-(1,1-DIMETHYLETHYL)-.ALPHA.-METHYL-

CAS NUMBER: 88-19-7
SUBMISSION #: 8EHQ-0490-0938
CHEMICAL NAME: BENZENESULFONAMIDE, 2-METHYL-

CAS NUMBER: 70-55-3 CHEMICAL NAME: BENZENESULFONAMIDE, 4-METHYL-
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 27344-41-8 CHEMICAL NAME: BENZENESULFONIC ACID, 2,2'-([1,1'-BIPHENYL]-4,4'-DIYLDI-2,1-ETHENEDIYL)BIS-, DISODIUM SALT
SUBMISSION #: 8EHQ-0989-0822

CAS NUMBER: 611-19-8 CHEMICAL NAME: BENZENE, 1-CHLORO-2-(CHLOROMETHYL)-
SUBMISSION #: 8EHQ-0690-1020

CAS NUMBER: 88-73-3 CHEMICAL NAME: BENZENE, 1-CHLORO-2-NITRO-
SUBMISSION #: 8EHQ-0590-0973

CAS NUMBER: 100-00-5 CHEMICAL NAME: BENZENE, 1-CHLORO-4-NITRO-
SUBMISSION #: 8EHQ-0590-0980

CAS NUMBER: 98-82-8 CHEMICAL NAME: BENZENE, (1-METHYLETHYL)-
SUBMISSION #: 8EHQ-1189-0846

CAS NUMBER: 37871-12-8 CHEMICAL NAME: BENZENE, (1,1-DIMETHYLETHYL)ETHYL-
SUBMISSION #: 8EHQ-0290-0893

CAS NUMBER: 2536-05-2 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[2-ISOCYANATO-
SUBMISSION #: 8EHQ-0289-0784

CAS NUMBER: 101-68-8 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[4-ISOCYANATO-
SUBMISSION #: 8EHQ-0289-0784 8EHQ-0290-0876

CAS NUMBER: NONE CHEMICAL NAME: BENZENE, 1,1'-OXYBIS-, BROMINATED DERIV.
SUBMISSION #: 8EHQ-0990-1072

CAS NUMBER: 32536-52-0 — CHEMICAL NAME: BENZENE, 1,1'-OXYBIS-, OCTABROMO DERIV.
SUBMISSION #: 8EHQ-0990-1072

CAS NUMBER: 103-30-0 — CHEMICAL NAME: BENZENE, 1,1'-(1,2-ETHENEDIYL)BIS-, (E)-
SUBMISSION #: 8EHQ-0490-0939

CAS NUMBER: 72-54-8 — CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 72-56-0 — CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-ETHYL-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 50-29-3 — CHEMICAL NAME: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 99-54-7 — CHEMICAL NAME: BENZENE, 1,2-DICHLORO-4-NITRO-
SUBMISSION #: 8EHQ-0590-0972

CAS NUMBER: 68908-87-2 — CHEMICAL NAME: BENZENE, 1,3-DIMETHYL-, BENZYLATED
SUBMISSION #: 8EHQ-0490-0941

CAS NUMBER: 92-87-5 — CHEMICAL NAME: BENZIDINE
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 91-94-1 — CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0490-0962

CAS NUMBER: 612-83-9 — CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-, DIHYDROCHLORIDE
SUBMISSION #: 8EHQ-0190-0863

CAS NUMBER: 38444-13-2
SUBMISSION #: 8EHQ-0290-0894
CHEMICAL NAME: BENZOIC ACID, 4-METHOXY-, 4-PENTYLPHENYL ESTER

CAS NUMBER: 2421-28-5
SUBMISSION #: 8EHQ-0589-0796
CHEMICAL NAME: 3,3',4,4'-BENZOPHENONETETRACARBOXYLIC ACID DIANHYDRIDE

CAS NUMBER: 149-30-4
SUBMISSION #: 8EHQ-0889-0813
CHEMICAL NAME: 2(3H)-BENZOTHIAZOLETHIONE

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0990-1072
CHEMICAL NAME: 1,1'-BIPHENYL, BROMO DERIVS.

CAS NUMBER: 1336-36-3
SUBMISSION #: 8EHQ-0490-0933
CHEMICAL NAME: 1,1'-BIPHENYL, CHLORO DERIVS.

CAS NUMBER: 92-87-5
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE

CAS NUMBER: 91-94-1
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-
8EHQ-0490-0962

CAS NUMBER: 612-83-9
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-, DIHYDROCHLORIDE

CAS NUMBER: 119-90-4
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY-

CAS NUMBER: 119-93-7
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL-
8EHQ-0990-1080 S

CAS NUMBER: 553-26-4 CHEMICAL NAME: 4,4'-BIPYRIDINE
SUBMISSION #: 8EHQ-1089-0831

CAS NUMBER: 542-88-1 CHEMICAL NAME: BIS(CHLOROMETHYL)ETHER (BCME)
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 13565-96-3 CHEMICAL NAME: BISMUTH MOLYBDENUM OXIDE, (BI2MO06)
SUBMISSION #: 8EHQ-0389-0789

CAS NUMBER: 14059-33-7 CHEMICAL NAME: BISMUTH VANADIUM OXIDE, (BIV04)
SUBMISSION #: 8EHQ-0389-0789

CAS NUMBER: CONFIDENT CHEMICAL NAME: BIS(SUBSTITUTED PHENYL) SUBSTITUTED AMINO HETEROMONOCYCLE
SUBMISSION #: 8EHQ-0790-1028 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: 1,3-BIS[1-CYANATO-1-METHYLETHYL]BENZENE
SUBMISSION #: 8EHQ-0290-0880

CAS NUMBER: 1318-23-6 CHEMICAL NAME: BOEHMITE, (AL(OH)O)
SUBMISSION #: 8EHQ-0790-1029

CAS NUMBER: 70205-95-7 CHEMICAL NAME: BUILDER U
SUBMISSION #: 8EHQ-0490-0945

CAS NUMBER: 106-99-0 CHEMICAL NAME: 1,3-BUTADIENE
SUBMISSION #: 8EHQ-0390-0901 8EHQ-0390-0902

CAS NUMBER: 5979-28-2 CHEMICAL NAME: BUTANAMIDE, N,N'-(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS [2-[(2,4-DICHLOROPHENYL)AZO]-3-OXO-
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 4531-49-1 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2-METHOXYPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5102-83-0 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2,4-DIMETHYLPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5567-15-7 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(4-CHLORO-2,5-DIMETHOXYPHENYL)-3-OXO-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-85-6 CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[3-OXO-N-PHENYL-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2512-29-0 CHEMICAL NAME: BUTANAMIDE, 2-[(4-METHYL-2-NITROPHENYL)AZO]-3-OXO-N-PHENYL-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 111-92-2 CHEMICAL NAME: 1-BUTANAMINE, N-BUTYL-

SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 63449-88-7 CHEMICAL NAME: BUTANOIC ACID, 1-CYCLOHEXYLETHYL ESTER

SUBMISSION #: 8EHQ-0490-0943

CAS NUMBER: 57910-79-9 CHEMICAL NAME: 2-BUTANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-

SUBMISSION #: 8EHQ-0990-1065

CAS NUMBER: 78-93-3 CHEMICAL NAME: 2-BUTANONE

SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 73160-32-4 CHEMICAL NAME: 2-BUTANONE, O,O'-(ETHENYLMETHYLSYLYLENE)DIOXIME, (E,Z)-

SUBMISSION #: 8EHQ-0889-0810 S

CAS NUMBER: 96-29-7 CHEMICAL NAME: 2-BUTANONE, OXIME
SUBMISSION #: 8EHQ-0990-1063

CAS NUMBER: 4170-30-3 CHEMICAL NAME: 2-BUTENAL
SUBMISSION #: 8EHQ-0690-1017

CAS NUMBER: 513-35-9 CHEMICAL NAME: 2-BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 563-46-2 CHEMICAL NAME: 1-BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 26760-64-5 CHEMICAL NAME: BUTENE, 2-METHYL-
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 131-72-6 CHEMICAL NAME: 2-BUTENOIC ACID, 2-(1-METHYLHEPTYL)-4,6-DINITROPHENYL ESTER, (E)-
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: 94317-64-3 CHEMICAL NAME: N-(N-BUTYL)THIOPHOSPHORIC TRIAMIDE
SUBMISSION #: 8EHQ-0490-0934 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: CARBAZOLE, INDOLO-
SUBMISSION #: 8EHQ-1289-0857 S

CAS NUMBER: 75-15-0 CHEMICAL NAME: CARBON DISULFIDE
SUBMISSION #: 8EHQ-0390-0904

CAS NUMBER: 463-58-1 CHEMICAL NAME: CARBON OXIDE SULFIDE, (COS)
SUBMISSION #: 8EHQ-0290-0892

APPENDIX C: STATUS REPORTS BY CHEMICAL NAME

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0690-1011 S
CHEMICAL NAME: CARBOXYLIC ACID ESTER, ARYLOXY-SUBSTITUTED ALKYL

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0928 S
CHEMICAL NAME: CARBOXYLIC ACID ESTER, HETEROCYCLIC

CAS NUMBER: 106990-43-6
SUBMISSION #: 8EHQ-1089-0836
CHEMICAL NAME: CHIMASSORB 119

CAS NUMBER: 83261-15-8
SUBMISSION #: 8EHQ-0490-0936
CHEMICAL NAME: L-2-CHLOROPROPRIONIC ACID, ISOBUTYL ESTER

CAS NUMBER: 4109-96-0
SUBMISSION #: 8EHQ-0689-0803
CHEMICAL NAME: CHLOROSILANE A-199

CAS NUMBER: 129217-90-9
SUBMISSION #: 8EHQ-0990-1069
CHEMICAL NAME: CONDENSATE OF ANILINE, O-TOLUIDINE AND TEREPHTHALALDEHYDE, REACTION PRODUCT WITH MALEIC ANHYDRIDE

CAS NUMBER: 120-71-8
SUBMISSION #: 8EHQ-0990-1080 S
CHEMICAL NAME: P-CRESIDINE

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0790-1029
CHEMICAL NAME: CROCIDOLITE

CAS NUMBER: 4170-30-3
SUBMISSION #: 8EHQ-0690-1017
CHEMICAL NAME: CROTONALDEHYDE

CAS NUMBER: 98-82-8
SUBMISSION #: 8EHQ-1189-0846
CHEMICAL NAME: CUMENE

CAS NUMBER: NONE — CHEMICAL NAME: CUTTING FLUID
SUBMISSION #: 8EHQ-0990-1078

CAS NUMBER: 420-04-2 — CHEMICAL NAME: CYANAMIDE
SUBMISSION #: 8EHQ-0490-0952 S

CAS NUMBER: 420-04-2 — CHEMICAL NAME: CYANAMIDE, HYDROGEN
SUBMISSION #: 8EHQ-0490-0952 S

CAS NUMBER: 47073-92-7 — CHEMICAL NAME: CYANIC ACID, ETHYLIDENEBIS-4,1-PHENYLENE ESTER
SUBMISSION #: 8EHQ-0189-0781 S

CAS NUMBER: 101657-77-6 — CHEMICAL NAME: CYANIC ACID, METHYLENEBIS(2,6-DIMETHYL-4,1-PHENYLENE) ESTER
SUBMISSION #: 8EHQ-0189-0781 S

CAS NUMBER: NONE — CHEMICAL NAME: CYANOACRYLATE ADHESIVE
SUBMISSION #: 8EHQ-0989-0821 S

CAS NUMBER: UNKNOWN — CHEMICAL NAME: CYCLIC 1,4-PERFLUOROBUTANE DISULFONIMIDE, LITHIUM SALT
SUBMISSION #: 8EHQ-0590-0964

CAS NUMBER: CONFIDENT — CHEMICAL NAME: CYCLOHEXANE, SUBSTITUTED
SUBMISSION #: 8EHQ-0790-1037 S

CAS NUMBER: 38970-72-8 — CHEMICAL NAME: CYCLOHEXANE, 1,1'-(1,1,3-TRIMETHYL-1,3-PROPANEDIYL)BIS-
SUBMISSION #: 8EHQ-0490-0949

CAS NUMBER: 50-29-3 — CHEMICAL NAME: DDT
SUBMISSION #: 8EHQ-0790-1034

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0390-0908 S
CHEMICAL NAME: DD-63

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0921 S
CHEMICAL NAME: DD-70

CAS NUMBER: 122185-09-5
SUBMISSION #: 8EHQ-1089-0837 S
CHEMICAL NAME: DECANE, 1,10-BIS-TRIMETHOXYSILYL-

CAS NUMBER: 66070-54-0
SUBMISSION #: 8EHQ-0590-0985 *
CHEMICAL NAME: 1-DECENE, POLYMER WITH 1-OCTENE, HYDROGENATED

CAS NUMBER: 6419-19-8
SUBMISSION #: 8EHQ-0490-0937
CHEMICAL NAME: DEQUEST 2000

CAS NUMBER: 1429-50-1
SUBMISSION #: 8EHQ-0490-0940
CHEMICAL NAME: DEQUEST 2041

CAS NUMBER: 15827-60-8
SUBMISSION #: 8EHQ-0490-0950 8EHQ-0490-0951
CHEMICAL NAME: DEQUEST 2060

CAS NUMBER: 22042-96-2
SUBMISSION #: 8EHQ-0490-0950
CHEMICAL NAME: DEQUEST 2061

CAS NUMBER: 22042-96-2
SUBMISSION #: 8EHQ-0490-0950
CHEMICAL NAME: DEQUEST 2066

CAS NUMBER: 119-90-4
SUBMISSION #: 8EHQ-0190-0863
CHEMICAL NAME: O-DIANISIDINE

CAS NUMBER: NONE — CHEMICAL NAME: DIARYLIDE PIGMENTS
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 52572-38-0 — CHEMICAL NAME: DIAZO Y
SUBMISSION #: 8EHQ-0790-1021

CAS NUMBER: 124737-31-1 — CHEMICAL NAME: DIAZO 8 SS
SUBMISSION #: 8EHQ-0990-1068

CAS NUMBER: NONE — CHEMICAL NAME: DIBENZOFURANS, CHLORINATED
SUBMISSION #: 8EHQ-0290-0882 8EHQ-0890-1038

CAS NUMBER: 18406-41-2 — CHEMICAL NAME: 2,7-DIOXA-3,6-DISILAOCTANE, 3,3,6,6-TETRAMETHOXY-
SUBMISSION #: 8EHQ-0890-1047

CAS NUMBER: NONE — CHEMICAL NAME: DIOXINS, CHLORINATED
SUBMISSION #: 8EHQ-0290-0882 8EHQ-0890-1038

CAS NUMBER: 646-06-0 — CHEMICAL NAME: 1,3-DIOXOLANE
SUBMISSION #: 8EHQ-0889-0817

CAS NUMBER: CONFIDENT — CHEMICAL NAME: DIPHENYL ETHER, SUBSTITUTED
SUBMISSION #: 8EHQ-0590-0997 S 8EHQ-0890-1055 S 8EHQ-0890-1056 S

CAS NUMBER: 3618-72-2 — CHEMICAL NAME: C. I. DISPERSE BLUE 79:1 (PURIFIED PRESSCAKE)
SUBMISSION #: 8EHQ-0790-1030

CAS NUMBER: 2530-87-2 — CHEMICAL NAME: DOW CORNING Q1-2366 SILANE
SUBMISSION #: 8EHQ-0990-1067

CAS NUMBER: 18406-41-2 CHEMICAL NAME: DOW CORNING X1-6145A ADDITIVE
SUBMISSION #: 8EHQ-0890-1047

CAS NUMBER: CONFIDENT CHEMICAL NAME: DOW CORNING X1-6169
SUBMISSION #: 8EHQ-0990-1066 S

CAS NUMBER: 102-06-7 CHEMICAL NAME: DPG ACCELERATOR
SUBMISSION #: 8EHQ-0590-0990

CAS NUMBER: 118832-72-7 CHEMICAL NAME: DP-118
SUBMISSION #: 8EHQ-0790-1033

CAS NUMBER: 68937-41-7 CHEMICAL NAME: DURAD 110
SUBMISSION #: 8EHQ-0990-1057

CAS NUMBER: CONFIDENT CHEMICAL NAME: EPA ACCESSION # 35406
SUBMISSION #: 8EHQ-0490-0920 S

CAS NUMBER: 103490-06-8 CHEMICAL NAME: EPIKOTE 1071
SUBMISSION #: 8EHQ-0690-1015

CAS NUMBER: 2716-10-1 CHEMICAL NAME: EPIKURE 1061
SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 2716-12-3 CHEMICAL NAME: EPIKURE 1062
SUBMISSION #: 8EHQ-1289-0852 S

CAS NUMBER: 103490-06-8 CHEMICAL NAME: EPON HPT RESIN 1071
SUBMISSION #: 8EHQ-0690-1015

CAS NUMBER: NONE — CHEMICAL NAME: EPOXY RESINS
SUBMISSION #: 8EHQ-0889-0814 — 8EHQ-1189-0847

CAS NUMBER: UNKNOWN — CHEMICAL NAME: ERIONITE
SUBMISSION #: 8EHQ-0790-1029

CAS NUMBER: 3388-03-2 — CHEMICAL NAME: ERL-4234
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 107-15-3 — CHEMICAL NAME: 1,2-ETHANEDIAMINE
SUBMISSION #: 8EHQ-0589-0801

CAS NUMBER: NONE — CHEMICAL NAME: 1,2-ETHANEDIAMINE/CARBAMATE COMPLEX (PARTICULATE)
SUBMISSION #: 8EHQ-0589-0801

CAS NUMBER: 762-49-2 — CHEMICAL NAME: ETHANE, 1-BROMO-2-FLUORO-
SUBMISSION #: 8EHQ-0889-0818 S

CAS NUMBER: 75-34-3 — CHEMICAL NAME: ETHANE, 1,1-DICHLORO-
SUBMISSION #: 8EHQ-0490-0953

CAS NUMBER: 1842-05-3 — CHEMICAL NAME: ETHANE, 1,1-DICHLORO-1,2-DIFLUORO-
SUBMISSION #: 8EHQ-0890-1046

CAS NUMBER: 71-55-6 — CHEMICAL NAME: ETHANE, 1,1,1-TRICHLORO-
SUBMISSION #: 8EHQ-0889-0817 — 8EHQ-0490-0953

CAS NUMBER: 100-37-8 — CHEMICAL NAME: ETHANOL, 2-(DIETHYLAMINO)-
SUBMISSION #: 8EHQ-0890-1043

CAS NUMBER: 112-27-6 CHEMICAL NAME: ETHANOL, 2,2'-[1,2-ETHANEDIYLBIS(OXY)]BIS-
SUBMISSION #: 8EHQ-0990-1064

CAS NUMBER: 112-35-6 CHEMICAL NAME: ETHANOL, 2-[2-(2-METHOXYETHOXY)ETHOXY]-
SUBMISSION #: 8EHQ-0690-1002

CAS NUMBER: 88485-37-4 CHEMICAL NAME: ETHANONE, 1-(4-CHLOROPHENYL)-2,2,2-TRIFLUORO-, O-(1,3-DIOXOLAN-2-YLMETHYL)OXIME
SUBMISSION #: 8EHQ-0990-1081

CAS NUMBER: 598-73-2 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-
SUBMISSION #: 8EHQ-1289-0859

CAS NUMBER: 55157-25-0 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-, HOMOPOLYMER
SUBMISSION #: 8EHQ-0190-0860 S

CAS NUMBER: NONE CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-, HOMOPOLYMER, PYROLYSIS PRODUCTS OF
SUBMISSION #: 8EHQ-0190-0860 S

CAS NUMBER: 75-02-5 CHEMICAL NAME: ETHENE, FLUORO-
SUBMISSION #: 8EHQ-1289-0856

CAS NUMBER: 75-35-4 CHEMICAL NAME: ETHENE, 1,1-DICHLORO-
SUBMISSION #: 8EHQ-0490-0953

CAS NUMBER: CONFIDENT CHEMICAL NAME: ETHER, ARYL ALKYL
SUBMISSION #: 8EHQ-0290-0891 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: ETHER, ARYL PROPYL
SUBMISSION #: 8EHQ-0889-0811 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1289-0851 S

CHEMICAL NAME: ETHER, DIARYL
8EHQ-0290-0883 S
8EHQ-0290-0888 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0926 S

CHEMICAL NAME: ETHER, DIARYL, (IV)

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0930 S

CHEMICAL NAME: ETHER, DIARYL, (V)

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0929 S

CHEMICAL NAME: ETHER, HALOGENATED
*

CAS NUMBER: 140-88-5
SUBMISSION #: 8EHQ-0490-0917

CHEMICAL NAME: ETHYL ACRYLATE

CAS NUMBER: 75-21-8
SUBMISSION #: 8EHQ-0890-1053

CHEMICAL NAME: ETHYLENE OXIDE

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-1289-0850

CHEMICAL NAME: O-ETHYL-O-METHYLETHYL-O-[2-(1,1-DIMETHYLETHYL)-PYRIMIDIN-5-YL]-THIONOPHOSPHOROUS ACID ESTER

CAS NUMBER: 27344-41-8
SUBMISSION #: 8EHQ-0989-0822

CHEMICAL NAME: FAT 65029/G

CAS NUMBER: 50-00-0
SUBMISSION #: 8EHQ-0689-0804

CHEMICAL NAME: FORMALDEHYDE
8EHQ-0490-0924

CAS NUMBER: 68-12-2
SUBMISSION #: 8EHQ-0590-0981

CHEMICAL NAME: FORMAMIDE, N,N-DIMETHYL-

CAS NUMBER: 111-30-8 CHEMICAL NAME: GLUTARDIALDEHYDE
SUBMISSION #: 8EHQ-0690-1008

CAS NUMBER: 556-52-5 CHEMICAL NAME: GLYCIDOL
SUBMISSION #: 8EHQ-0789-0809 *

CAS NUMBER: UNKNOWN CHEMICAL NAME: GLYCINE, N-AMINO-N-(CARBOXYMETHYL)-
SUBMISSION #: 8EHQ-0989-0826 S

CAS NUMBER: 142-73-4 CHEMICAL NAME: GLYCINE, N-(CARBOXYMETHYL)-
SUBMISSION #: 8EHQ-0490-0946

CAS NUMBER: UNKNOWN CHEMICAL NAME: GLYCINE, N-NITROSO-, N-(PHOSPHONOMETHYL)-, SODIUM SALT
SUBMISSION #: 8EHQ-0590-0993

CAS NUMBER: 63470-53-1 CHEMICAL NAME: GOLD, DIMETHYL-1,1,1-TRIFLUORO-2,4-PENTANEDIONATO
SUBMISSION #: 8EHQ-0589-0800

CAS NUMBER: 102-06-7 CHEMICAL NAME: GUANIDINE, N,N'-DIPHENYL-
SUBMISSION #: 8EHQ-0590-0990

CAS NUMBER: CONFIDENT CHEMICAL NAME: GUANIDINIUM ARYL SULFONATE, SUBSTITUTED
SUBMISSION #: 8EHQ-0290-0874 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: HALO ALKYL HYDROXY HETEROCYCLE
SUBMISSION #: 8EHQ-0389-0788 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: HALOGENATED ALKYL ESTER
SUBMISSION #: 8EHQ-0590-1001 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1189-0843 S
CHEMICAL NAME: HALOGENATED BENZOYL UREA

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0889-0816 S
CHEMICAL NAME: HALOPHENYLCYCLOALKENYL SUBSTITUTED ARYL ESTER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1052 S
CHEMICAL NAME: HALOPHENYL SUBSTITUTED MONOHETEROCYCLE

CAS NUMBER: 1842-05-3
SUBMISSION #: 8EHQ-0890-1046
CHEMICAL NAME: HCFC-132C

CAS NUMBER: 541-85-5
SUBMISSION #: 8EHQ-0489-0793
CHEMICAL NAME: 3-HEPTANONE, 5-METHYL-

CAS NUMBER: 592-45-0
SUBMISSION #: 8EHQ-0990-1061
CHEMICAL NAME: 1,4-HEXADIENE

CAS NUMBER: 124-09-4
SUBMISSION #: 8EHQ-0590-0979
CHEMICAL NAME: 1,6-HEXANEDIAMINE

CAS NUMBER: 68515-75-3
SUBMISSION #: 8EHQ-0590-0982
CHEMICAL NAME: HEXANEDIOIC ACID, DI-C7-9-BRANCHED AND LINEAR ALKYL ESTERS

CAS NUMBER: 14697-48-4
SUBMISSION #: 8EHQ-0590-0982
CHEMICAL NAME: HEXANEDIOIC ACID, DIHEPTYL ESTER

CAS NUMBER: 151-32-6
SUBMISSION #: 8EHQ-0590-0982
CHEMICAL NAME: HEXANEDIOIC ACID, DINONYL ESTER

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0290-0881 S
CHEMICAL NAME: HEXANEDIONE, CYCLO-

CAS NUMBER: 104-76-7
SUBMISSION #: 8EHQ-0390-0910 S
CHEMICAL NAME: 1-HEXANOL, 2-ETHYL-

CAS NUMBER: 64819-51-8
SUBMISSION #: 8EHQ-0890-1041
CHEMICAL NAME: 2-HEXANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-5-METHYL-

CAS NUMBER: 38970-72-8
SUBMISSION #: 8EHQ-0490-0949
CHEMICAL NAME: HLD

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0990-1078
CHEMICAL NAME: HOCUT 797-G

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0290-0875 S
CHEMICAL NAME: HYDRAULIC FLUID, MILC PHOSPHATE ESTER-BASED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1089-0838 S
CHEMICAL NAME: HYDRAZIDE COMPOUND

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1189-0840 S
CHEMICAL NAME: HYDRAZIDE, OXO-(SUBSTITUTED AMINO)ACETIC ACID

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0919 S
CHEMICAL NAME: HYDRAZIDE, SUBSTITUTED CARBONOTHIOIC

CAS NUMBER: 63402-26-6
SUBMISSION #: 8EHQ-0189-0779
CHEMICAL NAME: HYDRAZINECARBOXALDEHYDE, 2-(4-AMINOPHENYL)-

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1189-0848 S
CHEMICAL NAME: HYDRAZINE, SUBSTITUTED

CAS NUMBER: 7400-27-3
SUBMISSION #: 8EHQ-0890-1042
CHEMICAL NAME: HYDRAZINE, (1,1-DIMETHYLETHYL)-, MONOHYDROCHLORIDE

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-1189-0845
CHEMICAL NAME: HYDRAZINE, (4-(METHYLBUTOXY)-PHENYL)-, MONOHYDROCHLORIDE

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0922 S
CHEMICAL NAME: HYDROCARBON, CHLORINATED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0790-1022 S
CHEMICAL NAME: HYDROCARBYL SULFIDE, SUBSTITUTED

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-1189-0847
CHEMICAL NAME: HYJET IV-A

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0828 S
CHEMICAL NAME: IMIDATE (II), N-ARYL-CYCLIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0989-0827 S
CHEMICAL NAME: IMIDATE (I), N-ARYL-CYCLIC
8EHQ-0190-0870 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0190-0868 S
CHEMICAL NAME: IMIDATE, N-ARYLCYCLIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0490-0935 S
CHEMICAL NAME: IMIDAZOLE DERIVATIVE

CAS NUMBER: 616-47-7 CHEMICAL NAME: 1H-IMIDAZOLE, 1-METHYL-
SUBMISSION #: 8EHQ-0690-1019

CAS NUMBER: 14024-41-0 CHEMICAL NAME: IRIDATE(3-), HEXACHLORO-, TRIPOTASSIUM, (OC-6-11)-
SUBMISSION #: 8EHQ-0590-0991 S

CAS NUMBER: 7705-08-0 CHEMICAL NAME: IRON CHLORIDE (FECL3)
SUBMISSION #: 8EHQ-0890-1042

CAS NUMBER: 26760-64-5 CHEMICAL NAME: ISOAMYLENE
SUBMISSION #: 8EHQ-0390-0901

CAS NUMBER: 5076-19-7 CHEMICAL NAME: ISOAMYLENE OXIDE
SUBMISSION #: 8EHQ-0690-1003

CAS NUMBER: 117-08-8 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 4,5,6,7-TETRACHLORO-
SUBMISSION #: 8EHQ-0490-0948

CAS NUMBER: 2421-28-5 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-CARBONYLBIS-
SUBMISSION #: 8EHQ-0589-0796

CAS NUMBER: 2540-99-0 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-SULFONYLBIS-
SUBMISSION #: 8EHQ-0489-0795

CAS NUMBER: 9016-87-9 CHEMICAL NAME: ISOCYANIC ACID, POLYMETHYLENEPOLYPHENYLENE ESTER
SUBMISSION #: 8EHQ-0289-0784

CAS NUMBER: 25339-17-7 CHEMICAL NAME: ISODECANOL
SUBMISSION #: 8EHQ-0390-0911 S

CAS NUMBER: 54395-37-8 CHEMICAL NAME: 1H-ISOINDOLE-1,3-(2H)-DIONE, 2-BUTYL-5-NITRO-
SUBMISSION #: 8EHQ-0790-1024

CAS NUMBER: 68515-81-1 CHEMICAL NAME: ISONONYL ALCOHOL
SUBMISSION #: 8EHQ-0390-0912 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: ISONONYL ALCOHOL 1
SUBMISSION #: 8EHQ-0390-0912 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: ISONONYL ALCOHOL 2
SUBMISSION #: 8EHQ-0390-0912 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: ISOPHTHALATE, BIS-(4-VINYLOXYBUTYL)-
SUBMISSION #: 8EHQ-0490-0954 S

CAS NUMBER: 67-63-0 CHEMICAL NAME: ISOPROPANOL
SUBMISSION #: 8EHQ-0290-0884

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETONE, ALKYL
SUBMISSION #: 8EHQ-1289-0858 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETONE, CHLORINATED ALIPHATIC
SUBMISSION #: 8EHQ-0589-0798 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETONE, DIARYL
SUBMISSION #: 8EHQ-0490-0956 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETONE, DIHETEROCYCLIC
SUBMISSION #: 8EHQ-0389-0790 S

CAS NUMBER: 541-85-5 CHEMICAL NAME: KETONE, ETHYL-SEC-AMYL
SUBMISSION #: 8EHQ-0489-0793

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETOXIME (I), ALIPHATIC
SUBMISSION #: 8EHQ-0690-1004 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: KETOXIME (II), ALIPHATIC
SUBMISSION #: 8EHQ-0690-1005 S

CAS NUMBER: 68937-41-7 CHEMICAL NAME: KRONITEX 50
SUBMISSION #: 8EHQ-0990-1057

CAS NUMBER: CONFIDENT CHEMICAL NAME: LACTONE, SUBSTITUTED POLYCYCLIC
SUBMISSION #: 8EHQ-0190-0861 S

CAS NUMBER: NONE CHEMICAL NAME: LATEX EFFLUENT
SUBMISSION #: 8EHQ-0590-0994 *

CAS NUMBER: 7439-92-1 CHEMICAL NAME: LEAD
SUBMISSION #: 8EHQ-0990-1071

CAS NUMBER: 57910-79-9 CHEMICAL NAME: LUCEL-4
SUBMISSION #: 8EHQ-0990-1065

CAS NUMBER: 64819-51-8 CHEMICAL NAME: LUCEL-7 AZO FOAMING AGENT
SUBMISSION #: 8EHQ-0890-1041

CAS NUMBER: NONE CHEMICAL NAME: LUPERFOAM 329
SUBMISSION #: 8EHQ-0890-1042

CAS NUMBER: CONFIDENT CHEMICAL NAME: MAGNACLEAR W 241
SUBMISSION #: 8EHQ-0390-0906 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: MAKO
SUBMISSION #: 8EHQ-0690-1004 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: MAT 7484
SUBMISSION #: 8EHQ-1289-0850

CAS NUMBER: NONE CHEMICAL NAME: MCS 1441
SUBMISSION #: 8EHQ-0590-0975

CAS NUMBER: 74-83-9 CHEMICAL NAME: METHANE, BROMO-
SUBMISSION #: 8EHQ-1189-0844

CAS NUMBER: 107-30-2 CHEMICAL NAME: METHANE, CHLOROMETHOXY-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 75-71-8 CHEMICAL NAME: METHANE, DICHLORODIFLUORO-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 115-10-6 CHEMICAL NAME: METHANE, OXYBIS-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 542-88-1 CHEMICAL NAME: METHANE, OXYBIS[CHLORO-
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: 131-57-7 CHEMICAL NAME: METHANONE, (2-HYDROXY-4-METHOXYPHENYL)PHENYL-
SUBMISSION #: 8EHQ-1289-0855

CAS NUMBER: 74-83-9 CHEMICAL NAME: METHYL BROMIDE
SUBMISSION #: 8EHQ-1189-0844

CAS NUMBER: 80-62-6 CHEMICAL NAME: METHYL METHACRYLATE
SUBMISSION #: 8EHQ-0490-0917 8EHQ-0690-0999 *

CAS NUMBER: CONFIDENT CHEMICAL NAME: MIBKO
SUBMISSION #: 8EHQ-0690-1005 S

CAS NUMBER: NONE CHEMICAL NAME: MIL-H-19457C (MILC)
SUBMISSION #: 8EHQ-0290-0875 S

CAS NUMBER: NONE CHEMICAL NAME: MISC. CHEMICALS
SUBMISSION #: 8EHQ-0190-0863 8EHQ-0190-0864 8EHQ-0390-0915

CAS NUMBER: NONE CHEMICAL NAME: MISC. CHEMICALS
SUBMISSION #: 8EHQ-0490-0962 8EHQ-0590-0991 S 8EHQ-0790-1029

CAS NUMBER: NONE CHEMICAL NAME: MISC. CHEMICALS
SUBMISSION #: 8EHQ-0790-1032 8EHQ-0790-1034 8EHQ-0890-1038

CAS NUMBER: NONE CHEMICAL NAME: MISC. CHEMICALS
SUBMISSION #: 8EHQ-0890-1041 8EHQ-0990-1078 8EHQ-0990-1080 S

CAS NUMBER: NONE CHEMICAL NAME: MORFAX PRODUCTION PROCESS
SUBMISSION #: 8EHQ-0190-0864

CAS NUMBER: 129217-90-9 CHEMICAL NAME: MP-2000
SUBMISSION #: 8EHQ-0990-1069

CAS NUMBER: 129217-90-9 CHEMICAL NAME: MP-2000X
SUBMISSION #: 8EHQ-0990-1069

CAS NUMBER: NONE
CHEMICAL NAME: MULTICORE SOLDER X32B
SUBMISSION #: 8EHQ-0990-1071

CAS NUMBER: NONE
CHEMICAL NAME: MULTICORE TTC-1 TIP TANNER
SUBMISSION #: 8EHQ-0990-1071

CAS NUMBER: 85940-63-2
CHEMICAL NAME: 1,5-NAPHTHALENEDISULFONIC ACID, 2-[[4,5-DIHYDRO-3-METHYL-5-OXO-1-[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]-1H-PYRAZOL-4-YL]AZO]-, POTASSIUM SODIUM SALT
SUBMISSION #: 8EHQ-0890-1051 S

CAS NUMBER: 17095-24-8
CHEMICAL NAME: 2,7-NAPHTHALENEDISULFONIC ACID, 4-AMINO-5-HYDROXY-3,6-BIS[[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]AZO]-, TETRASODIUM SALT
SUBMISSION #: 8EHQ-0290-0885

CAS NUMBER: 68412-24-8
CHEMICAL NAME: NAPHTHALENE, 1,2,3,4-TETRAHYDRO-, C1-4-ALKYL DERIVS.
SUBMISSION #: 8EHQ-0590-0984

CAS NUMBER: CONFIDENT
CHEMICAL NAME: NAPHTHALENOL AROMATIC AZO DYE OF AROMATIC COMPOUNDS
SUBMISSION #: 8EHQ-0390-0903 S

CAS NUMBER: NONE
CHEMICAL NAME: NCP
SUBMISSION #: 8EHQ-0590-0976

CAS NUMBER: CONFIDENT
CHEMICAL NAME: NITROBENZENE, ALKOXY ARYLOXY
SUBMISSION #: 8EHQ-0190-0862 S

CAS NUMBER: CONFIDENT
CHEMICAL NAME: NITROBENZENE, ARYLOXY SUBSTITUTED
SUBMISSION #: 8EHQ-0590-0998 S

CAS NUMBER: CONFIDENT
CHEMICAL NAME: NITROBENZENE (II), ALKOXY ARYLOXY
SUBMISSION #: 8EHQ-0690-1010 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1070 S
CHEMICAL NAME: NITROBENZENE, SUBSTITUTED

CAS NUMBER: 112-96-9
SUBMISSION #: 8EHQ-0689-0802
CHEMICAL NAME: OCTADECANE, 1-ISOCYANATO-

CAS NUMBER: 557-09-5
SUBMISSION #: 8EHQ-0690-1019
CHEMICAL NAME: OCTANOIC ACID, ZINC SALT

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0590-0984
CHEMICAL NAME: OIL, FLUX

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0290-0886
CHEMICAL NAME: OIL (PETROLEUM), REFINING PROCESS

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0590-0985
CHEMICAL NAME: B65 OPAQUE GEL

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1076 S
CHEMICAL NAME: ORGANIC ALCOHOL, SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1076 S
CHEMICAL NAME: ORGANIC ESTER, SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1089-0834 S
CHEMICAL NAME: ORGANOTIN COMPOUND

CAS NUMBER: 99-54-7
SUBMISSION #: 8EHQ-0590-0972
CHEMICAL NAME: ORTHENE, NITRATED

CAS NUMBER: 10578-42-4 CHEMICAL NAME: 7-OXABICYCLO[4.1.0]HEPTANE, 3-[(OXIRANYLMETHOXY)METHYL]-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: CONFIDENT CHEMICAL NAME: OXADIAZOLE, SUBSTITUTED
SUBMISSION #: 8EHQ-0990-1079 S

CAS NUMBER: 75-21-8 CHEMICAL NAME: OXIRANE
SUBMISSION #: 8EHQ-0890-1053

CAS NUMBER: 556-52-5 CHEMICAL NAME: OXIRANEMETHANOL
SUBMISSION #: 8EHQ-0789-0809 *

CAS NUMBER: 70205-95-7 CHEMICAL NAME: OXOACETIC ACID HOMOPOLYMER, SODIUM SALT
SUBMISSION #: 8EHQ-0490-0945

CAS NUMBER: UNKNOWN CHEMICAL NAME: OXYALKYLATED LINEAR ALCOHOL-CARBOXYLIC ACID ADDUCT
SUBMISSION #: 8EHQ-1189-0839

CAS NUMBER: NONE CHEMICAL NAME: PAL 6000
SUBMISSION #: 8EHQ-0390-0914 S

CAS NUMBER: 111-30-8 CHEMICAL NAME: PENTANEDIAL
SUBMISSION #: 8EHQ-0690-1008

CAS NUMBER: 565-80-0 CHEMICAL NAME: 3-PENTANONE, 2,4-DIMETHYL-
SUBMISSION #: 8EHQ-0990-1062

CAS NUMBER: 108-10-1 CHEMICAL NAME: 2-PENTANONE, 4-METHYL-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3520-72-7 CHEMICAL NAME: PERMANENT ORANGE G TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 15793-73-4 CHEMICAL NAME: PERMANENT ORANGE RL TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 6358-85-6 CHEMICAL NAME: PERMANENT YELLOW DBG TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW DGR TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GGR TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 4531-49-1 CHEMICAL NAME: PERMANENT YELLOW GG TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GRL TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5102-83-0 CHEMICAL NAME: PERMANENT YELLOW GR TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GRX TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GRY TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2512-29-0 CHEMICAL NAME: PERMANENT YELLOW G TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW G3R TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5567-15-7 CHEMICAL NAME: PERMANENT YELLOW HR TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5979-28-2 CHEMICAL NAME: PERMANENT YELLOW NCG TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: PERMANENT YELLOW YR TYPE
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: NONE CHEMICAL NAME: PETROLEUM REFINING PROCESS
SUBMISSION #: 8EHQ-0290-0882

CAS NUMBER: 68937-41-7 CHEMICAL NAME: PHENOL, ISOPROPYLATED, PHOSPHATE (3:1)
SUBMISSION #: 8EHQ-1189-0847 8EHQ-0990-1057

CAS NUMBER: 71130-60-4 CHEMICAL NAME: PHENOL, 2-[(ETHYLAMINO)METHYL]-4-NITRO-
SUBMISSION #: 8EHQ-0190-0867 *

CAS NUMBER: 88-75-5 CHEMICAL NAME: PHENOL, 2-NITRO-
SUBMISSION #: 8EHQ-0590-0978

CAS NUMBER: 576-26-1 CHEMICAL NAME: PHENOL, 2,6-DIMETHYL-
SUBMISSION #: 8EHQ-0790-1027

CAS NUMBER: 2628-16-2 CHEMICAL NAME: PHENOL, 4-ETHENYL-, ACETATE
SUBMISSION #: 8EHQ-0990-1082

CAS NUMBER: CONFIDENT CHEMICAL NAME: PHENOL, 4,4'-[METHYLENEBIS(OXY-2,1-ETHANEDIYLTHIO)]BIS-
SUBMISSION #: 8EHQ-0490-0921 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: PHENOL, 4,4'-[OXYBIS(2,1-ETHANEDIYLTHIO)]BIS-
SUBMISSION #: 8EHQ-0390-0908 S

CAS NUMBER: 4351-70-6 CHEMICAL NAME: PHOSGARD C-22-R
SUBMISSION #: 8EHQ-0490-0947

CAS NUMBER: 38051-10-4 CHEMICAL NAME: PHOSGARD 2XC20
SUBMISSION #: 8EHQ-0490-0944

CAS NUMBER: CONFIDENT CHEMICAL NAME: PHOSPHATE ESTER
SUBMISSION #: 8EHQ-0290-0875 S

CAS NUMBER: UNKNOWN CHEMICAL NAME: *PHOSPHINATE, TETRA-N-BUTYLPHOSPHONIUM PHENYL-*
SUBMISSION #: 8EHQ-1189-0841

CAS NUMBER: 6419-19-8 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-
SUBMISSION #: 8EHQ-0490-0937

CAS NUMBER: 20592-85-2 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-, SODIUM SALT
SUBMISSION #: 8EHQ-0490-0937

CAS NUMBER: 15827-60-8 CHEMICAL NAME: PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[2,1-ETHANEDIYL NITRILOBIS(METHYLENE)]]TETRAKIS-
SUBMISSION #: 8EHQ-0490-0950 8EHQ-0490-0951

CAS NUMBER: 22042-96-2

SUBMISSION #: 8EHQ-0490-0950

CHEMICAL NAME: PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[(2,1-ETHANEDIYLNITRILO)BIS(METHYLENE)]]TETRAKIS-, SODIUM SALT

CAS NUMBER: 4351-70-6

SUBMISSION #: 8EHQ-0490-0947

CHEMICAL NAME: PHOSPHONIC ACID, [1-[[(2-CHLOROETHOXY)(2-CHLOROETHYL)PHOSPHINYL]OXY]ETHYL]-, 1-[BIS(2-CHLOROETHOXY)PHOSPHINYL]ETHYL 2-CHLOROETHYL ESTER

CAS NUMBER: 1429-50-1

SUBMISSION #: 8EHQ-0490-0940

CHEMICAL NAME: PHOSPHONIC ACID, [1,2-ETHANEDIYLBIS[NITRILOBIS(METHYLENE)]]TETRAKIS-

CAS NUMBER: 124-64-1

SUBMISSION #: 8EHQ-0689-0804

CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, CHLORIDE

8EHQ-0290-0877

CAS NUMBER: 55566-30-8

SUBMISSION #: 8EHQ-0689-0804

CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT)

8EHQ-0290-0877

CAS NUMBER: 38638-05-0

SUBMISSION #: 8EHQ-0590-0975

CHEMICAL NAME: PHOSPHORIC ACID, NONYLPHENYL DIPHENYL ESTER

8EHQ-0590-0976

CAS NUMBER: 126-73-8

SUBMISSION #: 8EHQ-1189-0847

CHEMICAL NAME: PHOSPHORIC ACID TRIBUTYL ESTER

8EHQ-0690-1007

CAS NUMBER: 115-86-6

SUBMISSION #: 8EHQ-0590-0975

CHEMICAL NAME: PHOSPHORIC ACID, TRIPHENYL ESTER

8EHQ-0590-0976

CAS NUMBER: 34364-42-6

SUBMISSION #: 8EHQ-0590-0975

CHEMICAL NAME: PHOSPHORIC ACID, (1-METHYL-1-PHENYLETHYL)PHENYL DIPHENYL ESTER

8EHQ-0590-0976

CAS NUMBER: 38051-10-4
SUBMISSION #: 8EHQ-0490-0944
CHEMICAL NAME: PHOSPHORIC ACID, 2,2-BIS(CHLOROMETHYL)-1,3-PROPANEDIYL TETRAKIS(2-CHLOROETHYL) ESTER

CAS NUMBER: 2524-03-0
SUBMISSION #: 8EHQ-0290-0878
CHEMICAL NAME: PHOSPHOROCHLORIDOTHIOIC ACID, O,O-DIMETHYL ESTER
8EHQ-0290-0892

CAS NUMBER: 34643-46-4
SUBMISSION #: 8EHQ-0989-0823
CHEMICAL NAME: PHOSPHORODITHIOIC ACID, O-(2,4-DICHLOROPHENYL)-, O-ETHYL S-PROPYL ESTER

CAS NUMBER: 25550-98-5
SUBMISSION #: 8EHQ-0490-0963
CHEMICAL NAME: PHOSPHOROUS ACID, DIISODECYL PHENYL ESTER

CAS NUMBER: 7723-14-0
SUBMISSION #: 8EHQ-0889-0820
CHEMICAL NAME: PHOSPHORUS

CAS NUMBER: 3520-72-7
SUBMISSION #: 8EHQ-0490-0962
CHEMICAL NAME: C.I. PIGMENT ORANGE 13

CAS NUMBER: 15793-73-4
SUBMISSION #: 8EHQ-0490-0962
CHEMICAL NAME: C. I. PIGMENT ORANGE 34

CAS NUMBER: 6358-87-8
SUBMISSION #: 8EHQ-0490-0962
CHEMICAL NAME: C. I. PIGMENT RED 38

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0490-0962
CHEMICAL NAME: C. I. PIGMENT YELLOW 106

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0490-0962
CHEMICAL NAME: C. I. PIGMENT YELLOW 114

CAS NUMBER: 6358-85-6 CHEMICAL NAME: C. I. PIGMENT YELLOW 12
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: C. I. PIGMENT YELLOW 126
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: C. I. PIGMENT YELLOW 127
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5102-83-0 CHEMICAL NAME: C.I. PIGMENT YELLOW 13
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2512-29-0 CHEMICAL NAME: C. I. PIGMENT YELLOW 14
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: C. I. PIGMENT YELLOW 152
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 5979-28-2 CHEMICAL NAME: C. I. PIGMENT YELLOW 16
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 4531-49-1 CHEMICAL NAME: C. I. PIGMENT YELLOW 17
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: C. I. PIGMENT YELLOW 174
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: UNKNOWN CHEMICAL NAME: C. I. PIGMENT YELLOW 176
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: NONE
CHEMICAL NAME: C. I. PIGMENT YELLOW 184
SUBMISSION #: 8EHQ-0389-0789

CAS NUMBER: 5567-15-7
CHEMICAL NAME: C. I. PIGMENT YELLOW 83
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 2591-86-8
CHEMICAL NAME: 1-PIPERIDINECARBOXALDEHYDE
SUBMISSION #: 8EHQ-0590-0974

CAS NUMBER: UNKNOWN
CHEMICAL NAME: POLYBROMINATED BIPHENYLS (PBB)
SUBMISSION #: 8EHQ-0990-1072

CAS NUMBER: 1336-36-3
CHEMICAL NAME: POLYCHLORINATED BIPHENYLS (PCB)
SUBMISSION #: 8EHQ-0490-0933

CAS NUMBER: CONFIDENT
CHEMICAL NAME: POLYCYCLIC DIONE, SUBSTITUTED
SUBMISSION #: 8EHQ-0290-0872 S

CAS NUMBER: 9014-92-0
CHEMICAL NAME: POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(DODECYLPHENYL)-.OMEGA.-HYDROXY-
SUBMISSION #: 8EHQ-0490-0942

CAS NUMBER: UNKNOWN
CHEMICAL NAME: POLY-TERGENT CS-1 ANALOGUE
SUBMISSION #: 8EHQ-1189-0839

CAS NUMBER: 75-31-0
CHEMICAL NAME: 2-PROPANAMINE
SUBMISSION #: 8EHQ-0290-0878

CAS NUMBER: 919-30-2
CHEMICAL NAME: 1-PROPANAMINE, 3-(TRIETHOXYSILYL)-
SUBMISSION #: 8EHQ-0389-0780

CAS NUMBER: 94857-19-9 — CHEMICAL NAME: 1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, POLYMER WITH 1, 3-BIS(1-ISOCYANATO-1-METHYLETHYL)BENZENE
SUBMISSION #: 8EHQ-0290-0880

CAS NUMBER: 16714-68-4 — CHEMICAL NAME: PROPANE, 1,1,2,2,3-PENTACHLORO-
SUBMISSION #: 8EHQ-0290-0892

CAS NUMBER: 1634-04-4 — CHEMICAL NAME: PROPANE, 2-METHOXY-2-METHYL-
SUBMISSION #: 8EHQ-0390-0900

CAS NUMBER: CONFIDENT — CHEMICAL NAME: PROPANOIC ACID ESTER, ARYL
SUBMISSION #: 8EHQ-0990-1075 S

CAS NUMBER: 67-63-0 — CHEMICAL NAME: 2-PROPANOL
SUBMISSION #: 8EHQ-0290-0884

CAS NUMBER: 96-23-1 — CHEMICAL NAME: 2-PROPANOL, 1,3-DICHLORO-
SUBMISSION #: 8EHQ-0889-0812

CAS NUMBER: 13586-68-0 — CHEMICAL NAME: 2-PROPENAL, 3-[4-(1,1-DIMETHYLETHYL)PHENYL]-2-METHYL-
SUBMISSION #: 8EHQ-0490-0931 S

CAS NUMBER: 78-88-6 — CHEMICAL NAME: 1-PROPENE, 2,3-DICHLORO-
SUBMISSION #: 8EHQ-0290-0892

CAS NUMBER: 140-88-5 — CHEMICAL NAME: 2-PROPENOIC ACID, ETHYL ESTER
SUBMISSION #: 8EHQ-0490-0917

CAS NUMBER: 71050-62-9 — CHEMICAL NAME: 2-PROPENOIC ACID, POLYMER WITH SODIUM PHOSPHINATE
SUBMISSION #: 8EHQ-0190-0866 S

CAS NUMBER: UNKNOWN
CHEMICAL NAME: 2-PROPENOIC ACID, POLYMER WITH SODIUM PHOSPHINATE, SODIUM SALT
SUBMISSION #: 8EHQ-0190-0866 S

CAS NUMBER: 7085-85-0
CHEMICAL NAME: 2-PROPENOIC ACID, 2-CYANO-, ETHYL ESTER
SUBMISSION #: 8EHQ-0989-0821 S

CAS NUMBER: 80-62-6
CHEMICAL NAME: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER
SUBMISSION #: 8EHQ-0490-0917 8EHQ-0690-0999 *

CAS NUMBER: 107-11-9
CHEMICAL NAME: 2-PROPEN-1-AMINE
SUBMISSION #: 8EHQ-1089-0830

CAS NUMBER: 34643-46-4
CHEMICAL NAME: PROTHIOFOS
SUBMISSION #: 8EHQ-0989-0823

CAS NUMBER: 288-13-1
CHEMICAL NAME: 1H-PYRAZOLE
SUBMISSION #: 8EHQ-0789-0807 S

CAS NUMBER: 6358-87-8
CHEMICAL NAME: 1H-PYRAZOLE-3-CARBOXYLIC ACID, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[4,5-DIHYDRO-5-OXO-1-PHENYL-, DIETHYL ESTER
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 1453-58-3
CHEMICAL NAME: 1-H-PYRAZOLE, 3-METHYL-
SUBMISSION #: 8EHQ-0389-0786 S

CAS NUMBER: UNKNOWN
CHEMICAL NAME: 1H-PYRAZOLE-4-CARBOXAMIDE, 5-CYANO-1-(1,1-DIMETHYLETHYL)-N-METHYL-
SUBMISSION #: 8EHQ-0886-0815

CAS NUMBER: CONFIDENT
CHEMICAL NAME: PYRAZOLYL AMIDE, HETEROCYCLIC
SUBMISSION #: 8EHQ-0289-0783 S

CAS NUMBER: 3520-72-7 CHEMICAL NAME: 3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-PHENYL-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 15793-73-4 CHEMICAL NAME: 3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-(4-METHYLPHENYL)-

SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: CONFIDENT CHEMICAL NAME: PYRIDAZINE, SUBSTITUTED

SUBMISSION #: 8EHQ-0590-0992 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: PYRIDINECARBOXYLATE

SUBMISSION #: 8EHQ-0390-0895 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: PYRIDOPYRIDIMINE, SUBSTITUTED

SUBMISSION #: 8EHQ-0790-1031 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: PYRIMIDINE, ACYLAMINO

SUBMISSION #: 8EHQ-0289-0785 S

CAS NUMBER: CONFIDENT CHEMICAL NAME: PYRIMIDINE, SUBSTITUTED

SUBMISSION #: 8EHQ-0490-0957 S 8EHQ-0490-0958 S

CAS NUMBER: 941-69-5 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1-PHENYL-

SUBMISSION #: 8EHQ-0690-1000 S

CAS NUMBER: 6422-83-9 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1,1'-(4-METHYL-1,3-PHENYLENE)BIS-

SUBMISSION #: 8EHQ-0790-1023 S

CAS NUMBER: 616-45-5 CHEMICAL NAME: 2-PYRROLIDINONE

SUBMISSION #: 8EHQ-1089-0829

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-1289-0859
CHEMICAL NAME: QC2 (MIXTURE)

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0889-0819 S
CHEMICAL NAME: QUINAZOLINE (III), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0789-0808 S
CHEMICAL NAME: QUINAZOLINE (II), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0789-0806 S
CHEMICAL NAME: QUINAZOLINE (I), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0790-1036 S
CHEMICAL NAME: QUINAZOLINE (IV), SUBSTITUTED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1083 S
CHEMICAL NAME: QUINAZOLINES

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0990-1083 S
CHEMICAL NAME: QUINOLINES

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1089-0833 S
CHEMICAL NAME: QUINOLINE, SUBSTITUTED
8EHQ-0690-1016 S

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0790-1029
CHEMICAL NAME: RARE EARTH Y (REY) CRYSTALS

CAS NUMBER: 17095-24-8
SUBMISSION #: 8EHQ-0290-0885
CHEMICAL NAME: C.I. REACTIVE BLACK 5

CAS NUMBER: NONE CHEMICAL NAME: REFORMER SPRAY TUR
SUBMISSION #: 8EHQ-0290-0882

CAS NUMBER: NONE CHEMICAL NAME: REFRACTORY CERAMIC FIBER
SUBMISSION #: 8EHQ-0390-0915

CAS NUMBER: 75-71-8 CHEMICAL NAME: REFRIGERANT 12
SUBMISSION #: 8EHQ-0589-0799

CAS NUMBER: UNKNOWN CHEMICAL NAME: RESORCINOL DIPHOSPHATE
SUBMISSION #: 8EHQ-0990-1074

CAS NUMBER: 2479-46-1 CHEMICAL NAME: RODA
SUBMISSION #: 8EHQ-0390-0898

CAS NUMBER: NONE CHEMICAL NAME: SANTICIZER 9 PLASTICIZER
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: NONE CHEMICAL NAME: SANTICIZER 97
SUBMISSION #: 8EHQ-0590-0982

CAS NUMBER: 793-24-8 CHEMICAL NAME: SANTOFLEX 13
SUBMISSION #: 8EHQ-0590-0966

CAS NUMBER: 3081-14-9 CHEMICAL NAME: SANTOFLEX 77
SUBMISSION #: 8EHQ-0598-0977

CAS NUMBER: CONFIDENT CHEMICAL NAME: SEMICARBAZONE
SUBMISSION #: 8EHQ-0390-0907 S 8EHQ-0390-0916 S *

CAS NUMBER: 287-29-6 CHEMICAL NAME: SILACYCLOBUTANE
SUBMISSION #: 8EHQ-0990-1084

CAS NUMBER: 919-30-2 CHEMICAL NAME: SILANE A-1100
SUBMISSION #: 8EHQ-0389-0780

CAS NUMBER: 4109-96-0 CHEMICAL NAME: SILANE, DICHLORO-
SUBMISSION #: 8EHQ-0689-0803

CAS NUMBER: 16881-77-9 CHEMICAL NAME: SILANE, DIMETHOXYMETHYL-
SUBMISSION #: 8EHQ-0690-1009

CAS NUMBER: 998-30-1 CHEMICAL NAME: SILANE, TRIETHOXY-
SUBMISSION #: 8EHQ-1089-0832

CAS NUMBER: 2530-87-2 CHEMICAL NAME: SILANE, (3-CHLOROPROPYL)TRIMETHOXY-
SUBMISSION #: 8EHQ-0990-1067

CAS NUMBER: 56982-91-3 CHEMICAL NAME: SILICATE, TETRAMETHYL AMMONIUM
SUBMISSION #: 8EHQ-0390-0899 *

CAS NUMBER: 409-21-2 CHEMICAL NAME: SILICON CARBIDE FIBERS
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 409-21-2 CHEMICAL NAME: SILICON CARBIDE, (SIC)
SUBMISSION #: 8EHQ-0690-1018

CAS NUMBER: 67762-90-7 CHEMICAL NAME: SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILIC A
SUBMISSION #: 8EHQ-0590-0985 *

CAS NUMBER: 65701-07-7 — CHEMICAL NAME: SKYBOND 700 POLYIMIDE RESIN
SUBMISSION #: 8EHQ-0590-0967

CAS NUMBER: NONE — CHEMICAL NAME: SLUDGE, API SEPARATOR BOTTOM
SUBMISSION #: 8EHQ-0490-0932

CAS NUMBER: NONE — CHEMICAL NAME: SLUDGE, DISSOLVED AIR FLOTATION (DAF) FLOAT
SUBMISSION #: 8EHQ-0490-0932

CAS NUMBER: 2155-38-6 — CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-[2-[2-(OXIRANYLMETHOXY)ETHOXY]ETHYL]-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 3388-03-2 — CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 26616-47-7 — CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-, HOMOPOLYMER
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 9014-92-0 — CHEMICAL NAME: STEROX DJ SURFACTANT
SUBMISSION #: 8EHQ-0490-0942

CAS NUMBER: 103-30-0 — CHEMICAL NAME: STILBENE, TRANS-
SUBMISSION #: 8EHQ-0490-0939

CAS NUMBER: 2628-16-2 — CHEMICAL NAME: STYRENE, ACETOXY-
SUBMISSION #: 8EHQ-0990-1082

CAS NUMBER: CONFIDENT — CHEMICAL NAME: SUBSTITUTED ORGANIC AMMONIUM CHLORIDE
SUBMISSION #: 8EHQ-1289-0849 S

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1050 S
CHEMICAL NAME: SUBSTITUTED PHENOXYETHER DERIVATIVE OF A POLYHETEROCYCLE

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0590-0986 S
CHEMICAL NAME: SULFENAMIDE (#1), AROMATIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0590-0988 S
CHEMICAL NAME: SULFENAMIDE (#2), AROMATIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0590-0987 S
CHEMICAL NAME: SULFENAMIDE (#3), AROMATIC

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0690-1013 S
CHEMICAL NAME: SULFONE, ARYL METHYL

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0789-0805 S
CHEMICAL NAME: SULFONE (II), UNSATURATED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0389-0791 S
CHEMICAL NAME: SULFONE, UNSATURATED

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0489-0794 S
CHEMICAL NAME: SULFONIC ACID, SUBSTITUTED ARYL-, ALKALI METAL SALT

CAS NUMBER: 2540-99-0
SUBMISSION #: 8EHQ-0489-0795
CHEMICAL NAME: 4,4'-SULFONYLBIS(PHTHALIC ANHYDRIDE)

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1039 S
CHEMICAL NAME: SULFURIZED COMPOUNDS, MIXTURE OF

CAS NUMBER: 101-20-2
SUBMISSION #: 8EHQ-0590-0968
CHEMICAL NAME: TCC SOAP BACTERIOSTAT

CAS NUMBER: 26140-60-3
SUBMISSION #: 8EHQ-0590-0983
CHEMICAL NAME: TERPHENYL

CAS NUMBER: 61788-32-7
SUBMISSION #: 8EHQ-0590-0983
CHEMICAL NAME: TERPHENYL, HYDROGENATED

CAS NUMBER: 25103-58-6
SUBMISSION #: 8EHQ-0590-0994 *
CHEMICAL NAME: TERT-DODECANETHIOL

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0889-0814
CHEMICAL NAME: TETRAGLYCIDYL ETHER, BIS-TRIMETHYLOLPROPANE

CAS NUMBER: 3806-34-6
SUBMISSION #: 8EHQ-0590-0996
CHEMICAL NAME: 2,4,8,10-TETRAOXA-3,9-DIPHOSPHASPIRO[5.5]UNDECANE, 3,9-BIS(OCTADECYLOXY)-

CAS NUMBER: 117-08-8
SUBMISSION #: 8EHQ-0490-0948
CHEMICAL NAME: TETRATHAL

CAS NUMBER: 68855-24-3
SUBMISSION #: 8EHQ-0590-0969
CHEMICAL NAME: THERMINOL 55

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0590-0983
CHEMICAL NAME: THERMINOL 66

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0890-1040
CHEMICAL NAME: 1,2,4-THIADIAZOLE, POLY(3,5-DITHIO-

CAS NUMBER: CONFIDENT
CHEMICAL NAME: THIOESTER, HETEROCYCLIC
SUBMISSION #: 8EHQ-0490-0925 S

CAS NUMBER: 7440-31-5
CHEMICAL NAME: TIN
SUBMISSION #: 8EHQ-0990-1071

CAS NUMBER: 34643-46-4
CHEMICAL NAME: TOKUTHION
SUBMISSION #: 8EHQ-0989-0823

CAS NUMBER: 119-93-7
CHEMICAL NAME: O-TOLIDINE
SUBMISSION #: 8EHQ-0190-0863
8EHQ-0990-1080 S

CAS NUMBER: 70-55-3
CHEMICAL NAME: P-TOLUENESULFONAMIDE
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 88-19-7
CHEMICAL NAME: O-TOLUENESULFONAMIDE
SUBMISSION #: 8EHQ-0490-0938

CAS NUMBER: 95-53-4
CHEMICAL NAME: O-TOLUIDINE
SUBMISSION #: 8EHQ-0190-0864
8EHQ-0990-1080 S

CAS NUMBER: 106-49-0
CHEMICAL NAME: P-TOLUIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 108-44-1
CHEMICAL NAME: M-TOLUIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 106990-43-6
CHEMICAL NAME: 1,3,5-TRIAZINE-2,4,6-TRIAMINE, N,N'''-[1,2-ETHANEDIYLBIS[[[4,6-BIS[BUTYL(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)AMINO]-1,3,5-TRIAZIN-2-YL]IMINO]-3,1-PROPANEDIYL]]-BIS[N',N'''-DIBUTYL-N',N'''-BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)-
SUBMISSION #: 8EHQ-1089-0836

CAS NUMBER: 288-88-0
SUBMISSION #: 8EHQ-0489-0792
CHEMICAL NAME: 1H-1,2,4-TRIAZOLE

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-1089-0835 S
CHEMICAL NAME: TRIAZOLE DERIVATIVE

CAS NUMBER: 103112-35-2
SUBMISSION #: 8EHQ-0490-0960
CHEMICAL NAME: 1(H)-1,2,4-TRIAZOLE-3-CARBOXYLATE, ETHYL 1-(2,4-DICHLOROPHENYL)-5-TRICHLOROMETHYL-

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1044 S
CHEMICAL NAME: TRIBROMOMETHYL SUBSTITUTED HETEROCYCLE

CAS NUMBER: NONE
SUBMISSION #: 8EHQ-0590-0985 *
CHEMICAL NAME: TYPE B LIGHTGUIDE CABLE FILLING COMPOUND

CAS NUMBER: 101-20-2
SUBMISSION #: 8EHQ-0590-0968
CHEMICAL NAME: UREA, N-(4-CHLOROPHENYL)-N'-(3,4-DICHLOROPHENYL)-

CAS NUMBER: UNKNOWN
SUBMISSION #: 8EHQ-0390-0914 S
CHEMICAL NAME: UREA, 1-METHOXY-1-METHYL-3-[4-(3,4-DIHYDRO-2-METHOXY-2,4,4-TRIMETHYL-7-BENZOPYRANYLOXY)PHENYL]-

CAS NUMBER: CONFIDENT
SUBMISSION #: 8EHQ-0890-1049 S
CHEMICAL NAME: VANADIUM COMPOUND, INORGANIC

CAS NUMBER: 137-30-4
SUBMISSION #: 8EHQ-0890-1045
CHEMICAL NAME: VANCIDE MZ-96

CAS NUMBER: 75-02-5
SUBMISSION #: 8EHQ-1289-0856
CHEMICAL NAME: VINYL FLUORIDE

CAS NUMBER: 6358-87-8 CHEMICAL NAME: VULCAN FAST RED B
SUBMISSION #: 8EHQ-0490-0962

CAS NUMBER: 3806-34-6 CHEMICAL NAME: WESTON 618
SUBMISSION #: 8EHQ-0590-0996

CAS NUMBER: NONE CHEMICAL NAME: WINGSTAY 100 PRODUCTION PROCESS
SUBMISSION #: 8EHQ-0190-0864

CAS NUMBER: UNKNOWN CHEMICAL NAME: XB-4458
SUBMISSION #: 8EHQ-0690-1019

CAS NUMBER: 95-78-3 CHEMICAL NAME: 2,5-XYLIDINE
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: 1300-73-8 CHEMICAL NAME: XYLIDINE (MIXED)
SUBMISSION #: 8EHQ-0990-1080 S

CAS NUMBER: NONE CHEMICAL NAME: XYLOK HARDENER 231 N-90
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: NONE CHEMICAL NAME: XYLOK 235 NK-75
SUBMISSION #: 8EHQ-1189-0847

CAS NUMBER: 137-30-4 CHEMICAL NAME: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (T-4)-
SUBMISSION #: 8EHQ-0890-1045

CAS NUMBER: 13463-41-7 CHEMICAL NAME: ZINC, BIS(1-HYDROXY-2(1H)-PYRIDINETHIONATO-O,S)-, (T-4)-
SUBMISSION #: 8EHQ-0790-1035

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

ACUTE TOXICITY (ANIMAL)

SUBMISSION #:			
8EHQ-0189-0779	8EHQ-0389-0780	8EHQ-0389-0787 S	
8EHQ-0389-0788 S	8EHQ-0589-0800	8EHQ-0689-0803	
8EHQ-0789-0806 S	8EHQ-0789-0808 S	8EHQ-0789-0809	*
8EHQ-0889-0810 S	8EHQ-0889-0818 S	8EHQ-0889-0819 S	
8EHQ-0989-0826 S	8EHQ-1089-0830	8EHQ-1089-0833 S	
8EHQ-1089-0834 S	8EHQ-1089-0837 S	8EHQ-1089-0838 S	
8EHQ-1189-0841	8EHQ-1189-0845	8EHQ-1189-0848 S	
8EHQ-1289-0850	8EHQ-1289-0852 S	8EHQ-1289-0857 S	
8EHQ-1289-0859	8EHQ-0190-0860 S	8EHQ-0190-0867	*
8EHQ-0290-0893	8EHQ-0390-0898	8EHQ-0490-0919 S	
8EHQ-0490-0920 S	8EHQ-0490-0954 S	8EHQ-0490-0957 S	
8EHQ-0490-0958 S	8EHQ-0490-0959 S	8EHQ-0590-0964	
8EHQ-0590-0985 *	8EHQ-0590-0991 S	8EHQ-0690-1003	
8EHQ-0690-1004 S	8EHQ-0690-1005 S	8EHQ-0690-1009	
8EHQ-0690-1016 S	8EHQ-0790-1021	8EHQ-0790-1023 S	
8EHQ-0790-1031 S	8EHQ-0790-1035	8EHQ-0790-1036 S	
8EHQ-0890-1040	8EHQ-0890-1045	8EHQ-0890-1047	
8EHQ-0890-1048 S	8EHQ-0890-1052 S	8EHQ-0890-1054 S	
8EHQ-0990-1057	8EHQ-0990-1058 S	8EHQ-0990-1059 S	*
8EHQ-0990-1060 S	8EHQ-0990-1061	8EHQ-0990-1062	
8EHQ-0990-1068	8EHQ-0990-1076 S	8EHQ-0990-1084	

ACUTE TOXICITY (HUMAN)

SUBMISSION #:		
8EHQ-0889-0818 S	8EHQ-1089-0832	8EHQ-0290-0885
8EHQ-0390-0905 S *	8EHQ-0490-0929 S *	8EHQ-0590-0991 S

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

ACUTE TOXICITY (HUMAN)

SUBMISSION #:	8EHQ-0890-1042	8EHQ-0990-1071	8EHQ-0990-1078

ALLERGENICITY (ANIMAL)

SUBMISSION #:	8EHQ-0489-0795	8EHQ-0589-0796	8EHQ-0689-0802
	8EHQ-0989-0826 S	8EHQ-1189-0839	8EHQ-1189-0845
	8EHQ-1289-0852 S	8EHQ-0290-0876	8EHQ-0290-0894
	8EHQ-0490-0919 S	8EHQ-0790-1033	8EHQ-0990-1062
	8EHQ-0990-1069	8EHQ-0990-1082	

ALLERGENICITY (HUMAN)

SUBMISSION #:	8EHQ-0290-0885	8EHQ-0590-0991 S	8EHQ-0890-1039 S

CELL TRANSFORMATION (IN VITRO)

SUBMISSION #:	8EHQ-0889-0814	8EHQ-0690-1018	

CHEMICAL/PHYSICAL PROPERTIES

SUBMISSION #:	8EHQ-0189-0779		8EHQ-0189-0781 S	8EHQ-0289-0784	
	8EHQ-0389-0789		8EHQ-0589-0799	8EHQ-0589-0801	
	8EHQ-0889-0814		8EHQ-0989-0821 S	8EHQ-0989-0826 S	
	8EHQ-1089-0832		8EHQ-1189-0847	8EHQ-0190-0867	*
	8EHQ-0390-0899	*	8EHQ-0390-0903 S	8EHQ-0490-0962	
	8EHQ-0590-0991 S		8EHQ-0690-1018	8EHQ-0690-1019	
	8EHQ-0790-1027		8EHQ-0790-1033	8EHQ-0990-1058 S	
	8EHQ-0990-1061				

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

CHRONIC TOXICITY (ANIMAL)

SUBMISSION #:	8EHQ-0589-0797	8EHQ-0889-0812	8EHQ-0989-0822
	8EHQ-1189-0847	8EHQ-1289-0856	8EHQ-1289-0858 S
	8EHQ-0290-0873 S	8EHQ-0290-0881 S	8EHQ-0390-0900
	8EHQ-0390-0914 S	8EHQ-0490-0930 S	8EHQ-0490-0952 S
	8EHQ-0490-0960	8EHQ-0590-0968	8EHQ-0590-0993
	8EHQ-0790-1029	8EHQ-0890-1043	8EHQ-0890-1050 S
	8EHQ-0890-1053	8EHQ-0890-1056 S	

CHRONIC TOXICITY (HUMAN)

SUBMISSION #:	8EHQ-1089-0831	8EHQ-0190-0863	8EHQ-0190-0864
	8EHQ-0290-0886	8EHQ-0390-0915	8EHQ-0490-0917
	8EHQ-0490-0924	8EHQ-0790-1034	8EHQ-0990-1072
	8EHQ-0990-1080 S		

CLASTOGENICITY (ANIMAL)

SUBMISSION #:	8EHQ-0389-0780	8EHQ-0989-0826 S	8EHQ-0390-0901
	8EHQ-0390-0902	8EHQ-0390-0903 S	8EHQ-0390-0909 *
	8EHQ-0490-0920 S	8EHQ-0690-1015	8EHQ-0990-1061

CLASTOGENICITY (IN VITRO)

SUBMISSION #:	8EHQ-0389-0780	8EHQ-0389-0791 S	8EHQ-0789-0805 S
	8EHQ-0889-0814	8EHQ-1189-0847	8EHQ-0890-1051 S
	8EHQ-0990-1079 S		

DNA DAMAGE/REPAIR

SUBMISSION #:	8EHQ-0889-0814	8EHQ-1289-0853 S	8EHQ-0890-1051 S

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

ECOTOXICITY/AQUATIC TOXICITY

SUBMISSION #: 8EHQ-0989-0826 S
8EHQ-0390-0908 S
8EHQ-0790-1032
8EHQ-0390-0899 *
8EHQ-0590-0994 *
8EHQ-0990-1083 S
8EHQ-0390-0906 S
8EHQ-0690-1017

EMERGENCY INCIDENT OF ENV. CONTAMINATION

SUBMISSION #: 8EHQ-0490-0921 S
8EHQ-0490-0933
8EHQ-0790-1032

ENV. OCCURRENCE/RELEASE/FATE

SUBMISSION #: 8EHQ-0589-0799
8EHQ-0390-0905 S *
8EHQ-0490-0953
8EHQ-0990-1077
8EHQ-0989-0826 S
8EHQ-0490-0921 S
8EHQ-0790-1032
8EHQ-0290-0882
8EHQ-0490-0933
8EHQ-0890-1038

EPIDEMIOLOGY/CLINICAL

SUBMISSION #: 8EHQ-0889-0818 S
8EHQ-1089-0832
8EHQ-0290-0886
8EHQ-0490-0917
8EHQ-0590-0991 S
8EHQ-0990-1065
8EHQ-0990-1078
8EHQ-0989-0821 S
8EHQ-0190-0863
8EHQ-0390-0905 S *
8EHQ-0490-0924
8EHQ-0790-1034
8EHQ-0990-1071
8EHQ-0990-1080 S
8EHQ-1089-0831
8EHQ-0190-0864
8EHQ-0390-0915
8EHQ-0490-0929 S *
8EHQ-0890-1053
8EHQ-0990-1072

GROUNDWATER CONTAMINATION

SUBMISSION #: 8EHQ-0490-0953
8EHQ-0990-1077

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

HUMAN EXPOSURE (ACCIDENTAL)

SUBMISSION #:	8EHQ-1089-0832	8EHQ-0290-0885	8EHQ-0390-0905 S *
	8EHQ-0490-0929 S *	8EHQ-0490-0933	8EHQ-0490-0962
	8EHQ-0990-1065		

HUMAN EXPOSURE (MONITORING)

SUBMISSION #:	8EHQ-0289-0784	8EHQ-0389-0789	8EHQ-0489-0793
	8EHQ-0589-0801	8EHQ-0889-0818 S	8EHQ-1289-0856
	8EHQ-0190-0863	8EHQ-0290-0882	8EHQ-0490-0924
	8EHQ-0490-0933	8EHQ-0490-0953	8EHQ-0490-0962
	8EHQ-0690-1018	8EHQ-0890-1038	8EHQ-0890-1053
	8EHQ-0990-1077	8EHQ-0990-1078	

HUMAN EXPOSURE (PRODUCT CONTAMINATION)

SUBMISSION #:	8EHQ-0589-0799	8EHQ-0689-0804	8EHQ-0490-0962

IMMUNOTOXICITY (ANIMAL)

SUBMISSION #:	8EHQ-0889-0817

IMMUNOTOXICITY (HUMAN)

SUBMISSION #:	8EHQ-0290-0876

MATERIAL SAFETY DATA SHEETS/LABELS

SUBMISSION #:	8EHQ-0190-0867 *	8EHQ-0390-0903 S	8EHQ-0490-0919 S
	8EHQ-0490-0945	8EHQ-0590-0967	8EHQ-0590-0969
	8EHQ-0590-0983	8EHQ-0590-0991 S	8EHQ-0590-1001 S

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

MATERIAL SAFETY DATA SHEETS/LABELS

SUBMISSION #: 8EHQ-0690-1017 8EHQ-0690-1018 8EHQ-0990-1062
8EHQ-0990-1071 8EHQ-0990-1078

METABOLISM/PHARMACOKINETICS (ANIMAL)

SUBMISSION #: 8EHQ-0490-0952 S

MUTAGENICITY (IN VITRO)

SUBMISSION #: 8EHQ-0389-0780 8EHQ-0389-0791 S 8EHQ-0589-0798 S
8EHQ-0789-0805 S 8EHQ-0889-0814 8EHQ-0989-0826 S
8EHQ-1089-0837 S 8EHQ-1289-0854 S 8EHQ-1289-0858 S
8EHQ-0390-0903 S 8EHQ-0390-0916 S * 8EHQ-0490-0930 S
8EHQ-0490-0932 8EHQ-0490-0960 8EHQ-0690-1009
8EHQ-0690-1015 8EHQ-0690-1016 S 8EHQ-0890-1044 S
8EHQ-0890-1051 S 8EHQ-0990-1066 S 8EHQ-0990-1067
8EHQ-0990-1079 S

MUTAGENICITY (IN VIVO)

SUBMISSION #: 8EHQ-0290-0892 8EHQ-0390-0916 S * 8EHQ-0590-0981

NEUROTOXICITY (ANIMAL)

SUBMISSION #: 8EHQ-0489-0793 8EHQ-0489-0794 S 8EHQ-0889-0811 S
8EHQ-0886-0815 8EHQ-1089-0837 S 8EHQ-1089-0838 S
8EHQ-1189-0841 8EHQ-1189-0843 S 8EHQ-1189-0846
8EHQ-1189-0848 S 8EHQ-0190-0867 * 8EHQ-0290-0893
8EHQ-0390-0898 8EHQ-0390-0913 S 8EHQ-0390-0914 S

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

NEUROTOXICITY (ANIMAL)

SUBMISSION #:	8EHQ-0490-0919 S	8EHQ-0490-0931 S	8EHQ-0490-0934 S
	8EHQ-0490-0936	8EHQ-0490-0954 S	8EHQ-0490-0957 S
	8EHQ-0490-0958 S	8EHQ-0490-0959 S	8EHQ-0490-0963
	8EHQ-0590-0964	8EHQ-0590-0996	8EHQ-0590-1001 S
	8EHQ-0690-1002	8EHQ-0690-1003	8EHQ-0690-1004 S
	8EHQ-0690-1005 S	8EHQ-0690-1007	8EHQ-0790-1028 S
	8EHQ-0890-1041	8EHQ-0890-1043	8EHQ-0890-1052 S
	8EHQ-0990-1057	8EHQ-0990-1063	8EHQ-0990-1076 S

NEUROTOXICITY (HUMAN)

SUBMISSION #:	8EHQ-0590-0991 S	8EHQ-0990-1065

ONCOGENICITY (ANIMAL)

SUBMISSION #:	8EHQ-0789-0809 *	8EHQ-0889-0812	8EHQ-0989-0822
	8EHQ-1189-0847	8EHQ-1289-0856	8EHQ-1289-0858 S
	8EHQ-0290-0873 S	8EHQ-0290-0881 S	8EHQ-0490-0952 S
	8EHQ-0490-0960	8EHQ-0590-0993	8EHQ-0790-1029
	8EHQ-0890-1050 S		

ONCOGENICITY (HUMAN)

SUBMISSION #:	8EHQ-0190-0863	8EHQ-0190-0864	8EHQ-0290-0886
	8EHQ-0390-0915	8EHQ-0490-0917	8EHQ-0490-0924
	8EHQ-0790-1034	8EHQ-0890-1053	8EHQ-0990-1080 S

PRODUCT COMPOSITION/CHEMICAL IDENTITY

SUBMISSION #:	8EHQ-0389-0780	8EHQ-0289-0782 S	8EHQ-0289-0783 S

PRODUCT COMPOSITION/CHEMICAL IDENTITY

SUBMISSION #:	8EHQ-0289-0784	8EHQ-0289-0785 S	8EHQ-0389-0787 S
	8EHQ-0389-0788 S	8EHQ-0389-0789	8EHQ-0389-0790 S
	8EHQ-0389-0791 S	8EHQ-0489-0794 S	8EHQ-0589-0798 S
	8EHQ-0589-0799	8EHQ-0689-0804	8EHQ-0789-0805 S
	8EHQ-0789-0806 S	8EHQ-0789-0808 S	8EHQ-0889-0811 S
	8EHQ-0889-0816 S	8EHQ-0889-0817	8EHQ-0889-0819 S
	8EHQ-0989-0821 S	8EHQ-0989-0824 S	8EHQ-0989-0825 S
	8EHQ-0989-0827 S	8EHQ-0989-0828 S	8EHQ-1089-0833 S
	8EHQ-1089-0834 S	8EHQ-1089-0835 S	8EHQ-1089-0837 S
	8EHQ-1089-0838 S	8EHQ-1189-0840 S	8EHQ-1189-0842 S
	8EHQ-1189-0843 S	8EHQ-1189-0844	8EHQ-1189-0847
	8EHQ-1189-0848 S	8EHQ-1289-0849 S	8EHQ-1289-0851 S
	8EHQ-1289-0853 S	8EHQ-1289-0854 S	8EHQ-1289-0857 S
	8EHQ-1289-0858 S	8EHQ-1289-0859	8EHQ-0190-0861 S
	8EHQ-0190-0862 S	8EHQ-0190-0865 S	8EHQ-0190-0866 S
	8EHQ-0190-0868 S	8EHQ-0190-0869 S	8EHQ-0190-0870 S
	8EHQ-0190-0871 S	8EHQ-0290-0872 S	8EHQ-0290-0873 S
	8EHQ-0290-0874 S	8EHQ-0290-0875 S	8EHQ-0290-0879 S
	8EHQ-0290-0880	8EHQ-0290-0881 S	8EHQ-0290-0883 S
	8EHQ-0290-0887 S	8EHQ-029 0888 S	8EHQ-0290-0889 S
	8EHQ-0290-0890 S	8EHQ-0290-0891 S	8EHQ-0390-0895 S
	8EHQ-0390-0896 S	8EHQ-0390-0897 S	8EHQ-0390-0903 S
	8EHQ-0390-0905 S *	8EHQ-0390-0906 S	8EHQ-0390-0907 S
	8EHQ-0390-0908 S	8EHQ-0390-0913 S	8EHQ-0390-0914 S
	8EHQ-0390-0916 S *	8EHQ-0490-0918 S	8EHQ-0490-0919 S

PRODUCT COMPOSITION/CHEMICAL IDENTITY

SUBMISSION #:			
8EHQ-0490-0920 S	8EHQ-0490-0921 S	8EHQ-0490-0922 S	
8EHQ-0490-0923 S	8EHQ-0490-0925 S	8EHQ-0490-0926 S	
8EHQ-0490-0927 S	8EHQ-0490-0928 S	8EHQ-0490-0929 S	*
8EHQ-0490-0930 S	8EHQ-0490-0931 S	8EHQ-0490-0932	
8EHQ-0490-0934 S	8EHQ-0490-0935 S	8EHQ-0490-0938	
8EHQ-0490-0952 S	8EHQ-0490-0955 S	8EHQ-0490-0956 S	
8EHQ-0490-0957 S	8EHQ-0490-0958 S	8EHQ-0490-0959 S	
8EHQ-0490-0961 S	8EHQ-0490-0962	8EHQ-0590-0983	
8EHQ-0590-0986 S	8EHQ-0590-0987 S	8EHQ-0590-0988 S	
8EHQ-0590-0989 S	8EHQ-0590-0990	8EHQ-0590-0992 S	
8EHQ-0590-0993	8EHQ-0590-0995 S	8EHQ-0590-0997 S	
8EHQ-0590-0998 S	8EHQ-0590-1001 S	8EHQ-0690-1004 S	
8EHQ-0690-1005 S	8EHQ-0690-1006 S	8EHQ-0690-1010 S	
8EHQ-0690-1011 S	8EHQ-0690-1012 S	8EHQ-0690-1013 S	
8EHQ-0690-1014 S	8EHQ-0690-1016 S	8EHQ-0790-1022 S	
8EHQ-0790-1023 S	8EHQ-0790-1025 S	8EHQ-0790-1026 S	
8EHQ-0790-1028 S	8EHQ-0790-1029	8EHQ-0790-1031 S	
8EHQ-0790-1036 S	8EHQ-0790-1037 S	8EHQ-0890-1039 S	
8EHQ-0890-1042	8EHQ-0890-1044 S	8EHQ-0890-1048 S	
8EHQ-0890-1049 S	8EHQ-0890-1050 S	8EHQ-0890-1052 S	
8EHQ-0890-1054 S	8EHQ-0890-1056 S	8EHQ-0990-1058 S	
8EHQ-0990-1059 S *	8EHQ-0990-1060 S	8EHQ-0990-1062	
8EHQ-0990-1063	8EHQ-0990-1066 S	8EHQ-0990-1070 S	
8EHQ-0990-1071	8EHQ-0990-1073 S	8EHQ-0990-1075 S	
8EHQ-0990-1076 S	8EHQ-0990-1078	8EHQ-0990-1079 S	

PRODUCT COMPOSITION/CHEMICAL IDENTITY

SUBMISSION #: 8EHQ-0990-1083 S

PRODUCTION/USE/PROCESS

SUBMISSION #: 8EHQ-0189-0779	8EHQ-0189-0781 S	8EHQ-0289-0782 S
8EHQ-0289-0783 S	8EHQ-0289-0784	8EHQ-0289-0785 S
8EHQ-0389-0787 S	8EHQ-0389-0788 S	8EHQ-0389-0789
8EHQ-0389-0790 S	8EHQ-0389-0791 S	8EHQ-0489-0792
8EHQ-0489-0793	8EHQ-0489-0794 S	8EHQ-0589-0798 S
8EHQ-0589-0799	8EHQ-0589-0800	8EHQ-0689-0802
8EHQ-0689-0804	8EHQ-0789-0805 S	8EHQ-0789-0806 S
8EHQ-0789-0807 S	8EHQ-0789-0808 S	8EHQ-0889-0810 S
8EHQ-0889-0811 S	8EHQ-0889-0813	8EHQ-0889-0814
8EHQ-0886-0815	8EHQ-0889-0816 S	8EHQ-0889-0817
8EHQ-0889-0818 S	8EHQ-0889-0819 S	8EHQ-0889-0820
8EHQ-0989-0821 S	8EHQ-0989-0823	8EHQ-0989-0824 S
8EHQ-0989-0825 S	8EHQ-0989-0826 S	8EHQ-0989-0827 S
8EHQ-0989-0828 S	8EHQ-1089-0829	8EHQ-1089-0831
8EHQ-1089-0832	8EHQ-1089-0833 S	8EHQ-1089-0834 S
8EHQ-1089-0835 S	8EHQ-1089-0836	8EHQ-1089-0838 S
8EHQ-1189-0839	8EHQ-1189-0840 S	8EHQ-1189-0841
8EHQ-1189-0842 S	8EHQ-1189-0843 S	8EHQ-1189-0845
8EHQ-1189-0847	8EHQ-1189-0848 S	8EHQ-1289-0849 S
8EHQ-1289-0850	8EHQ-1289-0851 S	8EHQ-1289-0852 S
8EHQ-1289-0853 S	8EHQ-1289-0854 S	8EHQ-1289-0856
8EHQ-1289-0857 S	8EHQ-1289-0858 S	8EHQ-0190-0861 S

PRODUCTION/USE/PROCESS

SUBMISSION #:	8EHQ-0190-0862 S	8EHQ-0190-0863	8EHQ-0190-0864
	8EHQ-0190-0865 S	8EHQ-0190-0866 S	8EHQ-0190-0867 *
	8EHQ-0190-0868 S	8EHQ-0190-0869 S	8EHQ-0190-0870 S
	8EHQ-0190-0871 S	8EHQ-0290-0872 S	8EHQ-0290-0874 S
	8EHQ-0290-0875 S	8EHQ-0290-0877	8EHQ-0290-0879 S
	8EHQ-0290-0881 S	8EHQ-0290-0882	8EHQ-0290-0883 S
	8EHQ-0290-0885	8EHQ-0290-0886	8EHQ-0290-0887 S
	8EHQ-0290-0888 S	8EHQ-0290-0889 S	8EHQ-0290-0890 S
	8EHQ-0290-0891 S	8EHQ-0290-0894	8EHQ-0390-0898
	8EHQ-0390-0899 *	8EHQ-0390-0900	8EHQ-0390-0901
	8EHQ-0390-0902	8EHQ-0390-0903 S	8EHQ-0390-0907 S
	8EHQ-0390-0913 S	8EHQ-0390-0914 S	8EHQ-0390-0915
	8EHQ-0390-0916 S *	8EHQ-0490-0917	8EHQ-0490-0918 S
	8EHQ-0490-0919 S	8EHQ-0490-0924	8EHQ-0490-0925 S
	8EHQ-0490-0926 S	8EHQ-0490-0928 S	8EHQ-0490-0930 S
	8EHQ-0490-0931 S	8EHQ-0490-0932	8EHQ-0490-0933
	8EHQ-0490-0934 S	8EHQ-0490-0935 S	8EHQ-0490-0936
	8EHQ-0490-0937	8EHQ-0490-0938	8EHQ-0490-0939
	8EHQ-0490-0940	8EHQ-0490-0941	8EHQ-0490-0943
	8EHQ-0490-0944	8EHQ-0490-0945	8EHQ-0490-0950
	8EHQ-0490-0951	8EHQ-0490-0954	8EHQ-0490-0955 S
	8EHQ-0490-0956 S	8EHQ-0490-0957 S	8EHQ-0490-0958 S
	8EHQ-0490-0959 S	8EHQ-0490-0960	8EHQ-0490-0962
	8EHQ-0590-0964	8EHQ-0590-0968	8EHQ-0590-0971
	8EHQ-0590-0972	8EHQ-0590-0974	8EHQ-0590-0975

PRODUCTION/USE/PROCESS

SUBMISSION #:			
8EHQ-0590-0976	8EHQ-0590-0981	8EHQ-0590-0983	
8EHQ-0590-0985 *	8EHQ-0590-0992 S	8EHQ-0590-0994 *	
8EHQ-0590-0995 S	8EHQ-0590-0996	8EHQ-0590-0997 S	
8EHQ-0590-0998 S	8EHQ-0690-0999 *	8EHQ-0590-1001 S	
8EHQ-0690-1002	8EHQ-0690-1003	8EHQ-0690-1004 S	
8EHQ-0690-1005 S	8EHQ-0690-1006 S	8EHQ-0690-1010 S	
8EHQ-0690-1011 S	8EHQ-0690-1012 S	8EHQ-0690-1013 S	
8EHQ-0690-1014 S	8EHQ-0690-1015	8EHQ-0690-1016 S	
8EHQ-0690-1018	8EHQ-0690-1019	8EHQ-0790-1021	
8EHQ-0790-1023 S	8EHQ-0790-1024	8EHQ-0790-1025 S	
8EHQ-0790-1026 S	8EHQ-0790-1027	8EHQ-0790-1028 S	
8EHQ-0790-1029	8EHQ-0790-1031 S	8EHQ-0790-1033	
8EHQ-0790-1034	8EHQ-0790-1036 S	8EHQ-0790-1037 S	
8EHQ-0890-1039 S	8EHQ-0890-1040	8EHQ-0890-1041	
8EHQ-0890-1042	8EHQ-0890-1043	8EHQ-0890-1044 S	
8EHQ-0890-1045	8EHQ-0890-1046	8EHQ-0890-1047	
8EHQ-0890-1048 S	8EHQ-0890-1049 S	8EHQ-0890-1050 S	
8EHQ-0890-1052 S	8EHQ-0890-1053	8EHQ-0890-1054 S	
8EHQ-0890-1055 S	8EHQ-0890-1056 S	8EHQ-0990-1058 S	
8EHQ-0990-1060 S	8EHQ-0990-1061	8EHQ-0990-1062	
8EHQ-0990-1063	8EHQ-0990-1065	8EHQ-0990-1066 S	
8EHQ-0990-1069	8EHQ-0990-1070 S	8EHQ-0990-1071	
8EHQ-0990-1072	8EHQ-0990-1073 S	8EHQ-0990-1074	
8EHQ-0990-1075 S	8EHQ-0990-1076 S	8EHQ-0990-1078	
8EHQ-0990-1079 S	8EHQ-0990-1080 S	8EHQ-0990-1081	

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

PRODUCTION/USE/PROCESS

SUBMISSION #: 8EHQ-0990-1083 S

REPORTING RATIONALE

SUBMISSION #: 8EHQ-0889-0813 8EHQ-0886-0815 8EHQ-0490-0933

REPRODUCTIVE TOXICITY/TERATO. (ANIMAL)

SUBMISSION #:

8EHQ-0289-0783 S	8EHQ-0289-0785 S	8EHQ-0389-0786 S
8EHQ-0389-0790 S	8EHQ-0489-0792	8EHQ-0489-0794 S
8EHQ-0789-0807 S	8EHQ-0889-0810 S	8EHQ-0889-0811 S
8EHQ-0889-0813	8EHQ-0889-0816 S	8EHQ-0889-0820
8EHQ-0989-0823	8EHQ-0989-0824 S	8EHQ-0989-0825 S
8EHQ-0989-0827 S	8EHQ-0989-0828 S	8EHQ-1089-0829
8EHQ-1089-0835 S	8EHQ-1189-0842 S	8EHQ-1189-0844
8EHQ-1289-0849 S	8EHQ-1289-0851 S	8EHQ-1289-0852 S
8EHQ-1289-0855	8EHQ-1289-0858 S	8EHQ-0190-0861 S
8EHQ-0190-0862 S	8EHQ-0190-0865 S	8EHQ-0190-0868 S
8EHQ-0190-0869 S	8EHQ-0190-0870 S	8EHQ-0190-0871 S
8EHQ-0290-0872 S	8EHQ-0290-0874 S	8EHQ-0290-0875 S
8EHQ-0290-0877	8EHQ-0290-0878	8EHQ-0290-0879 S
8EHQ-0290-0881 S	8EHQ-0290-0883 S	8EHQ-0290-0884
8EHQ-0290-0887 S	8EHQ-0290-0888 S	8EHQ-0290-0889 S
8EHQ-0290-0890 S	8EHQ-0290-0891 S	8EHQ-0290-0892
8EHQ-0390-0895 S	8EHQ-0390-0896 S	8EHQ-0390-0897 S
8EHQ-0390-0904	8EHQ-0390-0907 S	8EHQ-0390-0910 S
8EHQ-0390-0911 S	8EHQ-0390-0912 S	8EHQ-0490-0918 S

REPRODUCTIVE TOXICITY/TERATO. (ANIMAL)

SUBMISSION #:	8EHQ-0490-0922 S	8EHQ-0490-0923 S	8EHQ-0490-0925 S
	8EHQ-0490-0927 S	8EHQ-0490-0928 S	8EHQ-0490-0930 S
	8EHQ-0490-0931 S	8EHQ-0490-0932	8EHQ-0490-0935 S
	8EHQ-0490-0937	8EHQ-0490-0938	8EHQ-0490-0939
	8EHQ-0490-0940	8EHQ-0490-0941	8EHQ-0490-0942
	8EHQ-0490-0943	8EHQ-0490-0944	8EHQ-0490-0945
	8EHQ-0490-0946	8EHQ-0490-0947	8EHQ-0490-0948
	8EHQ-0490-0949	8EHQ-0490-0950	8EHQ-0490-0951
	8EHQ-0490-0955 S	8EHQ-0490-0956 S	8EHQ-0490-0961 S
	8EHQ-0590-0965	8EHQ-0590-0966	8EHQ-0590-0967
	8EHQ-0590-0968	8EHQ-0590-0969	8EHQ-0590-0970
	8EHQ-0590-0971	8EHQ-0590-0972	8EHQ-0590-0973
	8EHQ-0590-0974	8EHQ-0590-0975	8EHQ-0590-0976
	8EHQ-0590-0977	8EHQ-0590-0978	8EHQ-0590-0979
	8EHQ-0590-0980	8EHQ-0590-0981	8EHQ-0590-0982
	8EHQ-0590-0983	8EHQ-0590-0984	8EHQ-0590-0986 S
	8EHQ-0590-0987 S	8EHQ-0590-0988 S	8EHQ-0590-0989 S
	8EHQ-0590-0990	8EHQ-0590-0992 S	8EHQ-0590-0995 S
	8EHQ-0590-0997 S	8EHQ-0590-0998 S	8EHQ-0690-0999 *
	8EHQ-0690-1000 S	8EHQ-0690-1002	8EHQ-0690-1003
	8EHQ-0690-1006 S	8EHQ-0690-1008	8EHQ-0690-1010 S
	8EHQ-0690-1011 S	8EHQ-0690-1012 S	8EHQ-0690-1013 S
	8EHQ-0690-1014 S	8EHQ-0790-1024	8EHQ-0790-1025 S
	8EHQ-0790-1026 S	8EHQ-0790-1030	8EHQ-0790-1037 S
	8EHQ-0890-1042	8EHQ-0890-1043	8EHQ-0890-1046

APPENDIX (D): STATUS REPORTS BY INFORMATION TYPE

REPRODUCTIVE TOXICITY/TERATO. (ANIMAL)

SUBMISSION #:	8EHQ-0890-1055 S	8EHQ-0990-1063	8EHQ-0990-1064
	8EHQ-0990-1073 S	8EHQ-0990-1075 S	

REPRODUCTIVE TOXICITY/TERATO. (HUMAN)

SUBMISSION #:	8EHQ-0989-0821 S		

SUBACUTE TOXICITY (ANIMAL)

SUBMISSION #:	8EHQ-0389-0780	8EHQ-0189-0781 S	8EHQ-0289-0782 S	
	8EHQ-0389-0789	8EHQ-0689-0803	8EHQ-0989-0826 S	
	8EHQ-1089-0837 S	8EHQ-1189-0845	8EHQ-0290-0880	
	8EHQ-0290-0884	8EHQ-0390-0908 S	8EHQ-0490-0926 S	
	8EHQ-0490-0931 S	8EHQ-0490-0934 S	8EHQ-0690-0999	*
	8EHQ-0690-1003	8EHQ-0690-1007	8EHQ-0690-1019	
	8EHQ-0690-1020	8EHQ-0790-1022 S	8EHQ-0790-1027	
	8EHQ-0790-1028 S	8EHQ-0790-1033	8EHQ-0790-1037 S	
	8EHQ-0890-1041	8EHQ-0890-1046	8EHQ-0890-1055 S	
	8EHQ-0890-1056 S	8EHQ-0990-1061	8EHQ-0990-1062	
	8EHQ-0990-1070 S	8EHQ-0990-1081		

SUBCHRONIC TOXICITY (ANIMAL)

SUBMISSION #:	8EHQ-0489-0793	8EHQ-0889-0817	8EHQ-1089-0836
	8EHQ-1189-0840 S	8EHQ-1189-0843 S	8EHQ-1189-0846
	8EHQ-1289-0855	8EHQ-0190-0866 S	8EHQ-0290-0881 S
	8EHQ-0490-0930 S	8EHQ-0490-0931 S	8EHQ-0490-0932
	8EHQ-0490-0936	8EHQ-0690-1002	8EHQ-0890-1049 S

SUBCHRONIC TOXICITY (ANIMAL)

SUBMISSION #: 8EHQ-0990-1063 8EHQ-0990-1074

TSCA 8(C) ALLEGATION

SUBMISSION #: 8EHQ-0889-0818 S 8EHQ-0989-0821 S 8EHQ-0390-0905 S *
8EHQ-0490-0929 S * 8EHQ-0590-0991 S 8EHQ-0990-1071
8EHQ-0990-1078

APPENDIX E: STATUS REPORTS BY SUBMISSION NUMBER

8EHQ-0189-0779 SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : 63402-26-6 CHEMICAL NAME: HYDRAZINECARBOXALDEHYDE, 2-(4-AMINOPHENYL)-

8EHQ-0389-0780 SUBMITTER: UNION CARBIDE CORPORATION

CAS NUMBER : 919-30-2 CHEMICAL NAME: 1-PROPANAMINE, 3-(TRIETHOXYSILYL)-

CAS NUMBER : 919-30-2 CHEMICAL NAME: SILANE A-1100

8EHQ-0189-0781 S SUBMITTER: HI-TEK POLYMERS, INC.

CAS NUMBER : 47073-92-7 CHEMICAL NAME: CYANIC ACID, ETHYLIDENEBIS-4,1-PHENYLENE ESTER

CAS NUMBER : 101657-77-6 CHEMICAL NAME: CYANIC ACID, METHYLENEBIS(2,6-DIMETHYL-4,1-PHENYLENE) ESTER

8EHQ-0289-0782 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: AROMATIC SULFONAMIDE, SUBSTITUTED

8EHQ-0289-0783 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRAZOLYL AMIDE, HETEROCYCLIC

8EHQ-0289-0784 SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : 101-68-8 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[4-ISOCYANATO-

CAS NUMBER : 2536-05-2 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[2-ISOCYANATO-

CAS NUMBER : 9016-87-9 CHEMICAL NAME: ISOCYANIC ACID, POLYMETHYLENEPOLYPHENYLENE ESTER

8EHQ-0289-0785 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRIMIDINE, ACYLAMINO

8EHQ-0389-0786 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 1453-58-3 CHEMICAL NAME: 1-H-PYRAZOLE, 3-METHYL-

8EHQ-0389-0787 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ALKYL HETEROCYCLE

8EHQ-0389-0788 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: HALO ALKYL HYDROXY HETEROCYCLE

8EHQ-0389-0789 SUBMITTER: BASF CORPORATION

CAS NUMBER : NONE CHEMICAL NAME: C. I. PIGMENT YELLOW 184

CAS NUMBER : 13565-96-3 CHEMICAL NAME: BISMUTH MOLYBDENUM OXIDE, (BI2MO06)

CAS NUMBER : 14059-33-7 CHEMICAL NAME: BISMUTH VANADIUM OXIDE, (BIV04)

8EHQ-0389-0790 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: KETONE, DIHETEROCYCLIC

8EHQ-0389-0791 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFONE, UNSATURATED

8EHQ-0489-0792 SUBMITTER: MOBAY CORPORATION

CAS NUMBER : 288-88-0 CHEMICAL NAME: 1H-1,2,4-TRIAZOLE

8EHQ-0489-0793 SUBMITTER: IBM CORPORATION

CAS NUMBER : 541-85-5 CHEMICAL NAME: 3-HEPTANONE, 5-METHYL-

CAS NUMBER : 541-85-5 CHEMICAL NAME: KETONE, ETHYL-SEC-AMYL

8EHQ-0489-0794 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFONIC ACID, SUBSTITUTED ARYL-, ALKALI METAL SALT

8EHQ-0489-0795 SUBMITTER: AMOCO CHEMICAL COMPANY

CAS NUMBER : 2540-99-0 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-SULFONYLBIS-

CAS NUMBER : 2540-99-0 CHEMICAL NAME: 4,4'-SULFONYLBIS(PHTHALIC ANHYDRIDE)

8EHQ-0589-0796 SUBMITTER: AMOCO CHEMICAL COMPANY

CAS NUMBER : 2421-28-5 CHEMICAL NAME: 3,3',4,4'-BENZOPHENONETETRACARBOXYLIC ACID DIANHYDRIDE

CAS NUMBER : 2421-28-5 CHEMICAL NAME: 1,3-ISOBENZOFURANDIONE, 5,5'-CARBONYLBIS-

8EHQ-0589-0796 SUBMITTER: AMOCO CHEMICAL COMPANY

8EHQ-0589-0797 SUBMITTER: ANTIMONY OXIDE INDUSTRY ASSOCIATION
CAS NUMBER : 1309-64-4 CHEMICAL NAME: ANTIMONY OXIDE, (SB203)

8EHQ-0589-0798 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: KETONE, CHLORINATED ALIPHATIC

8EHQ-0589-0799 SUBMITTER: ALLIED-SIGNAL INC.
CAS NUMBER : 75-71-8 CHEMICAL NAME: METHANE, DICHLORODIFLUORO-
CAS NUMBER : 75-71-8 CHEMICAL NAME: REFRIGERANT 12
CAS NUMBER : 107-30-2 CHEMICAL NAME: METHANE, CHLOROMETHOXY-
CAS NUMBER : 115-10-6 CHEMICAL NAME: METHANE, OXYBIS-
CAS NUMBER : 542-88-1 CHEMICAL NAME: BIS(CHLOROMETHYL)ETHER (BCME)
CAS NUMBER : 542-88-1 CHEMICAL NAME: METHANE, OXYBIS[CHLORO-

8EHQ-0589-0800 SUBMITTER: AMERICAN CYANAMID COMPANY
CAS NUMBER : 63470-53-1 CHEMICAL NAME: GOLD, DIMETHYL-1,1,1-TRIFLUORO-2,4-PENTANEDIONATO

8EHQ-0589-0801 SUBMITTER: UNION CARBIDE CORPORATION
CAS NUMBER : NONE CHEMICAL NAME: 1,2-ETHANEDIAMINE/CARBAMATE COMPLEX (PARTICULATE)
CAS NUMBER : 107-15-3 CHEMICAL NAME: 1,2-ETHANEDIAMINE

8EHQ-0689-0802 SUBMITTER: OLIN CORPORATION
CAS NUMBER : 112-96-9 CHEMICAL NAME: OCTADECANE, 1-ISOCYANATO-

8EHQ-0689-0803 SUBMITTER: UNION CARBIDE CORPORATION
CAS NUMBER : 4109-96-0 CHEMICAL NAME: CHLOROSILANE A-199
CAS NUMBER : 4109-96-0 CHEMICAL NAME: SILANE, DICHLORO-

8EHQ-0689-0804 SUBMITTER: ALBRIGHT & WILSON COMPANY, LTD.
CAS NUMBER : 50-00-0 CHEMICAL NAME: FORMALDEHYDE

CAS NUMBER : 124-64-1 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, CHLORIDE

CAS NUMBER : 55566-30-8 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT)

8EHQ-0789-0805 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFONE (II), UNSATURATED

8EHQ-0789-0806 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINAZOLINE (I), SUBSTITUTED

8EHQ-0789-0807 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 288-13-1 CHEMICAL NAME: 1H-PYRAZOLE

8EHQ-0789-0808 S SUBMITTER: LILLY RESEARCH LABORATORIES

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINAZOLINE (II), SUBSTITUTED

8EHQ-0789-0809 * SUBMITTER: DIXIE CHEMICAL COMPANY, INC.

CAS NUMBER : 556-52-5 CHEMICAL NAME: GLYCIDOL

CAS NUMBER : 556-52-5 CHEMICAL NAME: OXIRANEMETHANOL

8EHQ-0889-0810 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 73160-32-4 CHEMICAL NAME: 2-BUTANONE, O,O'-(ETHENYLMETHYLSYLYLENE)DIOXIME, (E,Z)-

8EHQ-0889-0811 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, ARYL PROPYL

8EHQ-0889-0812 SUBMITTER: HERCULES INCORPORATED

CAS NUMBER : 96-23-1 CHEMICAL NAME: 2-PROPANOL, 1,3-DICHLORO-

8EHQ-0889-0813 SUBMITTER: CHEMICAL MANUFACTURERS ASSOCIATION

CAS NUMBER : 149-30-4 CHEMICAL NAME: 2(3H)-BENZOTHIAZOLETHIONE

8EHQ-0889-0814 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : NONE CHEMICAL NAME: EPOXY RESINS

8EHQ-0889-0814 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : UNKNOWN CHEMICAL NAME: TETRAGLYCIDYL ETHER, BIS-TRIMETHYLOLPROPANE

8EHQ-0886-0815 SUBMITTER: ELI LILLY COMPANY

CAS NUMBER : UNKNOWN CHEMICAL NAME: 1H-PYRAZOLE-4-CARBOXAMIDE, 5-CYANO-1-(1,1-DIMETHYLETHYL)-N-METHYL-

8EHQ-0889-0816 S SUBMITTER: RHONE-POULENC INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: HALOPHENYLCYCLOALKENYL SUBSTITUTED ARYL ESTER

8EHQ-0889-0817 SUBMITTER: PPG INDUSTRIES, INC.

CAS NUMBER : 71-55-6 CHEMICAL NAME: ETHANE, 1,1,1-TRICHLORO-

CAS NUMBER : 646-06-0 CHEMICAL NAME: 1,3-DIOXOLANE

8EHQ-0889-0818 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 762-49-2 CHEMICAL NAME: ETHANE, 1-BROMO-2-FLUORO-

8EHQ-0889-0819 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINAZOLINE (III), SUBSTITUTED

8EHQ-0889-0820 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 7723-14-0 CHEMICAL NAME: PHOSPHORUS

8EHQ-0989-0821 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACRYLIC POLYMER

CAS NUMBER : NONE CHEMICAL NAME: CYANOACRYLATE ADHESIVE

CAS NUMBER : 7085-85-0 CHEMICAL NAME: 2-PROPENOIC ACID, 2-CYANO-, ETHYL ESTER

8EHQ-0989-0822 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : 27344-41-8 CHEMICAL NAME: BENZENESULFONIC ACID, 2,2'-([1,1'-BIPHENYL]-4,4'-DIYLDI-2,1-ETHENEDIYL)BIS-, DISODIUM SALT

CAS NUMBER : 27344-41-8 CHEMICAL NAME: FAT 65029/0

8EHQ-0989-0822 SUBMITTER: CIBA-GEIGY CORPORATION

8EHQ-0989-0823 SUBMITTER: MOBAY CORPORATION

CAS NUMBER : 34643-46-4 CHEMICAL NAME: PHOSPHORODITHIOIC ACID, O-(2,4-DICHLOROPHENYL)-, O-ETHYL S-PROPYL ESTER

CAS NUMBER : 34643-46-4 CHEMICAL NAME: PROTHIOFOS

CAS NUMBER : 34643-46-4 CHEMICAL NAME: TOKUTHION

8EHQ-0989-0824 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AZOLE CARBOXAMIDE, ARYL SUBSTITUTED

8EHQ-0989-0825 S SUBMITTER: RHONE-POULENC INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: ANILIDE (III), SUBSTITUTED

CAS NUMBER : CONFIDENT CHEMICAL NAME: ANILIDE (II), SUBSTITUTED

CAS NUMBER : CONFIDENT CHEMICAL NAME: ANILIDE (I), SUBSTITUTED

8EHQ-0989-0826 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : UNKNOWN CHEMICAL NAME: GLYCINE, N-AMINO-N-(CARBOXYMETHYL)-

8EHQ-0989-0827 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: IMIDATE (I), N-ARYL-CYCLIC

8EHQ-0989-0828 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: IMIDATE (II), N-ARYL-CYCLIC

8EHQ-1089-0829 SUBMITTER: BASF CORPORATION / GAF CHEMICALS CORPORATION

CAS NUMBER : 616-45-5 CHEMICAL NAME: 2-PYRROLIDINONE

8EHQ-1089-0830 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 107-11-9 CHEMICAL NAME: 2-PROPEN-1-AMINE

8EHQ-1089-0831 SUBMITTER: ICI AMERICAS INC.

CAS NUMBER : 553-26-4 CHEMICAL NAME: 4,4'-BIPYRIDINE

8EHQ-1089-0832 SUBMITTER: HÜLS AMERICA INC.

CAS NUMBER : 998-30-1 CHEMICAL NAME: SILANE, TRIETHOXY-

8EHQ-1089-0833 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINOLINE, SUBSTITUTED

8EHQ-1089-0834 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: ORGANOTIN COMPOUND

8EHQ-1089-0835 S SUBMITTER: BASF CORPORATION

CAS NUMBER : CONFIDENT CHEMICAL NAME: TRIAZOLE DERIVATIVE

8EHQ-1089-0836 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : 106990-43-6 CHEMICAL NAME: CHIMASSORB 119

CAS NUMBER : 106990-43-6 CHEMICAL NAME: 1,3,5-TRIAZINE-2,4,6-TRIAMINE, N,N'''-[1,2-ETHANEDIYLBIS[[[4,6-BIS[BUTYL(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)AMINO]-1,3,5-TRIAZIN-2-YL]IMINO]-3,1-PROPANEDIYL]]-BIS[N',N''-DIBUTYL-N',N''-BIS(1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL)-

8EHQ-1089-0837 S SUBMITTER: UNION CARBIDE CHEMICALS AND PLASTICS COMPANY, INC.

CAS NUMBER : 122185-09-5 CHEMICAL NAME: DECANE, 1,10-BIS-TRIMETHOXYSILYL-

8EHQ-1089-0838 S SUBMITTER: 3M COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: HYDRAZIDE COMPOUND

8EHQ-1189-0839 SUBMITTER: OLIN CORPORATION

CAS NUMBER : UNKNOWN CHEMICAL NAME: OXYALKYLATED LINEAR ALCOHOL-CARBOXYLIC ACID ADDUCT

CAS NUMBER : UNKNOWN CHEMICAL NAME: POLY-TERGENT CS-1 ANALOGUE

8EHQ-1189-0840 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: HYDRAZIDE, OXO-(SUBSTITUTED AMINO)ACETIC ACID

8EHQ-1189-0841 SUBMITTER: E. I. DUPONT DE NEMOURS & COMPANY, INC.

CAS NUMBER : UNKNOWN CHEMICAL NAME: PHOSPHINATE, TETRA-N-BUTYLPHOSPHONIUM PHENYL-

8EHQ-1189-0842 S SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : CONFIDENT CHEMICAL NAME: BENZDIOXOLCARBONITRILE, SUBSTITUTED

8EHQ-1189-0843 S SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : CONFIDENT CHEMICAL NAME: HALOGENATED BENZOYL UREA

8EHQ-1189-0844 SUBMITTER: METHYL BROMIDE INDUSTRY PANEL

CAS NUMBER : 74-83-9 CHEMICAL NAME: METHANE, BROMO-

CAS NUMBER : 74-83-9 CHEMICAL NAME: METHYL BROMIDE

8EHQ-1189-0845 SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : UNKNOWN CHEMICAL NAME: HYDRAZINE, (4-(METHYLBUTOXY)-PHENYL)-, MONOHYDROCHLORIDE

8EHQ-1189-0846 SUBMITTER: CHEMICAL MANUFACTURERS ASSOCIATION

CAS NUMBER : 98-82-8 CHEMICAL NAME: BENZENE, (1-METHYLETHYL)-

CAS NUMBER : 98-82-8 CHEMICAL NAME: CUMENE

8EHQ-1189-0847 SUBMITTER: CHEVRON INTERNATIONAL OIL COMPANY, INC.

CAS NUMBER : NONE CHEMICAL NAME: ARALDITE CY-185

CAS NUMBER : NONE CHEMICAL NAME: EPOXY RESINS

CAS NUMBER : NONE CHEMICAL NAME: HYJET IV-A

CAS NUMBER : NONE CHEMICAL NAME: XYLOK HARDENER 231 N-90

CAS NUMBER : NONE CHEMICAL NAME: XYLOK 235 NK-75

CAS NUMBER : 78-93-3 CHEMICAL NAME: 2-BUTANONE

CAS NUMBER : 108-10-1 CHEMICAL NAME: 2-PENTANONE, 4-METHYL-

CAS NUMBER : 126-73-8 CHEMICAL NAME: PHOSPHORIC ACID TRIBUTYL ESTER

CAS NUMBER : 2155-38-6 CHEMICAL NAME: BA 42'580

CAS NUMBER : 2155-38-6 CHEMICAL NAME: SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-[2-[2-(OXIRANYLMETHOXY)ETHOXY]ETHYL]-

CAS NUMBER : 3388-03-2 CHEMICAL NAME: ARALDITE CY-175

8EHQ-1189-0847 SUBMITTER: CHEVRON INTERNATIONAL OIL COMPANY, INC.

CAS NUMBER : 3388-03-2	CHEMICAL NAME:	BAKELITE ERL-4234
CAS NUMBER : 3388-03-2	CHEMICAL NAME:	BA 42'579
CAS NUMBER : 3388-03-2	CHEMICAL NAME:	ERL-4234
CAS NUMBER : 3388-03-2	CHEMICAL NAME:	SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-
CAS NUMBER : 10578-42-4	CHEMICAL NAME:	BA 42'581
CAS NUMBER : 10578-42-4	CHEMICAL NAME:	7-OXABICYCLO[4.1.0]HEPTANE], 3-[(OXIRANYLMETHOXY)METHYL]-
CAS NUMBER : 26616-47-7	CHEMICAL NAME:	SPIRO[1,3-DIOXANE-5,3'-[7]OXABICYCLO[4.1.0]HEPTANE], 2-(7-OXABICYCLO[4.1.0]HEPT-3-YL)-, HOMOPOLYMER
CAS NUMBER : 68937-41-7	CHEMICAL NAME:	PHENOL, ISOPROPYLATED, PHOSPHATE (3:1)

8EHQ-1189-0848 S SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : CONFIDENT	CHEMICAL NAME:	HYDRAZINE, SUBSTITUTED

8EHQ-1289-0849 S SUBMITTER: PROCTER & GAMBLE COMPANY

CAS NUMBER : CONFIDENT	CHEMICAL NAME:	SUBSTITUTED ORGANIC AMMONIUM CHLORIDE

8EHQ-1289-0850 SUBMITTER: MOBAY CORPORATION

CAS NUMBER : UNKNOWN	CHEMICAL NAME:	O-ETHYL-O-METHYLETHYL-O-[2-(1,1-DIMETHYLETHYL)-PYRIMIDIN-5-YL]-THIONOPHOSPHOROUS ACID ESTER
CAS NUMBER : UNKNOWN	CHEMICAL NAME:	MAT 7484

8EHQ-1289-0851 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT	CHEMICAL NAME:	ETHER, DIARYL

8EHQ-1289-0852 S SUBMITTER: SHELL OIL COMPANY

CAS NUMBER : 2716-10-1	CHEMICAL NAME:	BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS-
CAS NUMBER : 2716-10-1	CHEMICAL NAME:	EPIKURE 1061
CAS NUMBER : 2716-12-3	CHEMICAL NAME:	BENZENAMINE, 4,4'-[1,4-PHENYLENEBIS(1-METHYLETHYLIDENE)]BIS[2,6-DIMETHYL-

8EHQ-1289-0852 S SUBMITTER: SHELL OIL COMPANY
CAS NUMBER : 2716-12-3 CHEMICAL NAME: EPIKURE 1062

8EHQ-1289-0853 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMIDE, HETEROCYCLIC

8EHQ-1289-0854 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, HETEROCYCLIC

8EHQ-1289-0855 SUBMITTER: AMERICAN CYANAMID COMPANY
CAS NUMBER : 131-57-7 CHEMICAL NAME: METHANONE, (2-HYDROXY-4-METHOXYPHENYL)PHENYL-

8EHQ-1289-0856 SUBMITTER: E. I. DUPONT DE NEMOURS & COMPANY, INC.
CAS NUMBER : 75-02-5 CHEMICAL NAME: ETHENE, FLUORO-
CAS NUMBER : 75-02-5 CHEMICAL NAME: VINYL FLUORIDE

8EHQ-1289-0857 S SUBMITTER: ELI LILLY AND COMPANY
CAS NUMBER : CONFIDENT CHEMICAL NAME: CARBAZOLE, INDOLO-

8EHQ-1289-0858 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: KETONE, ALKYL

8EHQ-1289-0859 SUBMITTER: HALOCARBON PRODUCTS CORPORATION
CAS NUMBER : NONE CHEMICAL NAME: QC2 (MIXTURE)
CAS NUMBER : 598-73-2 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-

8EHQ-0190-0860 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : NONE CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-, HOMOPOLYMER, PYROLYSIS PRODUCTS OF
CAS NUMBER : 55157-25-0 CHEMICAL NAME: ETHENE, BROMOTRIFLUORO-, HOMOPOLYMER

8EHQ-0190-0861 S SUBMITTER: CIBA-GEIGY CORPORATION
CAS NUMBER : CONFIDENT CHEMICAL NAME: LACTONE, SUBSTITUTED POLYCYCLIC

8EHQ-0190-0861 S SUBMITTER: CIBA-GEIGY CORPORATION

8EHQ-0190-0862 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: NITROBENZENE, ALKOXY ARYLOXY

8EHQ-0190-0863 SUBMITTER: UPJOHN COMPANY

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : 91-94-1 CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-

CAS NUMBER : 91-94-1 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-

CAS NUMBER : 92-87-5 CHEMICAL NAME: BENZIDINE

CAS NUMBER : 92-87-5 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE

CAS NUMBER : 119-90-4 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY-

CAS NUMBER : 119-90-4 CHEMICAL NAME: O-DIANISIDINE

CAS NUMBER : 119-93-7 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL-

CAS NUMBER : 119-93-7 CHEMICAL NAME: O-TOLIDINE

CAS NUMBER : 612-83-9 CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-, DIHYDROCHLORIDE

CAS NUMBER : 612-83-9 CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-, DIHYDROCHLORID E

8EHQ-0190-0864 SUBMITTER: GOODYEAR TIRE & RUBBER COMPANY

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : NONE CHEMICAL NAME: MORFAX PRODUCTION PROCESS

CAS NUMBER : NONE CHEMICAL NAME: WINGSTAY 100 PRODUCTION PROCESS

CAS NUMBER : 62-53-3 CHEMICAL NAME: ANILINE

CAS NUMBER : 62-53-3 CHEMICAL NAME: BENZENAMINE

CAS NUMBER : 95-53-4 CHEMICAL NAME: BENZENAMINE, 2-METHYL-

CAS NUMBER : 95-53-4 CHEMICAL NAME: O-TOLUIDINE

8EHQ-0190-0865 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, HETEROCYCLIC SUBSTITUTED

8EHQ-0190-0865 S SUBMITTER: CONFIDENTIAL

8EHQ-0190-0866 S SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : UNKNOWN CHEMICAL NAME: 2-PROPENOIC ACID, POLYMER WITH SODIUM PHOSPHINATE, SODIUM SALT

CAS NUMBER : 71050-62-9 CHEMICAL NAME: 2-PROPENOIC ACID, POLYMER WITH SODIUM PHOSPHINATE

8EHQ-0190-0867 * SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : 71130-60-4 CHEMICAL NAME: PHENOL, 2-[(ETHYLAMINO)METHYL]-4-NITRO-

8EHQ-0190-0868 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: IMIDATE, N-ARYLCYCLIC

8EHQ-0190-0869 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, HETEROCYCLIC SUBSTITUTED

8EHQ-0190-0870 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: IMIDATE (I), N-ARYL-CYCLIC

8EHQ-0190-0871 S SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 61791-26-2 CHEMICAL NAME: AMINES, TALLOW ALKYL, ETHOXYLATED

8EHQ-0290-0872 S SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : CONFIDENT CHEMICAL NAME: POLYCYCLIC DIONE, SUBSTITUTED

8EHQ-0290-0873 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, AROMATIC

8EHQ-0290-0874 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: GUANIDINIUM ARYL SULFONATE, SUBSTITUTED

8EHQ-0290-0875 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: PHOSPHATE ESTER

8EHQ-0290-0875 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : NONE CHEMICAL NAME: HYDRAULIC FLUID, MILC PHOSPHATE ESTER-BASED

CAS NUMBER : NONE CHEMICAL NAME: MIL-H-19457C (MILC)

8EHQ-0290-0876 SUBMITTER: ICI AMERICAS INC.

CAS NUMBER : 101-68-8 CHEMICAL NAME: BENZENE, 1,1'-METHYLENEBIS[4-ISOCYANATO-

8EHQ-0290-0877 SUBMITTER: ALBRIGHT & WILSON COMPANY, INC.

CAS NUMBER : 124-64-1 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, CHLORIDE

CAS NUMBER : 55566-30-8 CHEMICAL NAME: PHOSPHONIUM, TETRAKIS(HYDROXYMETHYL)-, SULFATE (2:1) (SALT)

8EHQ-0290-0878 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 75-31-0 CHEMICAL NAME: 2-PROPANAMINE

CAS NUMBER : 91-66-7 CHEMICAL NAME: BENZENAMINE, N,N-DIETHYL-

CAS NUMBER : 768-52-5 CHEMICAL NAME: BENZENAMINE, N-(1-METHYLETHYL)-

CAS NUMBER : 2524-03-0 CHEMICAL NAME: PHOSPHOROCHLORIDOTHIOIC ACID, O,O-DIMETHYL ESTER

8EHQ-0290-0879 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ARYL DIESTER, HALO ALKYL SUBSTITUTED

8EHQ-0290-0880 SUBMITTER: AMERICAN CYANAMID COMPANY

CAS NUMBER : UNKNOWN CHEMICAL NAME: 1,3-BIS[1-CYANATO-1-METHYLETHYL]BENZENE

CAS NUMBER : 123-86-4 CHEMICAL NAME: ACETIC ACID, BUTYL ESTER

CAS NUMBER : 94857-19-9 CHEMICAL NAME: 1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, POLYMER WITH 1, 3-BIS(1-ISOCYANATO-1-METHYLETHYL)BENZENE

8EHQ-0290-0881 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: HEXANEDIONE, CYCLO-

8EHQ-0290-0882 SUBMITTER: AMOCO OIL COMPANY

CAS NUMBER : NONE CHEMICAL NAME: DIBENZOFURANS, CHLORINATED

8EHQ-0290-0882 SUBMITTER: AMOCO OIL COMPANY

CAS NUMBER : NONE CHEMICAL NAME: DIOXINS, CHLORINATED

CAS NUMBER : NONE CHEMICAL NAME: PETROLEUM REFINING PROCESS

CAS NUMBER : NONE CHEMICAL NAME: REFORMER SPRAY TUR

8EHQ-0290-0883 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, DIARYL

8EHQ-0290-0884 SUBMITTER: ARCO CHEMICAL COMPANY

CAS NUMBER : 67-63-0 CHEMICAL NAME: ISOPROPANOL

CAS NUMBER : 67-63-0 CHEMICAL NAME: 2-PROPANOL

8EHQ-0290-0885 SUBMITTER: CROMPTON & KNOWLES CORPORATION, U.S.A.

CAS NUMBER : 17095-24-8 CHEMICAL NAME: 2,7-NAPHTHALENEDISULFONIC ACID, 4-AMINO-5-HYDROXY-3,6-BIS[[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]AZO]-, TETRASODIUM SALT

CAS NUMBER : 17095-24-8 CHEMICAL NAME: C. I. REACTIVE BLACK 5

8EHQ-0290-0886 SUBMITTER: UNOCAL CORPORATION

CAS NUMBER : NONE CHEMICAL NAME: OIL (PETROLEUM), REFINING PROCESS

8EHQ-0290-0887 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETIC ACID ESTER, SUBSTITUTED

8EHQ-0290-0888 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, DIARYL

8EHQ-0290-0889 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED

8EHQ-0290-0890 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETOPHENONE OXIME

8EHQ-0290-0890 S SUBMITTER: CONFIDENTIAL

8EHQ-0290-0891 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, ARYL ALKYL

8EHQ-0290-0892 SUBMITTER: MONSANTO COMPANY
CAS NUMBER : 78-88-6 CHEMICAL NAME: 1-PROPENE, 2,3-DICHLORO-
CAS NUMBER : 463-58-1 CHEMICAL NAME: CARBON OXIDE SULFIDE, (COS)
CAS NUMBER : 2524-03-0 CHEMICAL NAME: PHOSPHOROCHLORIDOTHIOIC ACID, O,O-DIMETHYL ESTER
CAS NUMBER : 16714-68-4 CHEMICAL NAME: PROPANE, 1,1,2,2,3-PENTACHLORO-

8EHQ-0290-0893 SUBMITTER: AMOCO CHEMICAL COMPANY
CAS NUMBER : 37871-12-8 CHEMICAL NAME: BENZENE, (1,1-DIMETHYLETHYL)ETHYL-

8EHQ-0290-0894 SUBMITTER: EM INDUSTRIES, INC.
CAS NUMBER : 38444-13-2 CHEMICAL NAME: BENZOIC ACID, 4-METHOXY-, 4-PENTYLPHENYL ESTER

8EHQ-0390-0895 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRIDINECARBOXYLATE

8EHQ-0390-0896 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (I)

8EHQ-0390-0897 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (II)

8EHQ-0390-0898 SUBMITTER: E. I. DUPONT DE NEMOURS & COMPANY, INC.
CAS NUMBER : 2479-46-1 CHEMICAL NAME: BENZENAMINE, 4,4'-(1,3-PHENYLENEBIS(OXY)BIS-
CAS NUMBER : 2479-46-1 CHEMICAL NAME: RODA

8EHQ-0390-0899 * SUBMITTER: PQ CORPORATION
CAS NUMBER : 56982-91-3 CHEMICAL NAME: SILICATE, TETRAMETHYL AMMONIUM

8EHQ-0390-0899 * SUBMITTER: PQ CORPORATION

8EHQ-0390-0900 SUBMITTER: METHYL TERTIARY BUTYL ETHER TASK FORCE
CAS NUMBER : 1634-04-4 CHEMICAL NAME: PROPANE, 2-METHOXY-2-METHYL-

8EHQ-0390-0901 SUBMITTER: EXXON CHEMICAL AMERICAS
CAS NUMBER : 106-99-0 CHEMICAL NAME: 1,3-BUTADIENE
CAS NUMBER : 513-35-9 CHEMICAL NAME: 2-BUTENE, 2-METHYL-
CAS NUMBER : 563-46-2 CHEMICAL NAME: 1-BUTENE, 2-METHYL-
CAS NUMBER : 26760-64-5 CHEMICAL NAME: BUTENE, 2-METHYL-
CAS NUMBER : 26760-64-5 CHEMICAL NAME: ISOAMYLENE

8EHQ-0390-0902 SUBMITTER: EXXON CHEMICAL AMERICAS
CAS NUMBER : 106-99-0 CHEMICAL NAME: 1,3-BUTADIENE

8EHQ-0390-0903 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: NAPHTHALENOL AROMATIC AZO DYE OF AROMATIC COMPOUNDS

8EHQ-0390-0904 SUBMITTER: AKZO CHEMICALS INC.
CAS NUMBER : 75-15-0 CHEMICAL NAME: CARBON DISULFIDE

8EHQ-0390-0905 S * SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, AROMATIC

8EHQ-0390-0906 S SUBMITTER: BAKER PERFORMANCE CHEMICALS, INC.
CAS NUMBER : CONFIDENT CHEMICAL NAME: MAGNACLEAR W 241

8EHQ-0390-0907 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: SEMICARBAZONE

8EHQ-0390-0908 S SUBMITTER: RICOH ELECTRONICS INC.
CAS NUMBER : CONFIDENT CHEMICAL NAME: DD-63

8EHQ-0390-0908 S SUBMITTER: RICOH ELECTRONICS INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: PHENOL, 4,4'-[OXYBIS(2,1-ETHANEDIYLTHIO)]BIS-

8EHQ-0390-0909 * SUBMITTER: MITSUBISHI GAS CHEMICAL AMERICA, INC.

CAS NUMBER : 1477-55-0 CHEMICAL NAME: 1,3-BENZENEDIMETHANAMINE

8EHQ-0390-0910 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 104-76-7 CHEMICAL NAME: 1-HEXANOL, 2-ETHYL-

8EHQ-0390-0911 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 25339-17-7 CHEMICAL NAME: ISODECANOL

8EHQ-0390-0912 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : UNKNOWN CHEMICAL NAME: ISONONYL ALCOHOL 1

CAS NUMBER : UNKNOWN CHEMICAL NAME: ISONONYL ALCOHOL 2

CAS NUMBER : 68515-81-1 CHEMICAL NAME: ISONONYL ALCOHOL

8EHQ-0390-0913 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ARYL ALKYL HETEROCYCLIC CARBOXYLATE

8EHQ-0390-0914 S SUBMITTER: MITSUI PETROCHEMICALS (AMERICA), LTD.

CAS NUMBER : NONE CHEMICAL NAME: PAL 6000

CAS NUMBER : UNKNOWN CHEMICAL NAME: UREA, 1-METHOXY-1-METHYL-3-[4-(3,4-DIHYDRO-2-METHOXY-2,4,4-TRIMETHYL-7-BENZOPYRANYLOXY)PHENYL]-

8EHQ-0390-0915 SUBMITTER: ALUMINUM COMPANY OF AMERICA (ALCOA)

CAS NUMBER : NONE CHEMICAL NAME: ALUMINUM PRODUCTION PROCESS

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : NONE CHEMICAL NAME: REFRACTORY CERAMIC FIBER

8EHQ-0390-0916 S * SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: SEMICARBAZONE

8EHQ-0390-0916 S * SUBMITTER: CONFIDENTIAL

8EHQ-0490-0917 SUBMITTER: BF GOODRICH COMPANY

CAS NUMBER : 80-62-6 CHEMICAL NAME: METHYL METHACRYLATE

CAS NUMBER : 80-62-6 CHEMICAL NAME: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER

CAS NUMBER : 140-88-5 CHEMICAL NAME: ACRYLIC ACID, ETHYL ESTER

CAS NUMBER : 140-88-5 CHEMICAL NAME: ETHYL ACRYLATE

CAS NUMBER : 140-88-5 CHEMICAL NAME: 2-PROPENOIC ACID, ETHYL ESTER

8EHQ-0490-0918 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMIDE, HETEROCYCLIC

8EHQ-0490-0919 S SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: HYDRAZIDE, SUBSTITUTED CARBONOTHIOIC

8EHQ-0490-0920 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ALKENOYL DISUBSTITUTED CYCLOALKANE

CAS NUMBER : CONFIDENT CHEMICAL NAME: EPA ACCESSION # 35406

8EHQ-0490-0921 S SUBMITTER: RICOH ELECTRONICS INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: DD-70

CAS NUMBER : CONFIDENT CHEMICAL NAME: PHENOL, 4,4'-[METHYLENEBIS(OXY-2,1-ETHANEDIYLTHIO)]BIS-

8EHQ-0490-0922 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: HYDROCARBON, CHLORINATED

8EHQ-0490-0923 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED, (III)

8EHQ-0490-0924 SUBMITTER: AMERICAN CYANAMID COMPANY

CAS NUMBER : 50-00-0 CHEMICAL NAME: FORMALDEHYDE

8EHQ-0490-0924 SUBMITTER: AMERICAN CYANAMID COMPANY

8EHQ-0490-0925 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: THIOESTER, HETEROCYCLIC

8EHQ-0490-0926 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, DIARYL, (IV)

8EHQ-0490-0927 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, ARYL

8EHQ-0490-0928 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: CARBOXYLIC ACID ESTER, HETEROCYCLIC

8EHQ-0490-0929 S * SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, HALOGENATED

8EHQ-0490-0930 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ETHER, DIARYL, (V)

8EHQ-0490-0931 S SUBMITTER: GIVAUDAN CORPORATION
CAS NUMBER : 80-54-6 CHEMICAL NAME: BENZENEPROPANAL, 4-(1,1-DIMETHYLETHYL)-.ALPHA.-METHYL-
CAS NUMBER : 13586-68-0 CHEMICAL NAME: 2-PROPENAL, 3-[4-(1,1-DIMETHYLETHYL)PHENYL]-2-METHYL-

8EHQ-0490-0932 SUBMITTER: MOBIL RESEARCH AND DEVELOPMENT CORPORATION
CAS NUMBER : NONE CHEMICAL NAME: SLUDGE, API SEPARATOR BOTTOM
CAS NUMBER : NONE CHEMICAL NAME: SLUDGE, DISSOLVED AIR FLOTATION (DAF) FLOAT

8EHQ-0490-0933 SUBMITTER: GENERAL ELECTRIC COMPANY
CAS NUMBER : 1336-36-3 CHEMICAL NAME: 1,1'-BIPHENYL, CHLORO DERIVS.
CAS NUMBER : 1336-36-3 CHEMICAL NAME: POLYCHLORINATED BIPHENYLS (PCB)

8EHQ-0490-0933 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : 11097-69-1 CHEMICAL NAME: AROCHLOR 1254

8EHQ-0490-0934 S SUBMITTER: ENIMONT AMERICA INC.

CAS NUMBER : 94317-64-3 CHEMICAL NAME: N-(N-BUTYL)THIOPHOSPHORIC TRIAMIDE

8EHQ-0490-0935 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: IMIDAZOLE DERIVATIVE

8EHQ-0490-0936 SUBMITTER: BASF CORPORATION

CAS NUMBER : 83261-15-8 CHEMICAL NAME: L-2-CHLOROPROPRIONIC ACID, ISOBUTYL ESTER

8EHQ-0490-0937 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 6419-19-8 CHEMICAL NAME: DEQUEST 2000

CAS NUMBER : 6419-19-8 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-

CAS NUMBER : 20592-85-2 CHEMICAL NAME: PHOSPHONIC ACID, [NITRILOTRIS(METHYLENE)]TRIS-, SODIUM SALT

8EHQ-0490-0938 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE CHEMICAL NAME: SANTICIZER 9 PLASTICIZER

CAS NUMBER : 70-55-3 CHEMICAL NAME: BENZENESULFONAMIDE, 4-METHYL-

CAS NUMBER : 70-55-3 CHEMICAL NAME: P-TOLUENESULFONAMIDE

CAS NUMBER : 88-19-7 CHEMICAL NAME: BENZENESULFONAMIDE, 2-METHYL-

CAS NUMBER : 88-19-7 CHEMICAL NAME: O-TOLUENESULFONAMIDE

8EHQ-0490-0939 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 103-30-0 CHEMICAL NAME: BENZENE, 1,1'-(1,2-ETHENEDIYL)BIS-, (E)-

CAS NUMBER : 103-30-0 CHEMICAL NAME: STILBENE, TRANS-

8EHQ-0490-0940 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 1429-50-1 CHEMICAL NAME: DEQUEST 2041

8EHQ-0490-0940 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 1429-50-1 CHEMICAL NAME: PHOSPHONIC ACID, [1,2-ETHANEDIYLBIS[NITRILOBIS(METHYLENE)]]TETRAKIS-

8EHQ-0490-0941 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68908-87-2 CHEMICAL NAME: BENZENE, 1,3-DIMETHYL-, BENZYLATED

8EHQ-0490-0942 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 9014-92-0 CHEMICAL NAME: POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(DODECYLPHENYL)-.OMEGA.-HYDROXY-

CAS NUMBER : 9014-92-0 CHEMICAL NAME: STEROX DJ SURFACTANT

8EHQ-0490-0943 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 63449-88-7 CHEMICAL NAME: BUTANOIC ACID, 1-CYCLOHEXYLETHYL ESTER

8EHQ-0490-0944 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 38051-10-4 CHEMICAL NAME: PHOSGARD 2XC20

CAS NUMBER : 38051-10-4 CHEMICAL NAME: PHOSPHORIC ACID, 2,2-BIS(CHLOROMETHYL)-1,3-PROPANEDIYL TETRAKIS(2-CHLOROETHYL) ESTER

8EHQ-0490-0945 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 70205-95-7 CHEMICAL NAME: BUILDER U

CAS NUMBER : 70205-95-7 CHEMICAL NAME: OXOACETIC ACID HOMOPOLYMER, SODIUM SALT

8EHQ-0490-0946 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 142-73-4 CHEMICAL NAME: GLYCINE, N-(CARBOXYMETHYL)-

8EHQ-0490-0947 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 4351-70-6 CHEMICAL NAME: PHOSGARD C-22-R

CAS NUMBER : 4351-70-6 CHEMICAL NAME: PHOSPHONIC ACID, [1-[[(2-CHLOROETHOXY)(2-CHLOROETHYL)PHOSPHINYL]OXY]ETHYL]-, 1-[BIS(2-CHLOROETHOXY)PHOSPHINYL]ETHYL 2-CHLOROETHYL ESTER

8EHQ-0490-0948 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 117-08-8	CHEMICAL NAME:	1,3-ISOBENZOFURANDIONE, 4,5,6,7-TETRACHLORO-
CAS NUMBER : 117-08-8	CHEMICAL NAME:	TETRATHAL

8EHQ-0490-0949 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 38970-72-8	CHEMICAL NAME:	CYCLOHEXANE, 1,1'-(1,1,3-TRIMETHYL-1,3-PROPANEDIYL)BIS-
CAS NUMBER : 38970-72-8	CHEMICAL NAME:	HLD

8EHQ-0490-0950 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 15827-60-8	CHEMICAL NAME:	DEQUEST 2060
CAS NUMBER : 15827-60-8	CHEMICAL NAME:	PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[2,1-ETHANEDIYL NITRILOBIS(METHYLENE)]]TETRAKIS-
CAS NUMBER : 22042-96-2	CHEMICAL NAME:	DEQUEST 2061
CAS NUMBER : 22042-96-2	CHEMICAL NAME:	DEQUEST 2066
CAS NUMBER : 22042-96-2	CHEMICAL NAME:	PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[(2,1-ETHANEDIYLNITRILO)BIS(METHYLENE)]]TETRAKIS-, SODIUM SALT

8EHQ-0490-0951 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 15827-60-8	CHEMICAL NAME:	DEQUEST 2060
CAS NUMBER : 15827-60-8	CHEMICAL NAME:	PHOSPHONIC ACID, [[(PHOSPHONOMETHYL)IMINO]BIS[2,1-ETHANEDIYL NITRILOBIS(METHYLENE)]]TETRAKIS-

8EHQ-0490-0952 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 420-04-2	CHEMICAL NAME:	CYANAMIDE
CAS NUMBER : 420-04-2	CHEMICAL NAME:	CYANAMIDE, HYDROGEN

8EHQ-0490-0953 SUBMITTER: AIR PRODUCTS AND CHEMICALS, INC.

CAS NUMBER : 71-55-6	CHEMICAL NAME:	ETHANE, 1,1,1-TRICHLORO-
CAS NUMBER : 75-34-3	CHEMICAL NAME:	ETHANE, 1,1-DICHLORO-
CAS NUMBER : 75-35-4	CHEMICAL NAME:	ETHENE, 1,1-DICHLORO-

8EHQ-0490-0954 S SUBMITTER: ALLIED-SIGNAL INC.

CAS NUMBER : UNKNOWN CHEMICAL NAME: ISOPHTHALATE, BIS-(4-VINYLOXYBUTYL)-

8EHQ-0490-0955 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ACETANILIDE, SUBSTITUTED

8EHQ-0490-0956 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: KETONE, DIARYL

8EHQ-0490-0957 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRIMIDINE, SUBSTITUTED

8EHQ-0490-0958 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRIMIDINE, SUBSTITUTED

8EHQ-0490-0959 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE METAL COMPLEX

8EHQ-0490-0960 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 103112-35-2 CHEMICAL NAME: 1(H)-1,2,4-TRIAZOLE-3-CARBOXYLATE, ETHYL 1-(2,4-DICHLOROPHENYL)-5-TRICHLOROMETHYL-

8EHQ-0490-0961 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINO ACID (I)

8EHQ-0490-0962 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : NONE CHEMICAL NAME: DIARYLIDE PIGMENTS

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : UNKNOWN CHEMICAL NAME: PERMANENT YELLOW DGR TYPE

CAS NUMBER : UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GGR TYPE

CAS NUMBER : UNKNOWN CHEMICAL NAME: PERMANENT YELLOW GRL TYPE

8EHQ-0490-0962 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : UNKNOWN	CHEMICAL NAME: PERMANENT YELLOW GRX TYPE
CAS NUMBER : UNKNOWN	CHEMICAL NAME: PERMANENT YELLOW GRY TYPE
CAS NUMBER : UNKNOWN	CHEMICAL NAME: PERMANENT YELLOW G3R TYPE
CAS NUMBER : UNKNOWN	CHEMICAL NAME: PERMANENT YELLOW YR TYPE
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 186
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 114
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 126
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 127
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 152
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 174
CAS NUMBER : UNKNOWN	CHEMICAL NAME: C. I. PIGMENT YELLOW 176
CAS NUMBER : 91-94-1	CHEMICAL NAME: BENZIDINE, 3,3'-DICHLORO-
CAS NUMBER : 91-94-1	CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO-
CAS NUMBER : 2512-29-0	CHEMICAL NAME: BUTANAMIDE, 2-[(4-METHYL-2-NITROPHENYL)AZO]-3-OXO-N-PHENYL-
CAS NUMBER : 2512-29-0	CHEMICAL NAME: PERMANENT YELLOW G TYPE
CAS NUMBER : 2512-29-0	CHEMICAL NAME: C. I. PIGMENT YELLOW 14
CAS NUMBER : 3520-72-7	CHEMICAL NAME: PERMANENT ORANGE G TYPE
CAS NUMBER : 3520-72-7	CHEMICAL NAME: C. I. PIGMENT ORANGE 13
CAS NUMBER : 3520-72-7	CHEMICAL NAME: 3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-PHENYL-
CAS NUMBER : 4531-49-1	CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2-METHOXYPHENYL)-3-OXO-
CAS NUMBER : 4531-49-1	CHEMICAL NAME: PERMANENT YELLOW GG TYPE
CAS NUMBER : 4531-49-1	CHEMICAL NAME: C. I. PIGMENT YELLOW 17
CAS NUMBER : 5102-83-0	CHEMICAL NAME: BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(2,4-DIMETHYLPHENYL)-3-OXO-
CAS NUMBER : 5102-83-0	CHEMICAL NAME: PERMANENT YELLOW GR TYPE

8EHQ-0490-0962 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 5102-83-0	CHEMICAL NAME:	C. I. PIGMENT YELLOW 13
CAS NUMBER : 5567-15-7	CHEMICAL NAME:	BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[N-(4-CHLORO-2,5-DIMETHOXYPHENYL)-3-OXO-
CAS NUMBER : 5567-15-7	CHEMICAL NAME:	PERMANENT YELLOW HR TYPE
CAS NUMBER : 5567-15-7	CHEMICAL NAME:	C. I. PIGMENT YELLOW 83
CAS NUMBER : 5979-28-2	CHEMICAL NAME:	BUTANAMIDE, N,N'-(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS[2-[(2,4-DICHLOROPHENYL)AZO]-3-OXO-
CAS NUMBER : 5979-28-2	CHEMICAL NAME:	PERMANENT YELLOW NCG TYPE
CAS NUMBER : 5979-28-2	CHEMICAL NAME:	C. I. PIGMENT YELLOW 16
CAS NUMBER : 6358-85-6	CHEMICAL NAME:	BUTANAMIDE, 2,2'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[3-OXO-N-PHENYL-
CAS NUMBER : 6358-85-6	CHEMICAL NAME:	PERMANENT YELLOW DBG TYPE
CAS NUMBER : 6358-85-6	CHEMICAL NAME:	C. I. PIGMENT YELLOW 12
CAS NUMBER : 6358-87-8	CHEMICAL NAME:	C. I. PIGMENT RED 38
CAS NUMBER : 6358-87-8	CHEMICAL NAME:	1H-PYRAZOLE-3-CARBOXYLIC ACID, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[4,5-DIHYDRO-5-OXO-1-PHENYL-, DIETHYL ESTER
CAS NUMBER : 6358-87-8	CHEMICAL NAME:	VULCAN FAST RED B
CAS NUMBER : 15793-73-4	CHEMICAL NAME:	PERMANENT ORANGE RL TYPE
CAS NUMBER : 15793-73-4	CHEMICAL NAME:	C. I. PIGMENT ORANGE 34
CAS NUMBER : 15793-73-4	CHEMICAL NAME:	3H-PYRAZOL-3-ONE, 4,4'-[(3,3'-DICHLORO[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[2,4-DIHYDRO-5-METHYL-2-(4-METHYLPHENYL)-

8EHQ-0490-0963 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : 25550-98-5	CHEMICAL NAME:	PHOSPHOROUS ACID, DIISODECYL PHENYL ESTER

8EHQ-0590-0964 SUBMITTER: [illegible] COMPANY

CAS NUMBER : UNKNOWN	CHEMICAL NAME:	CYCLIC 1,4-PERFLUOROBUTANE DISULFONIMIDE, LITHIUM SALT

8EHQ-0590-0965 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68648-87-3	CHEMICAL NAME:	ALKYLATE 215

8EHQ-0590-0965 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68648-87-3 CHEMICAL NAME: BENZENE, C10-16-ALKYL DERIVS.

8EHQ-0590-0966 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 793-24-8 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-

CAS NUMBER : 793-24-8 CHEMICAL NAME: SANTOFLEX 13

8EHQ-0590-0967 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 65701-07-7 CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, 4,4'-CARBONYLBIS-, AR,AR'-DIET HYL ESTER, COMPD. WITH 1,3-BENZENEDIAMINE

CAS NUMBER : 65701-07-7 CHEMICAL NAME: SKYBOND 700 POLYIMIDE RESIN

8EHQ-0590-0968 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 101-20-2 CHEMICAL NAME: TCC SOAP BACTERIOSTAT

CAS NUMBER : 101-20-2 CHEMICAL NAME: UREA, N-(4-CHLOROPHENYL)-N'-(3,4-DICHLOROPHENYL)-

8EHQ-0590-0969 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68855-24-3 CHEMICAL NAME: BENZENE, C14-30-ALKYL DERIVS.

CAS NUMBER : 68855-24-3 CHEMICAL NAME: THERMINOL 55

8EHQ-0590-0970 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68648-87-3 CHEMICAL NAME: ALKYLATE 230

CAS NUMBER : 68648-87-3 CHEMICAL NAME: BENZENE, C10-16-ALKYL DERIVS.

8EHQ-0590-0971 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 84-74-2 CHEMICAL NAME: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER

8EHQ-0590-0972 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 99-54-7 CHEMICAL NAME: BENZENE, 1,2-DICHLORO-4-NITRO-

CAS NUMBER : 99-54-7 CHEMICAL NAME: ORTHENE, NITRATED

8EHQ-0590-0973 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 88-73-3 CHEMICAL NAME: BENZENE, 1-CHLORO-2-NITRO-

8EHQ-0590-0974 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 2591-86-8 CHEMICAL NAME: 1-PIPERIDINECARBOXALDEHYDE

8EHQ-0590-0975 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE CHEMICAL NAME: MCS 1441

CAS NUMBER : 115-86-6 CHEMICAL NAME: PHOSPHORIC ACID, TRIPHENYL ESTER

CAS NUMBER : 34364-42-6 CHEMICAL NAME: PHOSPHORIC ACID, (1-METHYL-1-PHENYLETHYL)PHENYL DIPHENYL EST ER

CAS NUMBER : 38638-05-0 CHEMICAL NAME: PHOSPHORIC ACID, NONYLPHENYL DIPHENYL ESTER

8EHQ-0590-0976 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE CHEMICAL NAME: NCP

CAS NUMBER : 115-86-6 CHEMICAL NAME: PHOSPHORIC ACID, TRIPHENYL ESTER

CAS NUMBER : 34364-42-6 CHEMICAL NAME: PHOSPHORIC ACID, (1-METHYL-1-PHENYLETHYL)PHENYL DIPHENYL EST ER

CAS NUMBER : 38638-05-0 CHEMICAL NAME: PHOSPHORIC ACID, NONYLPHENYL DIPHENYL ESTER

8EHQ-0590-0977 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 3081-14-9 CHEMICAL NAME: 1,4-BENZENEDIAMINE, N,N'-BIS(1,4-DIMETHYLPENTYL)-

CAS NUMBER : 3081-14-9 CHEMICAL NAME: SANTOFLEX 77

8EHQ-0590-0978 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 88-75-5 CHEMICAL NAME: PHENOL, 2-NITRO-

8EHQ-0590-0979 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 124-09-4 CHEMICAL NAME: 1,6-HEXANEDIAMINE

8EHQ-0590-0980 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 100-00-5 CHEMICAL NAME: BENZENE, 1-CHLORO-4-NITRO-

8EHQ-0590-0980 SUBMITTER: MONSANTO COMPANY

8EHQ-0590-0981 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : 68-12-2	CHEMICAL NAME: FORMAMIDE, N,N-DIMETHYL-
CAS NUMBER : 127-19-5	CHEMICAL NAME: ACETAMIDE, N,N-DIMETHYL-

8EHQ-0590-0982 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: SANTICIZER 97
CAS NUMBER : 151-32-6	CHEMICAL NAME: HEXANEDIOIC ACID, DINONYL ESTER
CAS NUMBER : 14697-48-4	CHEMICAL NAME: HEXANEDIOIC ACID, DIHEPTYL ESTER
CAS NUMBER : 68515-75-3	CHEMICAL NAME: HEXANEDIOIC ACID, DI-C7-9-BRANCHED AND LINEAR ALKYL ESTERS

8EHQ-0590-0983 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: THERMINOL 66
CAS NUMBER : 26140-60-3	CHEMICAL NAME: TERPHENYL
CAS NUMBER : 61788-32-7	CHEMICAL NAME: TERPHENYL, HYDROGENATED

8EHQ-0590-0984 SUBMITTER: MONSANTO COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: OIL, FLUX
CAS NUMBER : 38888-98-1	CHEMICAL NAME: BENZENE, (PHENYLETHYL)-
CAS NUMBER : 64800-83-5	CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-
CAS NUMBER : 68398-19-6	CHEMICAL NAME: BENZENE, ETHYL(PHENYLETHYL)-, MONO-AR-ETHYL DERIV.
CAS NUMBER : 68412-24-8	CHEMICAL NAME: NAPHTHALENE, 1,2,3,4-TETRAHYDRO-, C1-4-ALKYL DERIVS.

8EHQ-0590-0985 * SUBMITTER: AMERICAN TELEPHONE AND TELEGRAPH COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: B65 OPAQUE GEL
CAS NUMBER : NONE	CHEMICAL NAME: TYPE B LIGHTGUIDE CABLE FILLING COMPOUND
CAS NUMBER : 66070-54-0	CHEMICAL NAME: 1-DECENE, POLYMER WITH 1-OCTENE, HYDROGENATED
CAS NUMBER : 67762-90-7	CHEMICAL NAME: SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILIC A

8EHQ-0590-0985 * SUBMITTER: AMERICAN TELEPHONE AND TELEGRAPH COMPANY

8EHQ-0590-0986 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFENAMIDE (#1), AROMATIC

8EHQ-0590-0987 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFENAMIDE (#3), AROMATIC

8EHQ-0590-0988 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFENAMIDE (#2), AROMATIC

8EHQ-0590-0989 S SUBMITTER: MONSANTO COMPANY
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, HETEROCYCLIC

8EHQ-0590-0990 SUBMITTER: MONSANTO COMPANY
CAS NUMBER : 102-06-7 CHEMICAL NAME: DPG ACCELERATOR
CAS NUMBER : 102-06-7 CHEMICAL NAME: GUANIDINE, N,N'-DIPHENYL-

8EHQ-0590-0991 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS
CAS NUMBER : 14024-41-0 CHEMICAL NAME: IRIDATE(3-), HEXACHLORO-, TRIPOTASSIUM, (OC-6-11)-

8EHQ-0590-0992 S SUBMITTER: BASF CORPORATION
CAS NUMBER : CONFIDENT CHEMICAL NAME: PYRIDAZINE, SUBSTITUTED

8EHQ-0590-0993 SUBMITTER: MONSANTO COMPANY
CAS NUMBER : UNKNOWN CHEMICAL NAME: GLYCINE, N-NITROSO-, N-(PHOSPHONOMETHYL)-, SODIUM SALT

8EHQ-0590-0994 * SUBMITTER: ATOCHEM NORTH AMERICA, INC.
CAS NUMBER : NONE CHEMICAL NAME: LATEX EFFLUENT
CAS NUMBER : 25103-58-6 CHEMICAL NAME: TERT-DODECANETHIOL

8EHQ-0590-0994 * SUBMITTER: ATOCHEM NORTH AMERICA, INC.

8EHQ-0590-0995 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMIDE, HALOALKYL HETEROAROMATIC

8EHQ-0590-0996 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : 3806-34-6 CHEMICAL NAME: 2,4,8,10-TETRAOXA-3,9-DIPHOSPHASPIRO[5.5]UNDECANE, 3,9-BIS(OCTADECYLOXY)-

CAS NUMBER : 3806-34-6 CHEMICAL NAME: WESTON 618

8EHQ-0590-0997 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: DIPHENYL ETHER, SUBSTITUTED

8EHQ-0590-0998 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: NITROBENZENE, ARYLOXY SUBSTITUTED

8EHQ-0690-0999 * SUBMITTER: AMERICAN CYANAMID COMPANY

CAS NUMBER : 80-62-6 CHEMICAL NAME: METHYL METHACRYLATE

CAS NUMBER : 80-62-6 CHEMICAL NAME: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER

8EHQ-0690-1000 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : 941-69-5 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1-PHENYL-

8EHQ-0590-1001 S SUBMITTER: NOR-AM CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: HALOGENATED ALKYL ESTER

8EHQ-0690-1002 SUBMITTER: CHEMICAL MANUFACTURERS ASSOCIATION

CAS NUMBER : 112-35-6 CHEMICAL NAME: ETHANOL, 2-[2-(2-METHOXYETHOXY)ETHOXY]-

8EHQ-0690-1003 SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : 5076-19-7 CHEMICAL NAME: ISOAMYLENE OXIDE

8EHQ-0690-1004 S SUBMITTER: ALLIED-SIGNAL INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: KETOXIME (I), ALIPHATIC

CAS NUMBER : CONFIDENT CHEMICAL NAME: MAKO

8EHQ-0690-1005 S SUBMITTER: ALLIED-SIGNAL INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: KETOXIME (II), ALIPHATIC

CAS NUMBER : CONFIDENT CHEMICAL NAME: MIBKO

8EHQ-0690-1006 S SUBMITTER: PROCTER & GAMBLE COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMIDE, SUBSTITUTED ORGANIC

8EHQ-0690-1007 SUBMITTER: FMC CORPORATION

CAS NUMBER : 126-73-8 CHEMICAL NAME: PHOSPHORIC ACID TRIBUTYL ESTER

8EHQ-0690-1008 SUBMITTER: BASF CORPORATION

CAS NUMBER : 111-30-8 CHEMICAL NAME: GLUTARDIALDEHYDE

CAS NUMBER : 111-30-8 CHEMICAL NAME: PENTANEDIAL

8EHQ-0690-1009 SUBMITTER: UNION CARBIDE CHEMICALS AND PLASTICS COMPANY, INC.

CAS NUMBER : 16881-77-9 CHEMICAL NAME: SILANE, DIMETHOXYMETHYL-

8EHQ-0690-1010 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: NITROBENZENE (II), ALKOXY ARYLOXY

8EHQ-0690-1011 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: CARBOXYLIC ACID ESTER, ARYLOXY-SUBSTITUTED ALKYL

8EHQ-0690-1012 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMIDE, ARYL-SUBSTITUTED AMINO

8EHQ-0690-1013 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFONE, ARYL METHYL

8EHQ-0690-1013 S SUBMITTER: CONFIDENTIAL

8EHQ-0690-1014 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: BENZENE, HALOGENATED SUBSTITUTED

8EHQ-0690-1015 SUBMITTER: SHELL OIL COMPANY

CAS NUMBER : 103490-06-8 CHEMICAL NAME: EPIKOTE 1071

CAS NUMBER : 103490-06-8 CHEMICAL NAME: EPON HPT RESIN 1071

8EHQ-0690-1016 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINOLINE, SUBSTITUTED

8EHQ-0690-1017 SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : 4170-30-3 CHEMICAL NAME: 2-BUTENAL

CAS NUMBER : 4170-30-3 CHEMICAL NAME: CROTONALDEHYDE

8EHQ-0690-1018 SUBMITTER: VISTA CHEMICAL COMPANY

CAS NUMBER : 409-21-2 CHEMICAL NAME: SILICON CARBIDE FIBERS

CAS NUMBER : 409-21-2 CHEMICAL NAME: SILICON CARBIDE, (SIC)

CAS NUMBER : 1332-21-4 CHEMICAL NAME: ASBESTOS

CAS NUMBER : 1344-28-1 CHEMICAL NAME: ALUMINA WHISKERS

CAS NUMBER : 1344-28-1 CHEMICAL NAME: ALUMINUM OXIDE, (AL203)

8EHQ-0690-1019 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : UNKNOWN CHEMICAL NAME: XB-4458

CAS NUMBER : 557-09-5 CHEMICAL NAME: OCTANOIC ACID, ZINC SALT

CAS NUMBER : 616-47-7 CHEMICAL NAME: 1H-IMIDAZOLE, 1-METHYL-

8EHQ-0690-1020 SUBMITTER: OCCIDENTAL CHEMICAL CORPORATION

CAS NUMBER : 611-19-8 CHEMICAL NAME: BENZENE, 1-CHLORO-2-(CHLOROMETHYL)-

8EHQ-0690-1020 SUBMITTER: OCCIDENTAL CHEMICAL CORPORATION

8EHQ-0790-1021 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 52572-38-0 CHEMICAL NAME: BENZENEDIAZONIUM, 3-METHYL-4-(1-PYRROLIDINYL)-, TRICHLOROZINCATE(1-)

CAS NUMBER : 52572-38-0 CHEMICAL NAME: DIAZO Y

8EHQ-0790-1022 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: HYDROCARBYL SULFIDE, SUBSTITUTED

8EHQ-0790-1023 S SUBMITTER: BASF CORPORATION

CAS NUMBER : 6422-83-9 CHEMICAL NAME: 1H-PYRROLE-2,5-DIONE, 1,1'-(4-METHYL-1,3-PHENYLENE)BIS-

8EHQ-0790-1024 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : 54395-37-8 CHEMICAL NAME: 1H-ISOINDOLE-1,3-(2H)-DIONE, 2-BUTYL-5-NITRO-

8EHQ-0790-1025 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, HALOALKYL

8EHQ-0790-1026 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: BENZENAMINE, ARYLOXY SUBSTITUTED

8EHQ-0790-1027 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : 576-26-1 CHEMICAL NAME: PHENOL, 2,6-DIMETHYL-

8EHQ-0790-1028 S SUBMITTER: ROHM AND HAAS COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: BIS(SUBSTITUTED PHENYL) SUBSTITUTED AMINO HETEROMONOCYCLE

8EHQ-0790-1029 SUBMITTER: MOBIL RESEARCH AND DEVELOPMENT CORPORATION

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : UNKNOWN CHEMICAL NAME: AMOSITE

CAS NUMBER : UNKNOWN CHEMICAL NAME: ANTHOPHYLLITE

8EHQ-0790-1029 SUBMITTER: MOBIL RESEARCH AND DEVELOPMENT CORPORATION

CAS NUMBER : UNKNOWN	CHEMICAL NAME: ASBESTOS CEMENT	
CAS NUMBER : UNKNOWN	CHEMICAL NAME: CROCIDOLITE	
CAS NUMBER : UNKNOWN	CHEMICAL NAME: ERIONITE	
CAS NUMBER : UNKNOWN	CHEMICAL NAME: RARE EARTH Y (REY) CRYSTALS	
CAS NUMBER : 1318-23-6	CHEMICAL NAME: ALUMINUM OXIDE, ALPHA-MONOHYDRATE	
CAS NUMBER : 1318-23-6	CHEMICAL NAME: BOEHMITE, (AL(OH)O)	
CAS NUMBER : 1332-21-4	CHEMICAL NAME: ASBESTOS	

8EHQ-0790-1030 SUBMITTER: ETAD (U.S. OPERATING COMMITTEE)

CAS NUMBER : 3618-72-2	CHEMICAL NAME: ACETAMIDE, N-[5-[BIS[2-(ACETYLOXY)ETHYL]AMINO]-2-[(2-BROMO-4,6-DINITROPHENYL)AZO]-4-METHOXYPHENYL]-
CAS NUMBER : 3618-72-2	CHEMICAL NAME: C. I. DISPERSE BLUE 79:1 (PURIFIED PRESSCAKE)

8EHQ-0790-1031 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT	CHEMICAL NAME: PYRIDOPYRIDIMINE, SUBSTITUTED

8EHQ-0790-1032 SUBMITTER: ARCO CHEMICAL COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: MISC. CHEMICALS

8EHQ-0790-1033 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : 118832-72-7	CHEMICAL NAME: ACETIC ACID, [[[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]METHYL]THIO]-, C10-14-ISOALKYL ESTERS
CAS NUMBER : 118832-72-7	CHEMICAL NAME: DP-118

8EHQ-0790-1034 SUBMITTER: ROHM AND HAAS COMPANY

CAS NUMBER : NONE	CHEMICAL NAME: MISC. CHEMICALS
CAS NUMBER : 50-29-3	CHEMICAL NAME: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-
CAS NUMBER : 50-29-3	CHEMICAL NAME: DDT
CAS NUMBER : 72-54-8	CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO-

8EHQ-0790-1034 SUBMITTER: ROHM AND HAAS COMPANY

CAS NUMBER : 72-56-0 CHEMICAL NAME: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-ETHYL-

CAS NUMBER : 131-72-6 CHEMICAL NAME: 2-BUTENOIC ACID, 2-(1-METHYLHEPTYL)-4,6-DINITROPHENYL ESTER, (E)-

8EHQ-0790-1035 SUBMITTER: OLIN CORPORATION

CAS NUMBER : 13463-41-7 CHEMICAL NAME: ZINC, BIS(1-HYDROXY-2(1H)-PYRIDINETHIONATO-O,S)-, (T-4)-

CAS NUMBER : 13463-41-7 CHEMICAL NAME: ZINC PYRITHIONE

8EHQ-0790-1036 S SUBMITTER: ELI LILLY AND COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: QUINAZOLINE (IV), SUBSTITUTED

8EHQ-0790-1037 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: CYCLOHEXANE, SUBSTITUTED

8EHQ-0890-1038 SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : NONE CHEMICAL NAME: DIBENZOFURANS, CHLORINATED

CAS NUMBER : NONE CHEMICAL NAME: DIOXINS, CHLORINATED

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

8EHQ-0890-1039 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: SULFURIZED COMPOUNDS, MIXTURE OF

8EHQ-0890-1040 SUBMITTER: ATOCHEM NORTH AMERICA, INC.

CAS NUMBER : UNKNOWN CHEMICAL NAME: 1,2,4-THIADIAZOLE, POLY(3,5-DITHIO-

8EHQ-0890-1041 SUBMITTER: ATOCHEM NORTH AMERICA, INC.

CAS NUMBER : NONE CHEMICAL NAME: MISC. CHEMICALS

CAS NUMBER : 64819-51-8 CHEMICAL NAME: 2-HEXANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-5-METHYL-

CAS NUMBER : 64819-51-8 CHEMICAL NAME: LUCEL-7 AZO FOAMING AGENT

8EHQ-0890-1042 SUBMITTER: ATOCHEM NORTH AMERICA, INC.

CAS NUMBER : NONE CHEMICAL NAME: LUPERFOAM 329

CAS NUMBER : 7400-27-3 CHEMICAL NAME: HYDRAZINE, (1,1-DIMETHYLETHYL)-, MONOHYDROCHLORIDE

CAS NUMBER : 7705-08-0 CHEMICAL NAME: IRON CHLORIDE, (FECL3)

8EHQ-0890-1043 SUBMITTER: ATOCHEM NORTH AMERICA, INC.

CAS NUMBER : 100-37-8 CHEMICAL NAME: ETHANOL, 2-(DIETHYLAMINO)-

8EHQ-0890-1044 S SUBMITTER: 3M COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: TRIBROMOMETHYL SUBSTITUTED HETEROCYCLE

8EHQ-0890-1045 SUBMITTER: R. T. VANDERBILT COMPANY, INC.

CAS NUMBER : 137-30-4 CHEMICAL NAME: VANCIDE MZ-96

CAS NUMBER : 137-30-4 CHEMICAL NAME: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (T-4)-

8EHQ-0890-1046 SUBMITTER: E. I. DUPONT DE NEMOURS & COMPANY, INC.

CAS NUMBER : 1842-05-3 CHEMICAL NAME: ETHANE, 1,1-DICHLORO-1,2-DIFLUORO-

CAS NUMBER : 1842-05-3 CHEMICAL NAME: HCFC-132C

8EHQ-0890-1047 SUBMITTER: DOW CORNING CORPORATION

CAS NUMBER : 18406-41-2 CHEMICAL NAME: 2,7-DIOXA-3,6-DISILAOCTANE, 3,3,6,6-TETRAMETHOXY-

CAS NUMBER : 18406-41-2 CHEMICAL NAME: DOW CORNING X1-6145A ADDITIVE

8EHQ-0890-1048 S SUBMITTER: E. I. DUPONT DE NEMOURS & COMPANY, INC.

CAS NUMBER : CONFIDENT CHEMICAL NAME: ALKENOIC ACID, SUBSTITUTED-, ALKYL ESTER

8EHQ-0890-1049 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: VANADIUM COMPOUND, INORGANIC

8EHQ-0890-1050 S SUBMITTER: ROHM AND HAAS COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: SUBSTITUTED PHENOXYETHER DERIVATIVE OF A POLYHETEROCYCLE

8EHQ-0890-1050 S SUBMITTER: ROHM AND HAAS COMPANY

8EHQ-0890-1051 S SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 85940-63-2 CHEMICAL NAME: 1,5-NAPHTHALENEDISULFONIC ACID, 2-[[4,5-DIHYDRO-3-METHYL-5-O XO-1-[4-[[2-(SULFOOXY)ETHYL]SULFONYL]PHENYL]-1H-PYRAZOL-4-YL]AZO]-, POTASSIUM SODIUM SALT

8EHQ-0890-1052 S SUBMITTER: ROHM AND HAAS COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: HALOPHENYL SUBSTITUTED MONOHETEROCYCLE

8EHQ-0890-1053 SUBMITTER: AMERICAN CYANAMID COMPANY

CAS NUMBER : 75-21-8 CHEMICAL NAME: ETHYLENE OXIDE

CAS NUMBER : 75-21-8 CHEMICAL NAME: OXIRANE

8EHQ-0890-1054 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE POLYMER, SUBSTITUTED

8EHQ-0890-1055 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: DIPHENYL ETHER, SUBSTITUTED

8EHQ-0890-1056 S SUBMITTER: DOW CHEMICAL COMPANY

CAS NUMBER : CONFIDENT CHEMICAL NAME: DIPHENYL ETHER, SUBSTITUTED

8EHQ-0990-1057 SUBMITTER: FMC CORPORATION

CAS NUMBER : 68937-41-7 CHEMICAL NAME: DURAD 110

CAS NUMBER : 68937-41-7 CHEMICAL NAME: KRONITEX 50

CAS NUMBER : 68937-41-7 CHEMICAL NAME: PHENOL, ISOPROPYLATED, PHOSPHATE (3:1)

8EHQ-0990-1058 S SUBMITTER: FMC CORPORATION

CAS NUMBER : CONFIDENT CHEMICAL NAME: ALPHA-CYANOCARBOCYCLIC CARBOXYLATE

8EHQ-0990-1059 S * SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: ALKALINE OXIDIZER

8EHQ-0990-1059 S * SUBMITTER: CONFIDENTIAL

8EHQ-0990-1060 S SUBMITTER: CONFIDENTIAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: AMINE, HALOALKYL, (II)

8EHQ-0990-1061 SUBMITTER: EXXON CHEMICAL AMERICAS
CAS NUMBER : 592-45-0 CHEMICAL NAME: 1,4-HEXADIENE

8EHQ-0990-1062 SUBMITTER: EASTMAN KODAK COMPANY
CAS NUMBER : 565-80-0 CHEMICAL NAME: 3-PENTANONE, 2,4-DIMETHYL-

8EHQ-0990-1063 SUBMITTER: INDUSTRIAL HEALTH FOUNDATION, INC.
CAS NUMBER : 96-29-7 CHEMICAL NAME: 2-BUTANONE, OXIME

8EHQ-0990-1064 SUBMITTER: UNION CARBIDE CHEMICALS AND PLASTICS COMPANY, INC.
CAS NUMBER : 112-27-6 CHEMICAL NAME: ETHANOL, 2,2'-[1,2-ETHANEDIYLBIS(OXY)]BIS-

8EHQ-0990-1065 SUBMITTER: ATOCHEM NORTH AMERICA, INC.
CAS NUMBER : 57910-79-9 CHEMICAL NAME: 2-BUTANOL, 2-[(1,1-DIMETHYLETHYL)AZO]-
CAS NUMBER : 57910-79-9 CHEMICAL NAME: LUCEL-4

8EHQ-0990-1066 S SUBMITTER: DOW CORNING CORPORATION
CAS NUMBER : CONFIDENT CHEMICAL NAME: ALLYLOXY KETAL
CAS NUMBER : CONFIDENT CHEMICAL NAME: ALLYLOXY PRECURSOR, UNKETALIZED
CAS NUMBER : CONFIDENT CHEMICAL NAME: DOW CORNING X1-6169

8EHQ-0990-1067 SUBMITTER: DOW CORNING CORPORATION
CAS NUMBER : 2530-87-2 CHEMICAL NAME: DOW CORNING Q1-2366 SILANE
CAS NUMBER : 2530-87-2 CHEMICAL NAME: SILANE, (3-CHLOROPROPYL)TRIMETHOXY-

8EHQ-0990-1068 SUBMITTER: PFISTER CHEMICAL, INC.
CAS NUMBER : 12473/-31-1 CHEMICAL NAME: BENZENEDIAZONIUM, 4-(DIMETHYLAMINO)-, 5-SULFOSALICYLATE

8EHQ-0990-1068 SUBMITTER: PFISTER CHEMICAL, INC.

CAS NUMBER : 124737-31-1 CHEMICAL NAME: DIAZO 8 SS

8EHQ-0990-1069 SUBMITTER: MITSUBISHI YUKA AMERICA, INC.

CAS NUMBER : 129217-90-9 CHEMICAL NAME: CONDENSATE OF ANILINE, O-TOLUIDINE AND TEREPHTHALALDEHYDE, REACTION PRODUCT WITH MALEIC ANHYDRIDE

CAS NUMBER : 129217-90-9 CHEMICAL NAME: MP-2000

CAS NUMBER : 129217-90-9 CHEMICAL NAME: MP-2000X

8EHQ-0990-1070 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: NITROBENZENE, SUBSTITUTED

8EHQ-0990-1071 SUBMITTER: MOTOROLA INC.

CAS NUMBER : NONE CHEMICAL NAME: MULTICORE SOLDER X32B

CAS NUMBER : NONE CHEMICAL NAME: MULTICORE TTC-1 TIP TANNER

CAS NUMBER : 7439-92-1 CHEMICAL NAME: LEAD

CAS NUMBER : 7440-31-5 CHEMICAL NAME: TIN

8EHQ-0990-1072 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : NONE CHEMICAL NAME: BENZENE, 1,1'-OXYBIS-, BROMINATED DERIV.

CAS NUMBER : UNKNOWN CHEMICAL NAME: 1,1'-BIPHENYL, BROMO DERIVS.

CAS NUMBER : UNKNOWN CHEMICAL NAME: POLYBROMINATED BIPHENYLS (PBB)

CAS NUMBER : 32536-52-0 CHEMICAL NAME: BENZENE, 1,1'-OXYBIS-, OCTABROMO DERIV.

8EHQ-0990-1073 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: BENZENAMINE (II), ARYLOXY SUBSTITUTED

8EHQ-0990-1074 SUBMITTER: GENERAL ELECTRIC COMPANY

CAS NUMBER : UNKNOWN CHEMICAL NAME: RESORCINOL DIPHOSPHATE

8EHQ-0990-1075 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT CHEMICAL NAME: PROPANOIC ACID ESTER, ARYL

8EHQ-0990-1076 S SUBMITTER: PROCTER & GAMBLE COMPANY

CAS NUMBER : CONFIDENT	CHEMICAL NAME: ORGANIC ALCOHOL, SUBSTITUTED
CAS NUMBER : CONFIDENT	CHEMICAL NAME: ORGANIC ESTER, SUBSTITUTED
CAS NUMBER : 68920-82-1	CHEMICAL NAME: AMIDES, FROM DIETHYLENETRIAMINE AND HYDROGENATED TALLOW

8EHQ-0990-1077 SUBMITTER: EASTMAN KODAK COMPANY

CAS NUMBER : 71-43-2	CHEMICAL NAME: BENZENE

8EHQ-0990-1078 SUBMITTER: ALLIED-SIGNAL INC.

CAS NUMBER : NONE	CHEMICAL NAME: CUTTING FLUID
CAS NUMBER : NONE	CHEMICAL NAME: HOCUT 797-G
CAS NUMBER : NONE	CHEMICAL NAME: MISC. CHEMICALS

8EHQ-0990-1079 S SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : CONFIDENT	CHEMICAL NAME: OXADIAZOLE, SUBSTITUTED

8EHQ-0990-1080 S SUBMITTER: MORTON INTERNATIONAL, INC.

CAS NUMBER : NONE	CHEMICAL NAME: MISC. CHEMICALS
CAS NUMBER : 62-53-3	CHEMICAL NAME: ANILINE
CAS NUMBER : 62-53-3	CHEMICAL NAME: BENZENAMINE
CAS NUMBER : 95-53-4	CHEMICAL NAME: BENZENAMINE, 2-METHYL-
CAS NUMBER : 95-53-4	CHEMICAL NAME: O-TOLUIDINE
CAS NUMBER : 95-78-3	CHEMICAL NAME: BENZENAMINE, 2,5-DIMETHYL-
CAS NUMBER : 95-78-3	CHEMICAL NAME: 2,5-XYLIDINE
CAS NUMBER : 97-02-9	CHEMICAL NAME: ANILINE, 2,4-DINITRO-
CAS NUMBER : 97-02-9	CHEMICAL NAME: BENZENAMINE, 2,4-DINITRO-
CAS NUMBER : 100-01-6	CHEMICAL NAME: ANILINE, P-NITRO-
CAS NUMBER : 100-01-6	CHEMICAL NAME: BENZENAMINE, 4-NITRO-
CAS NUMBER : 104-13-2	CHEMICAL NAME: ANILINE, P-BUTYL-

8EHQ-0990-1080 S SUBMITTER: MORTON INTERNATIONAL, INC.

CAS NUMBER : 104-13-2	CHEMICAL NAME: BENZENAMINE, 4-BUTYL-
CAS NUMBER : 104-42-7	CHEMICAL NAME: ANILINE, P-DODECYL-
CAS NUMBER : 104-42-7	CHEMICAL NAME: BENZENAMINE, 4-DODECYL-
CAS NUMBER : 106-49-0	CHEMICAL NAME: BENZENAMINE, 4-METHYL-
CAS NUMBER : 106-49-0	CHEMICAL NAME: P-TOLUIDINE
CAS NUMBER : 108-44-1	CHEMICAL NAME: BENZENAMINE, 3-METHYL-
CAS NUMBER : 108-44-1	CHEMICAL NAME: M-TOLUIDINE
CAS NUMBER : 111-92-2	CHEMICAL NAME: 1-BUTANAMINE, N-BUTYL-
CAS NUMBER : 119-93-7	CHEMICAL NAME: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL-
CAS NUMBER : 119-93-7	CHEMICAL NAME: O-TOLIDINE
CAS NUMBER : 120-71-8	CHEMICAL NAME: BENZENAMINE, 2-METHOXY-5-METHYL-
CAS NUMBER : 120-71-8	CHEMICAL NAME: P-CRESIDINE
CAS NUMBER : 1300-73-8	CHEMICAL NAME: BENZENAMINE, AR,AR-DIMETHYL-
CAS NUMBER : 1300-73-8	CHEMICAL NAME: XYLIDINE (MIXED)

8EHQ-0990-1081 SUBMITTER: CIBA-GEIGY CORPORATION

CAS NUMBER : 88485-37-4	CHEMICAL NAME: ACETOPHENONE OXIME, O-(1,3-DIOXOLAN-2-YL-METHYL)-2,2,2-TRIFLUORO-4'-CHLORO-
CAS NUMBER : 88485-37-4	CHEMICAL NAME: ETHANONE, 1-(4-CHLOROPHENYL)-2,2,2-TRIFLUORO-, O-(1,3-DIOXOLAN-2-YLMETHYL)OXIME

8EHQ-0990-1082 SUBMITTER: HOECHST CELANESE CORPORATION

CAS NUMBER : 2628-16-2	CHEMICAL NAME: PHENOL, 4-ETHENYL-, ACETATE
CAS NUMBER : 2628-16-2	CHEMICAL NAME: STYRENE, ACETOXY-

8EHQ-0990-1083 S SUBMITTER: CONFIDENTIAL

CAS NUMBER : CONFIDENT	CHEMICAL NAME: QUINAZOLINES
CAS NUMBER : CONFIDENT	CHEMICAL NAME: QUINOLINES

8EHQ-0990-1084 SUBMITTER: DOW CORNING CORPORATION

CAS NUMBER : 287-29-6 CHEMICAL NAME: SILACYCLOBUTANE

☆U.S. GOVERNMENT PRINTING OFFICE: 1991-517-003/47020

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. EPA 560/2-91-001	2.	3. Recipient's Accession No.
4. Title and Subtitle "Preliminary Evaluations of Initial TSCA Section 8(e) Substantial Risk Notices" January 1989 - September 1990			5. Report Date July 1991 6.
7. Author(s) Office of Toxic Substances/OPTS U.S. Environmental Protection Agency (EPA)			8. Performing Organization Rept. No.
9. Performing Organization Name and Address Office of Pesticides and Toxic Substances (TS-788) U.S. Environmental Protection Agency 401 "M" Street, S.W. Washington, D.C. 20460			10. Project/Task/Work Unit No. 11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address Office of Pesticides and Toxic Substances (TS-788) U.S. Environmental Protection Agency 401 "M" Street, S.W. Washington, D.C. 20460			13. Type of Report & Period Covered 01/01/89 to 09/30/90 14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This volume contains, in ascending submission number order, "status reports" (i.e., preliminary evaluations) prepared by the staff of the Office of Toxic Substances in EPA's Office of Pesticides and Toxic Substances for initial submissions received by EPA from chemical manufacturers, importers, processors and distributors from January 1, 1989 to September 30, 1990 under Section 8(e) the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). The status reports contained in this compendium reflect only the initial phase of the Agency's evaluation process for the submitted information.

This TSCA Section 8(e) status report volume has been published by EPA for two reasons. First, a volume of Section 8(e) status reports with appropriate indices will make the submitted information more accessible. Second, this volume may, by providing specific examples of submitted information and EPA's preliminary evaluation of that information, help those persons who are subject to Section 8(e) understand better the types of information that should be submitted to EPA under this mandatory reporting provision of TSCA.

17. Document Analysis a. Descriptors

Toxic Substances Control Act
TSCA
Section 8(e)
Substantial Risk

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement:	19. Security Class (This Report)	21. No. of Pages
Unlimited Distribution		969
	20. Security Class (This Page)	22. Price

(See ANSI-Z39.18) See Instructions on Reverse OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce