

Bulletin

OPPT's Pollution Prevention Strategy For Toxic Chemicals

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The Office of Pollution Prevention and Toxics (OPPT) prepared this paper as a working draft for a discussion organized under the auspices of the American Chemical Society. The paper lays out new directions that OPPT is developing to carry out its responsibility for preventing pollution and reducing risks associated with the manufacture and use of existing chemicals. The paper does not present a comprehensive plan for all OPPT work. The office's responsibilities in areas outside of existing chemicals, such as for new chemicals and for the promotion of other pollution prevention strategies (such as environmental cost accounting) are not included.

The paper is in draft form and is presented to help initiate a broad-based discussion with interested parties. OPPT hopes to learn from these discussions how to develop the ideas discussed below and to identify constructive follow-up actions.

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I. Change to a mission-based definition of the OPPT program

The past several years have been a time of important change for OPPT. Much of this change has been a result of OPPT's new responsibilities as national program manager for pollution prevention in EPA. The focus on pollution prevention is the result of lessons learned from years of experience in carrying out the agency's statutory mandates. The changes in OPPT also reflect new attitudes and strategies for environmental protection being embraced by industry, public interest groups, states, and other elements of the public. The tools of public policy must change to reflect the changing expectations and capabilities of these customers.

The creation of a comprehensive pollution prevention program is the goal

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TRI Releases Decreased by 334 Million Pounds in 1991

U.S. manufacturers managed or released 38 billion pounds of toxic chemicals during 1991, according to data submitted to EPA's Toxics Release Inventory (TRI). Of that amount, more than 20 billion pounds were recycled and about 13 billion pounds were treated or converted into energy.

About 3.36 billion pounds of toxic chemicals were released to the environment—almost 10 percent less than the quantity released in 1990. This decline in chemical releases continues a trend: TRI data show that emissions to air, water, and land have dropped 30 percent from 1988 to 1991.

About 1.07 billion pounds of wastes were transferred off-site for treatment or disposal in 1991, a decrease of 1.2 billion pounds from 1990.

New TRI information

The TRI, which is available to the public, includes detailed data on the releases and transfers of toxic chemicals from manufacturing facilities across the nation. The 1991 reporting year was the first for which EPA collected information on how industry manages its wastes. Thus, the 1991 TRI provides a more complete picture of waste generation and management than did previous inventories.

The TRI is required by section 313 of the 1986 Emergency Planning and Right-to-Know Act (EPCRA). The information on waste manage-

ment is required by the Pollution Prevention Act of 1990. Required information includes recycling, energy recovery, and source-reduction activities.

Since 1987, about 24,000 industrial facilities have reported annually on more than 300 chemicals, including 20 chemical classes. EPA received 81,545 reports for the 1991 reporting year.

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Summary of 1991 TRI data

Releases to air. 1991 TRI data show that 1.98 billion pounds of toxic chemicals were released to the air, a decrease of more than 13 percent from the 1990 total of 2.28 billion pounds. EPA attributes this decrease to reduced emissions of industrial solvents.

Releases to water. 1991 TRI data show that about 244 million pounds of toxic chemicals were

released to the nation's rivers, streams, and other bodies of water, an increase of almost 24 percent from the 1990 total of 197 million pounds. EPA attributes this increase to runoff from an incident involving four fertilizer facilities in Louisiana. Without this runoff, water releases would have declined 7 percent, according to EPA.

Releases to land. 1991 TRI data show that about 421 million pounds of toxic chemicals were released to land, a decrease of 9 percent from the 1990 total of 463 million pounds.

Underground injection. 1991 TRI data show that about 710 million pounds of toxic chemicals were injected underground, a decrease of 5 percent from the 1990 total of 745 million pounds.

For more information

- To obtain the 1991 Toxics Release Inventory: Public Data Release, EPA 745-R-93-003, contact the EPCRA Hotline at (800) 535-0202 or (703) 412-9877.
- For information on obtaining access to the TRI database in the National Library of Medicine's TOXNET system, call the library's TRI representative at (301) 496-6531.
- For information about other ways to gain access to the TRI, contact the EPCRA Hotline at the number listed above.

EPA To Collect More TRI Data in the Future

EPA plans a significant expansion of the Toxics Release Inventory (TRI). Early next year, the agency expects to propose a rule that would add more than 300 chemicals to the TRI reporting list. By next fall, the agency plans a second proposed rule that would require additional types of facilities to report.

The additional data will provide a more complete picture of chemical releases in our nation's communities. It will also be useful for identifying further opportunities for pollution prevention.

Why expand TRI?

The TRI was the first program that made information about chemical releases and transfers readily available to the public. Since the first year of reporting in 1987, the usefulness of TRI data has become increasingly evident. The public, the government, and the regulated community use TRI data to compare the levels of releases and chemical wastes among states, industries, facilities, and environmental media.

The Emergency Planning and Community Right-to-Know Act (EPCRA), which established the TRI, also defined the manufacturing facilities that are required to report and the chemicals for which reporting is required. About 300 toxic chemicals and chemical compounds are listed in section 313 of EPCRA. The facilities required to report are those manufacturers that have 10 or more full-time employ-

ees and that are in the U.S. Commerce Department's Standard Industrial Classification (SIC) codes 20 to 39. Federal facilities were not included.

EPCRA gives EPA the authority to modify both the list of chemicals and the type of facilities required to report. Thousands of chemicals in commerce, in fact, may meet the criteria of the law for TRI reporting. Furthermore, many sectors of the economy process, use, and even manufacture many toxic chemicals that are currently reportable. It is as appropriate for the public to know about these releases as it is for them to know about releases from manufacturing facilities.

For 1991, the most recent year for which EPA collected data, 83,000 TRI reports were submitted by about 23,000 facilities. Despite the large amount of data collected, environmental groups have for many years asked EPA and Congress to add more chemicals to the reporting list. Last year, a legislative effort by Senator Frank Lautenberg (D-NJ) and former Representative Gerry Sikorski (D-MN) to add almost 600 chemicals to the TRI failed. At the same time, EPA began exploring how to expand the TRI.

Two-phased approach

EPA plans to expand the TRI in two phases. In May 1993, EPA Administrator Carol Browner announced EPA would propose a

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Chemicals Under Consideration

- Clean Air Act, section 112(b), as amended in 1990: Hazardous Air Pollutants
- Clean Air Act, section 602(b): Class II ozone-depleting substances
- Clean Water Act, section 307(a): Priority pollutant list
- Federal Insecticide, Fungicide, Rodenticide Act (FIFRA), section 6: Special review, canceled/denied or suspended, and restricted use pesticides
- Resource Conservation and Recovery Act, section 3001 and chemicals listed at 40 CFR 261.33(f) and in appendix VIII
- EPCRA, section 302: Extremely hazardous substances
- Comprehensive Environmental Response, Compensation, and Liability Act, section 102
- Safe Drinking Water Act, section 1412, as amended
- The State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): List of chemicals known to the state to cause reproductive toxicity

In addition, EPA considered chemicals designated as possible, probable, or known carcinogens in the *Monographs of the International Agency for Research on Cancer* and in the *6th Annual Report on Carcinogens of the National Toxicology Program*, published by the U.S. Department of Health and Human Services.

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rule to add at least 170 chemicals to the TRI list. Browner said that EPA will announce a candidate list of additional facilities by next spring or by the time of the next TRI data release.

This is not the first time that EPA has modified TRI reporting requirements. In 1989, for example, EPA added nine chemicals to the TRI list (54 FR 49948, December 1, 1989). In addition, EPA has made a number of changes to the TRI list in response to petitions submitted to EPA under section 313(e). As of August 1993, in response to these petitions, EPA has deleted 12 chemicals from the TRI list and added 16.

Phase 1: Process for adding chemicals to the TRI list. As a starting point, EPA is examining the more than

1,000 chemicals regulated under various statutes. To screen such a large number of chemicals, EPA developed a methodology and some criteria for prioritizing chemicals for further evaluation. According to EPA's schedule, the newly designated TRI chemicals would be reportable for the first time on TRI reports due July 1, 1994.

The statutes that contain the chemicals that EPA is considering for addition to the TRI list are shown in the list on page 3.

Phase 2: Process for adding facilities to the TRI list. EPA is considering requiring facilities that perform manufacturing-like activities to report to the TRI. These facilities mix, formulate, or distribute materials that contain TRI chemicals.

EPA is also examining treatment and disposal facilities, which are

not required to report even though many receive wastes containing TRI chemicals. Newly listed facilities would have to provide TRI reports by July 1, 1995.

Many federal facilities are also significant customers of the chemical industry. The process for obtaining TRI information from these facilities has already begun. In August 1993, President Clinton directed federal facilities to submit TRI reports beginning with calendar year 1994. (See article on page 5.)

For more information

Call Maria Doa, of OPPT's Environmental Assistance Division, at (202) 260-9592, or Tim Crawford, of OPPT's Environmental Assistance Division, at (202) 260-1715. Or, write to them at the address on page 43.

Update on TRI Section 313 Petitions

Anyone can petition EPA to add or delete a chemical from the list of toxic chemicals that are subject to Toxics Release Inventory (TRI)

reporting. The list on this page shows petition activity occurring from January 1993 through August 1993.

For more information, call Maria Doa at (202) 260-9592 or the EPCRA Hotline at (800) 535-0202 or (709) 412-9877.

Receipt Date	Chemical Name	Submitter	Action Requested	180-Day Deadline	Proposed Rule FR Pub Date	Final Rule or Denial Pub Date
Petitions Pending						
10/6/92	Cr, Mi, Cu, in Brass, Bronze and Stainless Steel	Stillwater Fasteners	Exempt	04/06/93	/ /	/ /
03/05/93	Cl Pigment Blue 15:1	Color Pigments Manufacturers Assn.	Delist	09/08/93	/ /	/ /
Proposed Rules						
09/24/91	Barium Sulfate	Chemical Products Corp.	Delist	/ /	06/11/93	/ /
11/06/91	Barium Sulfate	Dry Color Manufacturers Assn.	Delist	/ /	06/11/93	/ /
01/28/92	Di-N-Octyl Phthalate	Vista Chemical Company	Delist	/ /	01/13/93	/ /

Clinton Tells Federal Agencies to Reduce Pollution, Report to TRI

On August 3, 1993, President Clinton signed an executive order that requires federal facilities to comply with planning and reporting provisions of the Emergency Planning and Community Right-To-Know Act and the Pollution Prevention Act of 1990. The executive order goes beyond these laws' requirements, though, asking federal facilities to lead the nation in preventing pollution and adhering to right-to-know principles.

Here is a summary of the executive order's major requirements:

- Federal agencies are required to submit Toxics Release Inventory

(TRI) reports beginning with the 1994 calendar year. The submission deadline for the 1994 calendar year is July 1, 1995.

- Federal agencies are required to establish voluntary goals to reduce all TRI chemical releases and transfers for treatment and disposal. The goal for reductions is 50 per cent by 1999. Some agencies are expected to broaden their voluntary goals and reduce other pollutants as well.
- Federal agencies are required to develop and make public their plans for reducing or eliminating the manufacture, processing, and

use of toxic chemicals and extremely hazardous substances. As part of this effort, agencies are to review and modify procurement and acquisition practices and generally employ source reduction as a first method of choice to reach their goals.

EPA will be responsible for monitoring compliance for this executive order and will also set up an incentives program. The Federal Government Environmental Challenge Program will recognize outstanding environmental management by federal agencies and their employees.

California Asks U.S. Facilities to File TRI Reports

U.S. military bases and Department of Energy facilities located in California were asked by the state to report their releases of toxic chemicals to the California Department for Environmental Protection. Federal facilities are exempt from the federal law that requires industrial facilities to report releases of toxic chemicals to the U.S. EPA. EPA compiles the data in the Toxics Release Inventory (TRI). Many states also require TRI reporting and maintain their own TRI databases.

"This action puts the government on the same footing as private companies," said Jim Strock, Secretary of the Department for

Environmental Protection. On March 1, Secretary Strock asked 42 military bases and six U.S. Energy Department facilities to file TRI forms no later than July 1, 1993.

State TRI coordinator Steve Hanna said that two military bases have agreed to submit TRI reports by the deadline, two bases plan to submit reports by July 1, 1994, one base is preparing guidance for submitting data, and 13 bases refused to report. One base said it is closing and another said it does not process or use any TRI substances in the threshold amounts required for reporting. Other responses are expected in the future.

Two Department of Energy facilities agreed to report, Mr. Hanna said. One facility said it is below the reporting threshold, one stated it would not report, and two did not respond. About the same time, the Department of Energy announced it would file TRI forms for all of its facilities starting on July 1, 1994.

The state request parallels similar activities occurring at the federal level. In August 1993, President Clinton issued an executive order requiring all federal facilities to file TRI reports by July 1, 1995. (See article on this page.)

TSCA Chemical Testing Program: Implementing a Program for the '90s

By Joseph S. Carra

Deputy Director, Office of Pollution Prevention and Toxics

The Chemical Testing Program was established in EPA's Office of Pollution Prevention and Toxics (OPPT) to carry out the policy expressed in section 2 of the Toxic Substances Control Act (TSCA) that adequate data be developed with respect to the health and environmental effects of chemical substances and that the development of these data is the responsibility of chemical manufacturers and processors. In recent years, OPPT has received criticism (e.g., from the Government Accounting Office, Congress, environmental groups) for a general "lack of productivity" in its TSCA Chemical Testing Program. While criticism of past productivity is deserved, OPPT's TSCA Chemical Testing Program has made substantial progress and the prognosis for the future is positive.

The early years

Since the enactment of TSCA in 1977, OPPT and the Interagency Testing Committee (ITC) have reviewed a large number of the 70,000 chemicals listed on the TSCA Chemical Substances Inventory to determine the need for health and/or environmental testing. (The ITC is a federal interagency body established by TSCA that makes recommendations to EPA about testing.) For example, the ITC, in fulfilling its mandate

under section 4 of TSCA, has reviewed in excess of 50,000 chemicals to determine if testing is needed to characterize potential health and/or environmental risks.

As a direct result of years of chemical screening efforts, OPPT has determined that its efforts to identify candidates for testing or risk assessment should focus primarily on the approximately 14,000 non-polymeric TSCA Inventory chemicals that are produced at levels of over 10,000 pounds per year. OPPT has employed and will continue to employ reactive and proactive hazard-based and exposure-based screening techniques to identify priority testing candidates from among this 14,000 chemical subset.

Since 1977, OPPT has published over 30 TSCA section 4 final test rules covering more than 60 chemicals and is currently in the process of promulgating final Test Rules on more than 30 additional chemicals. OPPT expects to receive completed test data sets on approximately 60 chemicals by October 1993. Once received, the total number of chemical substances that will have completed health and/or environmental testing under the TSCA Chemical Testing Program since 1977 will be about 160.

Meeting the future

In order to increase productivity, OPPT is now seeking testing through mechanisms other than the time-consuming "notice and comment" rulemaking procedures of section 4 of TSCA. Recently, OPPT has instituted two strategic changes in the TSCA testing program that should accelerate testing actions.

First, OPPT has redefined its testing program to include the development of testing actions by means other than TSCA section 4 test rules, namely negotiated enforceable consent agreements (ECAs) under TSCA, and voluntary testing programs. ECAs are used in those situations in which chemical manufacturers or groups of manufacturers agree to conduct testing under the potential sanctions of TSCA. The ECA mechanism was established in accordance with the procedures specified in the U.S. Code of Federal Regulations. In July of 1992, OPPT announced an open season to encourage chemical manufacturers and processors to submit offers to conduct ECA-based testing on chemicals for which OPPT had not yet issued final testing actions. OPPT received and evaluated 22 testing offers covering 12 individual chemicals and four chemical categories. In March 1993, OPPT

solicited interested parties and negotiations are now under way on submitted offers; negotiations are continuing.

The second strategic change OPPT made to its Chemical Testing Program involves the development of a Master Testing List (MTL). The MTL establishes for OPPT a clear agenda of priority testing needs identified by EPA, other federal agencies, and the international community as represented by the Organization for Economic Cooperation and Development (OECD). The MTL also allows OPPT to focus its limited resources on the highest priority testing needs. In addition, OPPT uses the MTL to keep the public informed of OPPT's testing priorities and to solicit public input into OPPT's Chemical Testing Program. Finally, OPPT uses the MTL to encourage chemical industry initiatives to conduct testing designed to address and fill the priority data needs identified on the MTL.

With regard to voluntary testing initiatives, one program in particular is of major importance to EPA—the OECD Screening Information Data Set (SIDS) program. Under the auspices of the OECD, of which the United States is a member along with 23 other countries, member countries “share the burden” of chemical testing. The OECD/SIDS program is focused on obtaining needed test data for international high-production-volume chemicals and allocates chemicals among the OECD countries for testing using a formula based

on each nation's gross national product. The United States is responsible at the present time for conducting the testing on 25 percent of the SIDS chemicals while the other OECD member countries cover the balance. Prior to the SIDS program, the United States was conducting more than 90 percent of the world's chemical testing; the OECD/SIDS program offers the opportunity for sharing the testing burden and dramatically increasing the amount of worldwide testing of those chemicals posing the greatest potential for harm to health and/or the environment. Since the OECD/SIDS program began several years ago, testing has been completed on 30 chemicals and testing will be initiated on an additional 120 chemicals by the end of 1993; testing on another 30 to 50 chemicals will be initiated in 1994. The fact that most of the OECD/SIDS chemicals are in U.S. commerce makes this voluntary international testing program a very important component of EPA's domestic chemical testing program.

By establishing a TSCA Chemical Testing Program that utilizes a variety of available tools, the development of test data is accelerated and a greater number of chemicals can be tested. ECAs and voluntary testing agreements clearly offer OPPT and the regulated community less resource intensive and less time-consuming alternatives for obtaining test data. Another major benefit of using ECAs and voluntary testing agree-

ments is that these mechanisms provide opportunities for industry to offer balanced programs addressing OPPT's concerns about a chemical by combining testing activities with pollution prevention and product stewardship efforts designed to reduce or eliminate chemical exposures leading to reduced potential health and/or environmental risks.

Into the future

It is clear that OPPT's TSCA Chemical Testing Program is viable and is becoming more productive. As OPPT moves forward under the new administration, the strategies outlined above are expected to significantly increase the pace and scope of OPPT's chemical testing actions. Using a mix of regulatory, voluntary and consent agreement actions, OPPT now has active projects to obtain testing on almost all of the more than 300 chemicals currently listed on the MTL. OPPT intends to ensure that its Chemical Testing Program represents the best efforts of EPA to meet the data needs of the agency and others and at the same time achieve success in these efforts by using the most effective balance of TSCA regulatory and non-regulatory tools available.

Update of Existing Chemicals Program RM1 and RM2 Activity

EPA's Existing Chemicals Program screens those chemicals currently in production or in use to determine their potential health and environmental risks. If potential risks are identified, a further assessment is performed and risk reduction strategies are developed. These activities occur in two distinct stages.

- In the first stage, Risk Management One (RM1), chemicals are screened to identify those that

(1) require additional testing, (2) present potentially significant risk-management concerns, or (3) do not currently require further review.

- In the second stage, Risk Management Two (RM2), chemicals that present significant risk-management concern are further assessed. Strategies to reduce or eliminate the potential risks posed by exposure to these chemicals are developed.

For more information

The Office of Pollution Prevention and Toxics (OPPT), which administers the Existing Chemicals Program, encourages public participation throughout the RM process. RM materials are available from the RM administrative record, located in the TSCA Non-Confidential Information Center. For information about the center, call (202) 260-7099 or (202) 260-0660.

RM Risk Management (RM) Activity from January 1, 1993, through September 15, 1993

Chemical Name	Source/ Why is it in RM?	Concerns	Stage in Process	Next Steps	Projected Resolution
Acrylamide/ N-methylacrylamide (NMA)	In 1991, EPA proposed a rule to (1) immediately ban acrylamide from all grouting uses; (2) immediately ban NMA from all grouting uses except sewer applications; and (3) ban the sewer applications use in three years.	Cancer concerns for workers exposed to acrylamide and NMA during grouting.	Evaluating comments to 1991 proposed rule.	Developing response and preparing final rule.	Anticipate issuing a final rule in early 1994.
Acrylonitrile	High-production volume chemical with large environmental releases as reported to the Toxics Release Inventory.	Acrylonitrile is classified by EPA as a B1 "probable human carcinogen."	OPPT has concluded that the chemical industry has taken EPA's concerns for acrylonitrile very seriously. No further OPPT action is warranted at this time, although EPA will provide technical support to other EPA offices evaluating the risks posed by acrylonitrile.	OPPT is writing letters to acrylonitrile manufacturers encouraging them to continue their pollution prevention efforts.	Project closure anticipated by fall 1993.

RM Risk Management (RM) Activity from January 1, 1993, through September 15, 1993, cont'd

Chemical Name	Source/ Why is it in RM?	Concerns	Stage in Process	Next Steps	Projected Resolution
Aerosol Spray Paints	To investigate pollution prevention opportunities.	Some chemicals found in aerosol spray paint are carcinogenic. Concern for consumers and workers who use aerosol spray paints in indoor air environments.	Developing project scope.	Perform substitute analyses and new technologies assessments, hold informational exchange meetings with industry.	Complete RM2 by the middle of 1994.
Benzidine Dyes	Benzidine is a known human carcinogen and benzidine congeners are animal carcinogens.	Cancer concerns for workers exposed to these chemicals.	Preparing for negotiations with industry, labor unions, and environmental groups.	Hold negotiation meetings.	Hoping to complete a SNUR for benzidine-based dyes and an MOU in principle by December, 1993, for non-metalized dianisidine-based dyes.
Chlorinated Paraffins (CPs)	Designated for testing by the Inter-agency Testing Committee for both human health and environmental concerns.	Short-chain CPs and alpha olefins used in metal-working fluids are hazardous to aquatic life. All CP chain lengths are of concern to human health.	Preparing for risk management decisionmaking.	Select risk management strategy.	Expect to complete RM2 by September 1993.
Chloroethane	High production volume chemical with significant releases to air and water as reported to the Toxics Release Inventory.	Chloroethane is an animal carcinogen based on a 1989 National Toxicology Program study.	OPPT negotiated a labeling program with chloroethane manufacturers to warn workers who install chloroethane-containing foam boards of the hazards and to provide recommendations on how to reduce exposure.		Project completed.
Cultural Uses of Mercury	Referral from state of California that certain ethnic groups were using mercury in some of their religious practices.	Neurotoxicity and potential lethality to individuals who use mercury in these practices.	Developing outreach and education campaign targeting affected communities.	Develop radio public service announcements and distribute fact sheets to community organizations.	Anticipate completion of program by November 1993.

RM Risk Management (RM) Activity from January 1, 1993, through September 15, 1993, cont'd

Chemical Name	Source/ Why is it in RM?	Concerns	Stage in Process	Next Steps	Projected Resolution
1,2-Dichloroethane	High-volume feed-stock chemical that is an EPA B2: "probable human carcinogen."	Cancer risk to individuals living near 4 specific facilities.	Finalizing draft report.	Distribute final report to interested parties.	Anticipate completion of project by December 1993.
Glycol Ethers Update and Follow-on	TSCA 8(e) data reporting preliminary results that exposures to these chemicals could be linked to an increased incidence of spontaneous miscarriages in women working in semiconductor manufacturing plants.	Reproductive toxicity to workers.	Evaluating data results.	Complete data reviews; review/revise hazard and risk assessments; identify potential substitutes.	
Mercury	Evaluation of environmental exposures from the disposal of consumer products containing mercury.	Mercury is a highly toxic chemical, causing serious neurological effects at very low exposure levels.	Under most circumstances, human exposure to mercury is negligible.	OPPT may provide technical support to EPA's Office of Solid Waste.	Project closed in August 1993.
N-Methylpyrrolidone (NMP)	Referral from the Consumer Product Safety Commission.	Reproductive toxicity to workers and to users of consumer "do-it-yourself" paint stripping products.	Discussing risk management strategies with industry groups, labor unions, and consumer groups.	Negotiate a glove testing and product warning program.	Work on this project will be incorporated into OPPT's activities on a consumer/small shop paint stripping use cluster analysis.
2-Nitropropane (2-NP)	Animal carcinogen with possible high exposures to workers.	Cancer and liver toxicity concerns for workers.	Completed RM2 evaluation.	Informal referral to the Occupational Safety and Health Administration. 2-NP may be added to OPPT's Master Testing List.	Project closed in September 1993.
Nitrosamines	Request from the United Rubber Workers Union to evaluate the potential risks posed by these chemicals.	Cancer concerns for workers in the rubber manufacture and leather tanning industries.	Stakeholder's dialogue held in July 1993. Currently incorporating new information into review.	Further review, and discussion of risk reduction methods with stakeholders.	

RM Risk Management (RM) Activity from January 1, 1993, through September 15, 1993, cont'd

Chemical Name	Source/ Why is it in RM?	Concerns	Stage in Process	Next Steps	Projected Resolution
Non-Residential Lead Paints		Concerns for occupational exposures and general population exposures.	Held stakeholder dialogues to discuss substitutes and possible abatement technologies.	Finalizing EPA evaluation.	Completion of project is likely in fall 1993.
Land-Applied Sludge	In 1991 EPA proposed a rule to govern the land application of pulp and paper mill sludge contaminated with dioxins and furans.	Dioxins and furans are very toxic to humans.	Negotiating a voluntary agreement which will set up guidelines for land application dioxin/furan standards and management practices and to obtain data to improve our understanding of the ecological risks of sludge land application.	Develop the actual agreement with industry.	Voluntary agreement expected to be signed by January, 1994.

PCB Rules Revised to Update RCRA References

EPA has updated references to regulations that govern the marketing and burning of used oil containing polychlorinated biphenyls (PCBs) at levels of less than 50 parts per million (ppm). The technical amendment became effective on March 23, 1993 (58 FR 15435).

Under the Toxic Substances Control Act (TSCA), EPA allowed waste oil with fewer than 50 ppm PCBs to be burned and marketed for purposes of energy recovery. In the TSCA PCB regulations, the agency referenced Resource Con-

servation and Recovery Act (RCRA) requirements. However, the RCRA requirements were repositioned on September 10, 1992, when EPA published a final rule that established standards for used oil. Specifically, the provisions at 40 CFR Part 266 were moved to the newly created 40 CFR Part 279 (57 FR 41566). To reflect this change, EPA amended TSCA PCB regulations at 40 CFR 761.20(e). The amendment does not change the substantive requirements of the TSCA PCB regulations and does

not affect the burden on the regulated community to comply with TSCA used oil requirements.

In addition, EPA published a correction to the March 23 technical amendment (58 FR 32060). The correction addressed the omission of a citation found in paragraph (4) of the definition for a "qualified incinerator" at section 761.3. The reference to industrial furnaces and boilers in 40 CFR 266.41(b) should have been changed also to read 40 CFR 279.61(a)(1) and (2).

Efforts to Replicate Anderson Laboratory Carpet Study Point to More Work Ahead

“Failure to replicate the findings does not prove that carpet emissions do not pose any adverse effects....”

EPA has been unable to independently reproduce the findings of a 1992 private study in which mice died after being exposed to carpet emissions. Failure to replicate the findings does not prove that carpet emissions do not pose any adverse effects, said Victor J. Kimm, acting administrator for EPA's Office of Pollution Prevention and Toxic Substances, in testimony before the House of Representatives' Subcommittee on Environment, Energy, and Natural Resources in June 1993. At the same time, he said, EPA does not have a sound basis for concluding that exposure to carpet emissions presents a health risk.

Background

In a 1992 announcement, Anderson Laboratories, of Dedham, Massachusetts, described neurotoxicity, pulmonary irritation, and death in mice exposed to emissions from certain carpets. The lab's findings seemed to support complaints associating health problems with exposure to emissions from carpets.

In January 1993, EPA scientists traveled to Anderson Laboratories, where, using a combination of EPA and Anderson apparatuses, they conducted a carpet emissions test in which some mice died. However, a scientific finding is considered reliable only when it can be independently replicated. In a replication study in EPA labs, EPA scientists were unable to produce severe toxicity in mice, nor

did EPA's tests produce any convincing signs of even mild toxicity.

Details of study replication

The replication study was conducted simultaneously by EPA and Anderson Laboratories. EPA collaborated with Anderson Laboratories in designing and executing the study. Both EPA and Anderson Laboratories agreed to the protocol for performing the study. Each lab received pieces from the same carpet to test, and scoring procedures for neurotoxicity were developed by EPA and Anderson Laboratories.

EPA found no deaths in 24 tested animals, no severe or moderate sensory irritation, and no clear evidence of neurotoxicity. By contrast, Anderson Laboratories found five test-related deaths, pulmonary irritation, and neurotoxicity in 24 tested animals.

Both labs sent draft reports of their findings to a panel of independent scientists for peer review. At the conclusion of the peer review, it was clear that there was virtually nothing in common between the two sets of findings. EPA concludes that an essential difference between the conditions of its experiments and those of Anderson Laboratories exists but has not been identified.

EPA addresses indoor air quality

At this point, EPA is continuing research to determine the cause of Anderson Laboratories' findings.

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EPA is addressing carpet-related issues as part of its indoor air quality strategy. Descriptions of some EPA activities follow.

- EPA has scheduled a workshop at which scientists working on carpet emissions will present data on their experience with Anderson Laboratories' test procedure. Scientists from the carpet industry, Anderson Laboratories, and EPA, in addition to independent peer reviewers, will participate in the workshop. EPA will consider the outcome of the workshop in deciding what steps are necessary to further understanding of concerns about carpets.
- EPA is continuing efforts to develop better methodologies for detecting and studying the

potential health effects of emissions from indoor sources. For instance, toxicology tests to detect health effects associated with indoor air complaints are being developed by EPA's Office of Research and Development's Health Effects Research Laboratory.

- EPA is continuing to follow the voluntary testing of emissions from carpet and carpet products. The testing is being performed by the Carpet and Rug Institute, the Carpet Cushion Council, and the Floor Covering Adhesive Manufacturers Committee. The voluntary testing programs were one of the many agreements that came out of a carpet policy dialogue, convened by EPA in 1990 as part of its general pollution prevention strategy to minimize indoor

exposures to total volatile organic chemical emissions where reasonable.

- EPA is working toward defining exposures and risks caused by indoor pollution sources. The ongoing Indoor Air Source Characterization Project will provide a mechanism for EPA to identify indoor air source categories that warrant further evaluation.
- EPA is assessing the health and environmental risks of selected cleaning products that the U.S. General Services Administration (GSA) purchases for use in government buildings. OPPT will assist GSA in developing procurement criteria based on efficacy, health, and environmental considerations. (See article on page 24.)

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of the changes and initiatives in OPPT. The new approach is designed to maximize the utility of three key OPPT assets—the expertise of the staff, the assembled information on chemicals, and the statutory authorities¹ of the office—to achieve results in prevention and risk reduction.

The change to a comprehensive pollution prevention program represents a shift away from an activity-based definition of the OPPT program to a broad, integrated, mission-based definition. In the

past, OPPT work was primarily organized around section-by-section implementation of the Toxic Substances Control Act (TSCA). The organization of programs for the TSCA inventory, chemical testing, new chemicals, existing chemicals, and Toxics Release Inventory (TRI) reporting, etc., while providing the needed foundation for a toxics program, has made it difficult to articulate and pursue more broadly based and cross-cutting environmental goals.

The articulation of the broad office mission by OPPT's management and staff, has been a key to the shift to a mission-based definition of the OPPT program. The OPPT mission has been defined as:

- Promoting pollution prevention as a principle of first choice to achieve environmental stewardship throughout society.
- Promoting the design, development, and application of safer chemicals, processes, and technologies in the industrial sector of the economy.
- Promoting risk reduction and responsible risk management practices throughout the life cycle of major chemicals of concern.
- Promoting public understanding of the risks of chemicals and public involvement in environ-

¹ For example, TSCA, EPCRA, PPA (Pollution Prevention Act of 1990)

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mental decisionmaking through dissemination of information on toxic chemicals.

The changes and initiatives that characterize recent OPPT activities reflect an attempt to ensure that OPPT efforts effectively promote the defined mission. A mission-based definition of the OPPT program places the specific implementation of sections of the statutes in the context of long-term goals. The focus on the broad OPPT mission enables the office to use its resources more flexibly and effectively. This approach has allowed the office to blur the lines between new chemical and existing chemical activities to find new and creative ways to integrate our risk assessment and management experience with our new pollution prevention mandate. For example, test data, expertise in structure-activity relationships, and other assessment tools acquired in the development of the New Chemicals Program now frequently contribute to decisionmaking in the Existing Chemicals Program. The shift to a mission-based definition of the OPPT program has not weakened the base activities; it has strengthened them by measuring their progress in terms of movement toward significant long-term goals, such as reduced risk and pollution prevention.

The origins and the outline of the strategy for dealing with chemicals in commerce that have emerged from this new focus on the OPPT mission are discussed below.

II. Background and strategy for a common approach to pollution prevention and toxics

Finding a means to comprehensively address the issues surrounding "chemicals in commerce" has been the central problem for the EPA toxics program. Dealing with such a large number of chemicals—either the 70,000 chemicals on the inventory or, sharpening the focus, the approximately 14,000 nonpolymer chemicals produced in amounts above 10,000 pounds per year—has been a significant challenge. The challenge is especially apparent when one recognizes that the almost countless facilities, use applications, and exposure scenarios expand the task beyond the realm of traditional chemical risk management solutions. Moreover, we cannot responsibly assume that all of these chemicals present significant risk. Clearly, the development of an adequate method for sorting through these chemicals is one of the central tasks facing OPPT and the nation.

OPPT's evolving agenda for toxics

OPPT's efforts over the past several years has made considerable progress in the development and implementation of a process for evaluating and making decisions on toxic chemicals. These efforts have been successful in helping to set an agenda for the OPPT Existing Chemicals Program. The OPPT agenda has been developed from reactive, collaborative, and proactive elements.

The reactive element of the OPPT agenda, the traditional TSCA agenda, is made up of chemicals brought to the attention of OPPT through TSCA statutory authorities such as TSCA section 8(e) submissions or recommendations from the Interagency Testing Committee. In the collaborative element of the agenda, OPPT uses TSCA tools and approaches to help other EPA programs on important parts of their environmental agendas. Examples of the collaborative part of the OPPT agenda include work on phosphoric acid production waste, a joint project with EPA's Office of Solid Waste and Emergency Response, and the testing of Clean Air Act Amendment chemicals. In the proactive element of the OPPT agenda, the office develops its own agenda focused on particular policy or risk concerns in which the agency has otherwise shown an interest. Recent examples include the work with indoor air contaminants, high-release TRI facilities, and persistent bioaccumulators. The recently instituted Design for the Environment (DfE) program is also a major component of this proactive agenda.

OPPT intends to continue these types of efforts but believes they need to be placed in a larger framework of work on chemicals in commerce. We need to assure ourselves and the constituencies the program serves that we have developed a rational overall agenda for our work on existing chemicals that maximizes pollution prevention and risk reduction.

Role of government

Any effort to address existing chemical issues must also recognize that even the most optimistic projection of OPPT resources would allow direct government action on only a handful of the thousands of existing chemicals. Recognition of OPPT's limitations is crucial to any realistic approach to existing chemicals.

It is also important to recognize that for many, if not most, chemicals of concern significant pollution prevention or other risk reduction gains can be realized with relatively small adjustments in chemical use and management practices. These are the kinds of adjustments that can effectively occur only on an industry-by-industry, community-by-community, plant site-by-plant site, process-by-process, or chemical application-by-chemical application basis.

The integration of the pollution prevention mandate into the OPPT and EPA programs offers a challenge similar to the task of managing existing chemicals. Pollution prevention cannot be distilled into a few big issues. Prevention is characterized by large numbers of positive and specific actions by those who understand the details of the manufacture and use of chemicals. Pollution prevention opportunities need to be pursued for each of the issues of concern, large and small, that surround the chemicals in commerce. The limited resources of government can only be applied

directly to a limited number of these transactions. OPPT must, as in addressing toxics issues, recognize the limits of its resources and face the problem of determining which of the countless pollution prevention opportunities to target with its limited resources.

At the same time, however, OPPT has recognized the growing interest and involvement of other parties in dealing with toxics issues and in pursuing pollution prevention outcomes. Included under this heading are numerous state toxics and pollution prevention programs, industry initiatives such as the Chemical Manufacturers Association's Responsible Care Program, and community-level efforts (based in many cases on the right-to-know premise). Despite their different starting points, OPPT and these other parties have overlapping objectives.

New OPPT strategies

The challenges facing OPPT in its attempt to integrate its toxics and prevention programs, lead to some common solutions. Clearly, any realistic plan to address the overwhelming issues and prevention opportunities surrounding chemicals in commerce must be designed to facilitate initiative in the private sector, in state and local governments, in labor unions, and in the public. Just as clearly, the overall strategy must include the identification of priorities so that resources, both of OPPT and of others, can be effectively targeted.

Based on these key points, the new OPPT approach for accomplishing

its mission is organized around the following three strategies:

1. Empowering the broadest possible initiative from industry, the public and government agencies by providing information and support.
2. Establishing, in conjunction with others, national goals and measures of progress for addressing toxic chemical issues.
3. Targeting direct OPPT action to areas of high priority to augment ongoing public and private sector efforts or require activity in areas where initiative is either lacking or insufficient.

In carrying out the above strategies, OPPT will give special priority to collection and dissemination of environmental information. The OPPT focus on information follows from the recognition of the critical role of information access to the success of others' plans for addressing toxics issues. The OPPT focus on collecting and disseminating information is not a retreat from government regulation; there will always be a need to use government regulatory processes to address situations where private parties are not responding to environmental issues responsibly. The emphasis on information dissemination is simply a recognition that in the current environment a large number of private and other public organizations are able to develop and implement sound pollution prevention strategies to reduce risk.

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III. Empowering the public with information

The most effective way for OPPT to encourage and empower private initiative is to deliver key environmental information to industry and the public. The public release of important environmental data gives everyone the ability to participate in the broader national effort to address chemical issues. The TRI clearly illustrates the ability of information to dramatically promote and empower initiatives by the toxics community. TRI has helped industry to identify problems and target actions, and it has given the public an opportunity to learn about problems and become involved in their solution.

OPPT will work to provide access to information on facilities, chemicals, and uses. For facilities, OPPT will continue to publish and improve the TRI. The recent addition of site-specific pollution prevention information will increase the usefulness of this tool. Publication of the Existing Chemicals Program's Risk Management (RM) analysis of targeted high-release facilities will continue. For the future, OPPT has begun a major effort to expand the TRI, which will at a minimum include the addition of chemicals and industrial sources to the TRI. OPPT will also explore integration of its database with others in the agency to provide as complete a picture as possible of releases from facilities.

For information on the chemicals of greatest concern, OPPT will

continue to make public the chemical-related data and information collected and generated through the various authorities of the office such as TSCA section 8 reporting, the testing program, the New Chemicals Program, and the Existing Chemicals Program's RM process. Efforts to improve information collection and make it more accessible to the public are ongoing. CBI reform to improve public accessibility, exploration of methods for disseminating the 8(e) CAP information, and efforts to work with industry to collect better exposure information for the RM process are currently in progress.

The collection and dissemination of information on chemical use will be a priority for OPPT. Details of the OPPT proposal for collecting use information through a Chemical Use Inventory are discussed in later sections of this paper.

In each of the above areas, the collection and dissemination of pollution prevention information is essential. Pollution prevention information added to TRI by the Pollution Prevention Act will help to identify prevention opportunities at the facility level. For chemicals of concern, the assembly of more complete hazard and exposure information will ensure that where prevention is defined as chemical substitution, the public can be more confident that safer materials are being used. Perhaps most importantly, the OPPT focus in the RM and DfE programs on chemical uses instead of individual

chemicals will provide an effective means for uncovering and promoting pollution prevention opportunities. Further development of the pollution prevention clearinghouse and dissemination of DfE information will also encourage pollution prevention in the private sector.

Analytical tools developed by OPPT will also be made available to the public. Details of the risk management screening analyses and the DfE chemical substitute assessment methodology are now being packaged for public use. Other tools and models, such as software to estimate the aquatic toxicity of chemicals, are being modified so they can be used by others outside EPA.

IV. Establishing national goals and measures of progress

Defining the chemicals, facilities, processes, and chemical uses of most concern and setting national goals are essential to a successful toxics program. Current OPPT efforts to set goals and measures of progress include the TRI and the 33/50 Program, as well as the Master Testing List. The proactive agenda of the RM process, discussed above, has also helped to clarify national goals with its current focus on indoor air pollutants, high-release TRI facilities, and persistent bioaccumulators. Based on these efforts, it now seems appropriate to develop a more systematic, collaborative and comprehensive approach to this goal-setting process.

OPPT is not now in the position

to articulate comprehensive, broadly applicable, specific goals for chemical risk reduction. OPPT is, however, engaged in a major strategic effort that will provide EPA with a sound technical basis for setting priorities and defining environmental goals. Specifically, OPPT has under way two projects:

- Developing a method to screen chemicals in commerce to identify those of most concern.
- Identifying the patterns of chemical use that are of most concern.

The effort to screen chemicals begins by identifying high- and moderate-volume chemicals with significant hazard concerns. Use information will then be used to identify chemicals with high-exposure potential, such as those used in consumer products or handled by large numbers of workers. To collect information on exposure potential, OPPT is in the process of evaluating how the TSCA Inventory Update Rule can be amended to generate a Chemical Use Inventory. (Details of proposals for a Chemical Use Inventory and a comprehensive screening method can be found in the final section of this paper.)

Following the identification of the chemicals of most concern, OPPT will work to assure that basic information on the hazards and exposures associated with these chemicals is available to the public. OPPT will also work to provide the public, through a combination of government and private efforts, with analyses of the risks

associated with these chemicals and with pollution prevention and risk management strategies that can be adopted to mitigate concerns. Identification of the chemicals of most concern and the collection and dissemination of information on these chemicals will help to focus national efforts to areas where they can be most effective.

As a complement to this effort, OPPT will also work to identify the patterns of chemical use that are of most concern. OPPT has already developed the basics of a scoring system that ranks potential concerns associated with chemicals used in the same application or use clusters. This system accesses readily available information on exposure and hazard. An algorithm, based on past OPPT risk screening experience, is then used to gauge potential concerns. Using the scoring system to help identify the chemical uses of most concern will help to focus pollution prevention and risk management efforts to priority areas. The identification of priority uses will also help to direct research and other private and public efforts to areas where they can be most effective.

V. Targeting government action

Current OPPT direct actions are usually targeted using risk, exposure, and hazard criteria. Actions can be organized by specific chemicals, by clusters of chemicals defined by concern or use, or by facilities and industries. Targeted concerns are analyzed in the RM

process of the Existing Chemicals Program and appropriate pollution prevention or other risk management approaches, either voluntary or regulatory, are developed.

Use clusters

While review of individual chemicals of concern will continue, OPPT currently emphasizes the targeting of use clusters for review. Use clusters, which focus on a specific chemical use and the alternatives available for that use, promote consideration of major factors that are needed for the development of pollution prevention or other risk management plans. As a result, use cluster reviews can be more helpful to chemical users than single chemical reviews. The current RM review of aerosol spray paints illustrates this point. The cluster was chosen to address the Science Advisory Board's choice of indoor air as a potential priority risk area. Focus on the use of aerosol spray paints as a group allows the review process to gather all the necessary information on chemicals and alternatives that will provide the basis for pollution prevention or other risk management approaches.

OPPT's DfE program builds on the use cluster approach by focusing on specific uses and expands beyond the RM process to include the active involvement of a willing industry. In DfE efforts, OPPT works with all sectors of an industry to develop a long-range plan for the identification and imple-

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mentation of pollution prevention or other risk reduction plans. The printing, dry cleaning, and computer industries are working with OPPT on DfE projects.

In addition to direct work with chemical manufacturers and users, OPPT targets its own resources, through the Source Reduction Review Project, to assist other EPA program offices in identifying opportunities for incorporating pollution prevention into regulations affecting 17 industrial source categories. (See article on page 28.)

In the future, direct OPPT actions will be able to take advantage of public tools, such as the Chemical Use Inventory comprehensive screening, to more clearly identify high-priority use patterns, facilities, and chemicals for RM action. OPPT will continue to select such cases for entry into its Existing Chemicals Program, where we can achieve risk reduction through a combination of regulatory and voluntary actions.

VI. Chemical use inventory and comprehensive screening proposals

The Chemical Use Inventory would amend the current TSCA Inventory Update Rule to include basic information on chemical use. This inventory proposal is a clear example of the kinds of initiatives that develop out of the combination of the toxics, pollution prevention, and information perspectives of the new OPPT strategy.

The OPPT toxics program has

from its inception been faced with the need to find an adequate process to sort through the 70,000 chemicals on the inventory to identify the chemicals of greatest concern. The current inventory update rule collects some of the key information, such as production volumes, to identify the chemicals of concern, but information on the use of chemicals, which is essential to determining possible exposure routes and scenarios and potential safer substitute chemicals, is not covered by the Inventory Update Rule. With modifications to include basic information on chemical uses, the inventory update could supply information essential to an effective TSCA inventory screening program. To enhance the value of the data, OPPT is considering broadening the scope of the industries that report, increasing the frequency of reports (e.g., every two years) and placing the reporting cycle on the same timeframe as TRI reporting.

The proposed screening would identify chemicals of concern via the following criteria:

- High-volume chemicals (those produced annually in amounts greater than 1 million pounds a year) of more than low hazard.
- Moderate-volume chemicals (those produced annually in amounts of 10,000 pounds to 1 million pounds) of relatively high potential hazard, potential consumer use, or high potential occupational exposure.

Appropriate criteria for the high- and low-hazard points, consumer

use, and high potential occupational exposure would also need to be developed.

Agreement of the toxics community on a screening tool based on the Chemical Use Inventory would produce a list of chemicals of greatest concern that could serve as the basis for a national agenda for toxics. Instead of an unmanageable list of 70,000 chemicals, the nation would have a list of the several thousand chemicals of greatest concern. This would help to focus limited resources to the areas of greatest need. Based on this agenda, clear and measurable national goals for information collection, pollution prevention, and other forms of risk management could be established.

The evolution of the OPPT information strategy also leads to the Chemical Use Inventory. TRI emissions information has empowered industry and the public to identify problems and set clear goals for addressing toxics concerns in the areas of the manufacture and processing of chemicals. Progress in this area has led naturally to consideration of the areas of concern not covered by TRI, in particular, the exposures and risks associated with chemical use. The Chemical Use Inventory would provide the basic use information necessary to expand the public initiatives around the TRI to the area of chemical use.

The issue of confidential business information (CBI) will be a key consideration in implementing a Chemical Use Inventory initiative. While accommodating legitimate

CBI concerns, the Chemical Use Inventory, in order to achieve the objectives of empowering the public, would emphasize public access. One possible way to accommodate competing interests would be to require reporting at a more detailed level to allow EPA to use the data for chemical screening while providing public disclosure at a more aggregated level that would overcome most CBI issues while still providing the level of information needed for public tracking.

The ability to use the Chemical Use Inventory to identify trends and patterns of chemical use are also key to pollution prevention. Pollution prevention gains in the area of chemical use require detailed consideration of specific chemical applications. The Chemical Use Inventory would help to identify the use areas of greatest concern and allow for the effective targeting of pollution prevention efforts. The Chemical Use Inventory could also be used to set goals and measure the progress of pollution prevention for chemicals in commerce.

In sum, the Chemical Use Inventory and the accompanying screening proposal are examples of the kinds of initiatives that result from the new OPPT strategy. The proposals are designed to assist with setting goals, empowering private initiative, and targeting OPPT actions. They also provide key building blocks for the advancement of pollution prevention.

EPA Amends Notification Rule for Chemical Exports

EPA has changed one of the annual reporting requirements of its export notification rule. The change affects reporting on chemicals subject to test rules under section 4 of the Toxic Substance Control Act (TSCA).

As of January 1, 1994, companies are required to provide a one-time notice to EPA for each country to which they export a TSCA section 4 chemical. Previously, companies were required to provide annual notices. At the same time, EPA will begin notifying foreign governments of the import of each chemical only once, instead of annually. Reporting requirements for sections 5, 6, and 7 of TSCA remain unchanged.

Background of TSCA section 12(b) program

In 1980, EPA began requiring notification for the export of certain chemicals, as mandated by section 12(b) of TSCA. In addition to chemicals that are subject to TSCA section 4 test rules, notification is required for chemicals that are subject to:

- Submission of test data under TSCA section 5(b)
- Consent orders issued under TSCA section 5
- Significant new use rules (SNURs) or proposed SNURs under TSCA section 5
- Rules or proposed rules under TSCA section 6

- Pending actions or granting of relief under TSCA section 5 or section 7

EPA sends the notices to the importing country to alert it that a chemical is subject to regulatory actions in the United States. Since the program started, the volume of notices submitted to EPA has increased significantly, as have the notices EPA sends to foreign governments. By the end of 1993, EPA expects to receive more than 15,000 notices; about 12,000 of these are for TSCA section 4 chemicals.

The increasing number of notices is making it difficult for foreign governments to review and monitor imported chemicals. Decreasing the number of notices for TSCA section 4 chemicals will allow foreign governments to focus their efforts on imported chemicals that are subject to restrictive regulations or proposed restrictive regulatory actions.

For more information

- Call or write to the TSCA Hotline (see page 43).
- See 40 CFR part 707 for the TSCA section 12(b) export notification rule.
- See 58 FR 40238, July 27, 1993, for the amendments to the reporting requirements of the TSCA section 12(b) export notification rule.

States Support Efforts on Forming Voluntary Agreement on Pulp and Paper Mill Sludge

EPA is negotiating a voluntary agreement with the American Forest and Paper Association to establish dioxin and furan standards and management practices for the use of sludge as a soil conditioner. The association is representing pulp and paper mills that currently land-apply the sludge.

The proposed agreement would establish three standards for dioxin and furan concentrations in pulp and paper mill sludge. The standards are:

- A maximum dioxin and furan concentration, or "cap," for sludge that can be land-applied
- A dioxin and furan concentration at or below which sludge would be exempted from most provisions of the agreement
- A maximum dioxin and furan soil concentration that may not be exceeded for land on which sludge is applied.

EPA is interested in setting dioxin standards that are acceptable to states that allow land application. At the June 1993 meeting of the Forum on State and Tribal Toxics Action, representatives from 10 of these states said they agreed with the standards' framework. Some states also expressed interest in incorporating dioxin and furan standards into their existing effluent regulations for mills. Pulp and paper mills would be required to

meet these standards to remain in compliance with effluent permits.

Concern about contaminated sludge

In 1985, EPA found that the manufacture of chlorine-bleached pulp and paper produces dioxins and furans. These chlorinated organics are highly toxic and are classified by EPA as a probable human carcinogen. While pulp and paper

In 1991, EPA proposed a regulation under the Toxic Substances Control Act (TSCA) to (1) limit the concentration of dioxins and furans in soil to 10 parts per trillion and (2) establish site-management practices for land application of the sludge.

EPA deferred finalizing the rule until issuance of integrated regulations for effluent guidelines and Most Achievable Control Technology (MACT) standards. These regulations will require bleach plant process changes in the pulp and paper industry and are expected to reduce the concentration of dioxins and furans in sludge. Concentrations may be reduced to a level that would make TSCA rulemaking unnecessary.

EPA believes that improper land application of pulp and paper mill sludge can pose a significant risk to wildlife. The voluntary agreement would be the first part of an environmental stewardship program that EPA is proposing for the pulp and paper industry. The stewardship program would ensure responsible land application and greatly reduce potential risks from land-applying pulp and paper mill sludge.

**EPA believes that
improper land
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products themselves contain negligible levels of dioxins and furans, EPA determined that pulp and paper mill sludge produced in manufacturing these products may be of concern. In the United States, 104 facilities use chlorine or chlorine derivatives to manufacture bleached pulp.

Public Meeting Held on TSCA CBI Reform

About 60 people attended a public meeting in July 1993 on reforming confidential business information (CBI) policies for data submitted under the Toxics Substances Control Act (TSCA).

In May 1993, EPA's Office of Pollution Prevention and Toxics (OPPT) proposed a series of short- and long-term actions to address the problem of inappropriate CBI claims. OPPT sponsored the public meeting to elicit comment on its proposed actions.

At the public meeting, 16 representatives from various constituencies spoke about the proposed actions to address inappropriate claims. Among the speakers were representatives from the Illinois EPA, the Chemical Manufacturers Association, the Sierra Club, the AFL-CIO, the Dow Chemical Company, and the World Wildlife Federation. By and large, the speakers recognized that CBI claims made without regard to statutory and regulatory right are not desirable. Several industry speakers noted that there are some improper filings and that these need to be limited. There was disagreement, however, about the number of these improper filings. All parties agreed that it would be helpful if EPA would issue clear guidelines on making CBI claims and that education courses on the subject would be useful. But the speakers disagreed on the appropriateness of regulatory amendment.

OPPT will consider all public comments before publishing a final TSCA CBI action plan.

EPA's Office of
Pollution
Prevention and
Toxics (OPPT)
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problem of
inappropriate CBI
claims.

Background of CBI reform

Over the past several years, OPPT has sought broad participation in toxics management. To understand the risks from chemical substances, however, the public requires access to TSCA data. There is wide agreement that dissemination of these data is consistent with the lan-

guage and intent of the statute.

Inappropriate CBI claims limit the toxics data available to the public and hamper efforts (1) to promote public education about chemicals and (2) to encourage public participation in toxics control. OPPT has committed itself to making toxics data available to the public and states.

For more information

- Two documents are available by calling the TSCA Hotline at (202) 554-1404 or by writing to the address on page 43: (1) *OPPT's Proposed Actions to Reform TSCA Confidential Business Information* and (2) *Influence of CBI Requirements on TSCA Implementation*, a contractor study commissioned by OPPT.
- Public comments on the TSCA CBI reform effort are contained in the administrative record, docket number OPPTS 00124, in OPPT's Non-Confidential Information Center. To contact the information center, call (202) 260-7099.
- For additional information, contact Scott Sherlock, in OPPT's Information Management Division; telephone, (202) 260-1536 or (202) 260-1657; or, write to him at the address on page 43.

OPPT Proposes New Strategy for Information Management

Written Comments Sought

Making toxics information available to the public is integral to both the management of toxic chemicals and the promotion of pollution prevention. EPA's Office of Pollution Prevention and Toxics (OPPT) recently drafted a strategy for improving the management and accessibility of toxics data. OPPT is soliciting comments on the strategy through this article and meetings with industry, public interest groups, state officials, and other EPA offices. The final strategy will be based on careful consideration of all comments.

The strategy is organized around six goals and provides a broad framework for all the activities that OPPT plans to undertake. A summary of the six goals follows.

1. *Increase awareness throughout EPA of the importance of information collection, processing, and dissemination; incorporate an information product focus in all OPPT activities.*

OPPT has a storehouse of useful toxics data collected under various federal laws. The data include exposure, hazard, risk, and other relevant information and are essential for making decisions about chemical risk reduction, risk management, testing needs, and pollution prevention. Also essential is how these data are managed, including how they are compiled, stored, and delivered. The importance of data management must be

clearly expressed to OPPT staff, managers, and outside parties to ensure the success of OPPT programs. To maximize the benefits of the information, OPPT must organize it in useful and accessible products, such as computer diskettes, written reports, and CD-ROMs. At every stage of OPPT programs, from start to finish, the information products must be considered and understood. This awareness must be conveyed throughout EPA as OPPT works to integrate its data with other data sources in EPA.

2. *Expand and enhance OPPT's relations with constituents.*

To achieve the goals of OPPT, there must be a true partnership between OPPT, other EPA offices, the federal government, other countries, the states and tribes, industry, and the public. To achieve that partnership, it is essential that OPPT adopt a customer-oriented focus, communicating with both the providers and users of information. OPPT must continually evaluate its services and products with both suppliers and customers in mind.

3. *Widely distribute and provide easy public access to meaningful information, thereby providing a model for government.*

Information is truly power. OPPT must take all necessary steps to ensure meaningful access to its

Statutes Under Which OPPT Collects Data

- Toxic Substances Control Act
- Emergency Planning and Community Right-to-Know Act
- Pollution Prevention Act

substantial stores of information and tools. They should be packaged in user-friendly and accessible products that are marketed and distributed to the public. Where possible, information should be integrated with other pertinent data. The information must be disseminated in a manner consistent with OPPT's statutory mandates, including the adequate protection of confidential information.

4. *Establish standards for information quality and establish a process for achieving them.*

OPPT strives to provide information that is reliable, accurate, and up to date. The data collected and disseminated must be of sufficient quality for the intended purposes, with consideration for broader uses over its entire lifecycle. OPPT will establish appropriate data-quality

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standards and let users know how well the data meet the standards.

5. *Develop enhanced capabilities to allow OPPT and its constituents to analyze and use information more effectively.*

Analytical capabilities are essential for OPPT to accomplish its program goals. These tools must be scientifically credible, current, and well documented. Tools and information systems must be developed and maintained in accordance with

accepted standards for information resources management.

6. *Invest in and apply human and technological resources to achieve efficiency in information management.*

OPPT must increase its efficiency by investing in information technology, including computer platforms, applications, and maintenance. Most importantly, however, OPPT must invest in people. OPPT must continually evaluate information management responsibilities to ensure adequate staffing and training. Because contractors

represent a large part of OPPT's total information management resources, it is essential that OPPT continually improve management of them.

To provide written comments

OPPT will base its final information-management strategy on careful consideration of all comments. Written comments can be submitted to Andrew Wheeler, of OPPT's Information Management Division (7407), 401 M Street, S.W., Washington, D.C. 20460

Workshops on Confidential Business Information Offered

The Chemical Manufacturers Association (CMA) is offering workshops on how to make effective confidential business information (CBI) claims on submissions to EPA under the Toxic Substances Control Act (TSCA). EPA's Office of Pollution Prevention and Toxics (OPPT) is participating in the workshops.

The workshops will cover the significance of CBI; its value to industry, EPA, and the public; how inappropriate CBI claims limit public access to information; applicable law and regulations; allowable claims content; criteria

for substantiation; procedures to assure claim validity; generic naming; and EPA screening practices.

In 1992, EPA determined that some CBI claims in TSCA submissions do not appear to be fully supportable under the statute. EPA subsequently identified CBI claim procedures as an area that could be improved through voluntary industry actions, public dialogue, and education.

Locations and dates. Two-day workshops are planned for Washington, D.C., on December 1 and 2, 1993; for Houston, Texas,

on February 23 and 24, 1994; and for Newark, New Jersey, on June 16 and 17, 1994.

Who should attend. Anyone who submits TSCA section 5 premanufacture notices (PMNs), TSCA section 8(e) notices of substantial risks, TSCA section 8(d) health and safety studies, or data under TSCA 8(a), the inventory update rule.

For more information

For additional information, call Charles Walton, of the CMA, at (202) 887-1365.

Before Buying, GSA to Check Custodial Products' Health and Environmental Effects

Products Could Be Used In Thousands of Government Buildings

At least one U.S. agency plans to use its purchasing power to advance pollution prevention. The General Services Administration (GSA) plans to buy cleaning products for the government buildings it services only if the products meet certain efficacy, health, and environmental standards.

EPA's Office of Pollution Prevention and Toxics (OPPT) is helping GSA's Public Buildings Service (PBS) to organize and implement this effort. Using the Existing Chemicals Program's Risk Management process, OPPT is assessing the health and environmental risks of selected cleaning products. Later, OPPT will assist PBS in developing procurement criteria based on efficacy, health, and environmental considerations.

Leading edge in acquisition policies

This effort may have long-term implications. On October 20, 1993, President Clinton signed an executive order requiring the federal government to incorporate environmental considerations in its acquisition policies. GSA's Federal Supply Service will be required to use environmental criteria to select the products that it supplies throughout the federal government. While the full implications of their efforts within the context of the executive order must still be determined, OPPT and PBS expect that their selection criteria will be suitable for incorpo-

ration into the Federal Supply Service system.

Cleaning products that meet the selection criteria will reduce pollution that now occurs during manufacturing, packaging, use, or disposal. If the U.S. government buys these cleaning products, so the thinking goes, other parts of the public and private sectors will demand products that meet similar standards. The demand would motivate manufacturers to design into their products steps that will prevent pollution. This approach is at the core of OPPT's Design for the Environment (DfE) program.

Project phases

OPPT and PBS are following a multiphased process to develop environmental and health criteria for custodial products. PBS selected all-purpose cleaners, floor care products, carpet cleaning products, snow removal products, and sweeping compounds for evaluation first. An example of how the criteria will be developed is described below.

1. OPPT is currently assessing the environmental and health effects of three sets of cleaning products. These products are also being tested at a building that GSA services. Among the considerations in selecting these products is that they are concentrates. From PBS's point of view, a one-gallon container of a concentrated product is

easier to store and handle than a 55-gallon drum. From an environmental point of view, concentrated products dramatically decrease packaging and disposal needs.

2. In conjunction with the product assessments, OPPT and PBS are developing criteria for selecting custodial products that have the most favorable combinations of efficacy, human health, and environmental safety. Interested parties will be invited to participate in the development of criteria.

Development of voluntary standards

OPPT's DfE program and PBS are encouraging manufacturers of all products to develop and implement voluntary criteria to prevent pollution. The OPPT/PBS teams may work with the American National Standards Institute to develop voluntary criteria that would meet the needs of the federal civilian and military supply systems. All interested parties are welcome to participate in this effort.

For more information

To find out more about the activities described in this article, call Conrad Flessner, of OPPT's Exo-nomics, Exposure, and Technology Division, at (202) 260-3918, or write to him at the address on page 43.

Update: Design for the Environment Program

EPA's Design for the Environment (DfE) program is stimulating private sector efforts to design products and services that reduce potential risks from chemicals. DfE programs involve industry, trade groups, and environmental groups in cooperative projects to promote environmental protection. Current DfE programs focus on the printing industry, the dry cleaning industry, and the financial business community. The Office of Pollution Prevention and Toxics (OPPT) administers the DfE program.

Risk ranking workshop

A summer workshop kicked off DfE efforts to identify a framework for ranking the health and environmental risks from chemicals and products used in printing. The workshop was the first step in coordinating the different ranking methods being developed by industry, universities, and EPA.

Currently, the lack of standardized methods for comparing chemicals and product formulations impedes efforts to (1) design products and services that are better for the environment and (2) quickly screen and rank environmental impacts of existing products and services. Workshop proceedings are available from the Pollution Prevention Information Clearinghouse (PPIC) at (202) 260-1023.

Printing project

The printing project is focusing on developing comparative informa-

tion on the risks, exposures, performance, and costs of cleaning products and inks used in three methods of printing: lithography, screen printing, and flexography.

Lithography

The project has become involved with the Great Printers Project, sponsored by the Environmental Defense Fund, Printing Industries of America, and the Council of Great Lakes Governors. The Great Printers Project will communicate DfE information to lithographers in eight Great Lake states as part of a larger effort to develop regional and local outreach contacts with craft shops and local printers who are making environmental strides.

Screen Printing

Screen printers use a process called screen reclamation to remove the ink, stencil, and ghost image from screens. During this process, reclamation chemicals and residue ink are often washed directly down the drain. The DfE printing project is evaluating the health and environmental risks associated with different chemicals (including those labeled "biodegradable" or "drain safe"), work practices, and technological alternatives.

Flexography

Several preliminary meetings with the flexography sector of the printing industry have been held to begin investigating alternatives for work practices involving inks and for chemicals used in inks.

Financial business community projects

Three DfE projects are concerned specifically with integrating environmental factors into general business practices. These projects focus on the financial business community, since financial considerations drive nearly all business decisions.

Pollution prevention financing

New pollution prevention technologies cannot be developed and implemented without the availability of financing. EPA is forming a pilot program to test the feasibility of including financial counseling in state technical assistance programs for pollution prevention. This will aid businesses, especially small and mid-sized firms, that lack the resources to package their loan requests in a convincing manner. The DfE project also plans to begin outreach to the financial community—which tends to associate environmental investments with liability—on the opportunities and value provided by pollution prevention investments.

Accounting and capital budgeting

Experts who are active in improving managerial accounting and capital budgeting practices will meet at a December workshop. The objective of the workshop is to discuss issues involved in incorporating environmental factors into managerial accounting and capital

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budgeting practices and to develop a strategy to promote needed changes in these fields. The workshop is sponsored by EPA, the U.S. Chamber of Commerce, the American Institute of Certified Public Accountants, the Institute of Management Accountants, and AACE International, which is an association for cost engineers.

Insurance and risk management

EPA is working with the American Insurance of Chartered Property and Casualty Underwriters (AICPCU) to incorporate pollution prevention into its certification program for Associates in Risk Management. AICPCU offers education and professional certification to people in the property and liability insurance field. EPA is also examining other opportunities to incorporate pollution prevention into the risk management profession and the insurance industry.

For more information

For information about DfE speakers or to obtain materials about DfE projects, contact EPA's Pollution Prevention Information Clearinghouse (PM-211A), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1023; FAX, (202) 260-0178.

New case studies are available about the successful pollution prevention efforts of a Minnesota lithographer and a Wisconsin screen printer.

New materials about integrating pollution prevention into accounting systems and capital budgeting practices are also available.

EPA Completes Study of Dry Cleaning Demonstration Project

EPA has completed a study comparing the cost and performance of dry cleaning with an alternative process that uses heat, steam, and natural soaps to clean clothes. In general, the results of the study indicate that the alternative process—called wet cleaning—is a viable option for some segments of the dry cleaning industry.

The purpose of the study was to evaluate a process that could decrease exposures to perchloroethylene, often referred to as "perc." Perc is a chemical solvent used by most dry cleaners. Dry cleaners are one of the largest groups of chemical users that come in direct contact with the public.

In November and December 1992, EPA's Design for the Environment (DfE) program and the dry cleaning industry collaborated on a demonstration in which 1,500 garments were cleaned using either the standard dry cleaning method or wet cleaning. After cleaning, both sets of clothes were pressed on the same equipment and returned to the consumer. Included with each garment was a postage-paid form for consumers to use to indicate their satisfaction with the cleaning of their garment. Consumers were not informed of which process was used to clean their clothes.

Comparisons of customer satisfaction and fabric wear found little statistical difference between the two processes, aside from a slight customer preference for the lesser odor from clothing cleaned with the wet cleaning process. Effects of the wet process over the long term were not tested and are unknown.

The total estimated costs of the wet cleaning process are slightly less than the standard dry cleaning process. Although the wet cleaning process requires more than three times the skilled labor in the cleaning phase, this cost is offset by the higher annualized costs of equipment, hazardous waste disposal, electricity, and supplies needed in the dry cleaning process.

In addition, EPA projections show that converting an existing dry cleaning plant to a facility capable of using both cleaning methods or building a new wet cleaning facility are both technically feasible and economically competitive.

For more information:

For more information about the EPA's study of the dry cleaning demonstration, call the Pollution Prevention Information Clearinghouse at (202) 260-1023.

Consideration of Alternate Synthetic Pathways Is Incorporated Into Some PMN Reviews

EPA has expanded its analysis of new chemicals to include a source-reduction review of synthetic pathways. The objective is to find ways to reduce the use of toxic feedstocks and to prevent production of toxic byproducts. This approach is in sync with the objective of the Pollution Prevention Act of 1990 to prevent pollution or reduce it at its source whenever possible.

In its assessment of a chemical's synthetic pathway, EPA uses information provided by manufacturers in premanufacture notices (PMNs). Federal law requires PMNs for new chemicals before production or marketing.

Determining which chemicals are reviewed

In assessing new chemicals for source-reduction opportunities, EPA's Office of Pollution Prevention and Toxics (OPPT) focuses on nonpolymer chemicals produced in volumes of at least 25,000 kilograms a year. Excluded from the source-reduction review are complex reaction mixtures and substances that qualify for test marketing exemptions, low-volume exemptions, and polymer exemptions. During a two-stage screening and assessment, OPPT performs the following steps:

- Determines the sources, identities, and quantities of the wastes generated during chemical syn-

thesis prior to treatment or disposal.

- Determines if any of these wastes are regulated substances or are classified as extremely toxic.
- Determines if the solvent used in synthesizing the chemical is potentially hazardous and if it is recycled.
- Assesses whether any of the byproducts generated during production are potentially hazardous.
- Determines whether the amount of any single Toxics Release Inventory chemical present in any process stream is equal to or exceeds 11,340 kilograms each year.

If specific conditions are met, the PMN chemical is sent to the next stage of assessment. During this stage, OPPT examines possible causes for the generation of hazardous wastes and ways to eliminate or significantly reduce the volume of those wastes to a level at which they no longer pose potential risks to human health or the environment.

Examples of options for reducing wastes include the use of:

- In-process recovery and recycling of the solvent.
- Recovery and recycling of unconsumed reactants.

- Purer reactants and solvents.
- More selective catalysts that create fewer byproducts or impurities.
- Lower temperatures or longer time periods to increase yields.
- more efficient separation processes to purify the new chemical.
- Alternate feedstocks or alternate synthetic pathways.

Early results

Between January 1993 and June 1993, EPA conducted a source-reduction review for about 5 percent, or 75, of the approximately 1,500 PMN chemicals reviewed. In these 75 cases, EPA's chemists specifically evaluated how synthesis of the chemical would generate pollution. They developed alternate methods of synthesis or found ways to apply new pollution-prevention technologies in a number of these cases.

EPA has notified the manufacturers of the chemicals by letter that source reduction is possible. In the letter, EPA specified its concerns on the particular chemical and the options that can be implemented to prevent pollution at its source. It is up to the manufacturer to put these options into practice since the program is completely voluntary.

New EPA Project Integrates Source Reduction into Rulemaking

EPA's new Source Reduction Review Project is laying the groundwork for building pollution prevention into rulemaking. The project is analyzing 24 proposed standards to determine how to develop regulations that will encourage industry to use source-reduction options. The 24 standards affect 17 industrial categories. (See accompanying list.)

EPA's Pollution Prevention Senior Policy Council initiated the Source Reduction Review Project after Congress passed the Pollution Prevention Act of 1990. The act directed EPA to determine how proposed regulations would affect source reduction. The term "source reduction" refers to reducing the amount of pollutants that enter a waste stream or are otherwise released into the environment prior to recycling, treatment, or disposal. The Source Reduction Review Project is scheduled to complete analysis of the 24 proposed rules in 1999.

This is not the first time that EPA has incorporated source reduction into rulemaking. It is the first time, however, that EPA has established an agencywide process for examining the entire picture before writing rules. This process includes two important factors:

- Using rigorous technical and economic analysis to compare source-reduction techniques to other controls.
- Taking into account any cross-

Standards Affect 17 Industrial Categories

The Source Reduction Review Project is analyzing source-reduction options for 24 proposed rules. The proposed rules include the air toxic standards—known as MACT standards—set by the Clean Air Act, effluent guidelines set by the Clean Water Act, and the hazardous waste listings set by the Resource Conservation and Recovery Act.

The proposed rules will affect the following 17 industrial categories:

- | | |
|---|---|
| ■ Pesticide formulating | ■ Pulp and paper production |
| ■ Pharmaceuticals production | ■ Paint Stripper Users |
| ■ Degreasing operations | ■ Polystyrene production |
| ■ Printing/publishing | ■ Rubber chemicals manufacturing |
| ■ Styrene butadiene latex and rubber production | ■ Integrated iron and steel manufacturing |
| ■ Reinforced plastic composites production | ■ Machinery manufacturing and rebuilding |
| ■ Plywood and particleboard manufacturing | ■ Paints, coatings, and manufacturing |
| ■ Acrylic fibers/modacrylic fibers | ■ Adhesives manufacturing |
| ■ Wood furniture manufacturing | ■ Paper and other webs coating |

media effects and possible impacts on the use of energy and other resources.

Review process

The project's review process consists of three steps.

1. **Conduct source-reduction analyses.** EPA identifies and evaluates source-reduction measures and other controls through industry surveys, studies, and other means of collecting data. Factors that

are considered include conformance with statutory authority, performance in all media, cost, energy requirements, and raw materials requirements.

2. **Use the analyses to develop regulations.** When consistent with its statutory mandates, EPA uses the information from its analyses to develop regulations that encourage source reduction. The analyses support development of:

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- Standards that are based on or met through source reduction (although specific source-reduction technologies would not be required)
 - Regulatory incentives for adopting source-reduction measures as an alternative means of compliance
 - Guidance materials that accompany the final rulemaking to educate permit writers and industry about the performance and cost of source-reduction measures
3. Implement the regulation. EPA will provide permit writers with training and assistance to expedite the review and approval of source-reduction measures as a means of compliance. EPA will offer targeted assistance to industry to help identify and implement source-reduction techniques that offer the most cost-effective means of compliance.

Pollution Prevention Curricula Developed for Higher Education

The National Pollution Prevention Center for Higher Education, located at the University of Michigan, was established in 1991 to help incorporate pollution prevention principles into undergraduate and graduate courses throughout the nation. The national center conducts a range of activities. However, development and dissemination of curriculum modules on pollution prevention are its first order of business. The modules can be easily integrated into existing graduate and undergraduate courses.

The center has completed and distributed curriculum modules for courses in accounting, business law, industrial and operations engineering, and chemical engineering. Near completion are modules for architecture, corporate strategy, operations management, chemistry, and environmental engineering.

Other programs

The center has organized a National Pollution Prevention Internship Program. The summer program allows qualified students to work on pollution prevention projects for different organizations. Representatives from the center also participate in conferences to spread information about pollution prevention and its place in education. This dialogue helps in distribution of pollution prevention modules to interested parties as well as in ensuring that necessary information is included in the modules.

Directory is available

A national network of university faculty involved in various aspects of pollution prevention is being used in the dissemination, development, and review of pollution prevention modules. The network is listed in a directory, developed by the University of California at Los Angeles and the National Pollution Prevention Center for Higher Education. To obtain the directory, call the center at (313) 764-1412.

OPPT Puts First-Time Integrated Report on Hold

In January 1993, EPA's Office of Pollution Prevention and Toxics (OPPT) announced it was integrating a range of information about toxic chemicals into the report *Industrial Toxics and Pollution Prevention: A National Report*. However, OPPT found integration of these data to be quite complex and decided against trying to develop a single document at this time. Individual components of the

report are available to the public in other documents. For example, the analysis of selected Toxics Release Inventory data normalized with economic data is in chapter 3 of the 1991 *Toxic Release Inventory: Public Data Release*. The document is available from the Emergency Planning and Community Right-to-Know Hotline; telephone, (800) 535-0202; for the Washington, D.C., area, (703) 412-9877;

for TDD callers, (800) 553-7672.

In addition, several case studies developed for the report were published in the July/September 1993 issue of the *EPA Journal*, which became available in October 1993. These case studies show the connections between pollution prevention and good business. The *EPA Journal* is available from EPA's Public Information Center at (202) 260-7751.

33/50 Program Achieves 1992 Reduction Goal One Year Early

Releases and transfers of 17 toxic chemicals declined by 34 percent from 1988 to 1991, meeting the interim goal of EPA's 33/50 Program a year early.

The interim goal of the program was to reduce nationwide releases and transfers of 17 chemicals by 33 percent, or about 486 million pounds, by the end of 1992. According to data reported by facilities to EPA's Toxics Release Inventory (TRI), releases and transfers of the 17 chemicals declined 501 million pounds, from 1.47 billion pounds in 1988 to 973 million pounds in 1991. (The 1991 figures provided here exclude categories of reporting that were not required in 1988.)

An analysis of the facilities' projected emissions indicate the 33/50 Program could reach its 1995 goal of a 50 percent reduction of releases and transfers by the end of 1993.

EPA began the 33/50 Program to

encourage companies to prevent pollution rather than continue to release wastes to the environment or transfer them to waste management facilities. When companies agree to participate in the 33/50 Program, they provide EPA with a commitment letter detailing their reduction targets. TRI data from 1991 show that more than 200 of the participating companies and individual facilities have met or exceeded their target reductions.

Progress reflects many levels of activity

EPA views the 33/50 Program as an umbrella under which the federal government, states, industry, and local communities work in partnership to achieve common goals. Any progress in reducing emissions reflects the efforts of all these partners.

Many states, a number of industry associations, and numerous individual companies include 33/50

Program chemicals in their reduction programs. Twenty-six states established toxics use reduction and pollution prevention programs prior to establishment of the 33/50 Program, contributing to its design. Other states have modeled their pollution prevention programs on the 33/50 Program.

For more information

- Call or write the 33/50 Program Coordinators in EPA's ten regional offices. For information about the closest regional office, call the TSCA Hotline at (202) 554-1404.
- Written communications from companies are maintained in a publicly available 33/50 Program Administrative Record. To view these communications or to obtain other information, call the 33/50 Program at (202) 260-6907 or write to it at the address on page 43.

Industry and EPA Find MERIT in Partnership to Prevent Pollution

On October 4, 1993, EPA's regional office in San Francisco announced a new partnership between industry and government to reduce the level of emissions in southwest Los Angeles County. The MERIT Partnership for Pollution Prevention emphasizes multimedia prevention and the mutual goals of economic and environ-

mental well-being. MERIT is an acronym for Mutual Efforts to Reduce Industrial Toxics.

The ultimate goal of the MERIT partnership is to develop a pollution prevention technology enterprise zone in southwest Los Angeles County. This zone would foster innovative methods for reducing releases to the environment.

Carl O. Weisinger, of Dow Chemical Company, is co-chairing the MERIT Partnership with Dan Reich, of EPA. About 16 companies, representing a cross-section of manufacturing industries, have joined the partnership, as have representatives from federal facilities in the area and from state, regional, and local agencies.

EPA Developing Four Rules on Lead-Based Paint

EPA is developing four rules to meet the requirements of the Residential Lead-based Paint Hazard Reduction Act of 1993. A summary of these rules follows.

Training, accreditation, and contractor certification

In July 1993, EPA submitted to agency review a proposed rule that would:

- Require that people who engage in lead-based paint activities are properly trained, that training programs are accredited, and that contractors are certified.
- Set standards for performing lead-abatement activities.
- Establish a model state program for accrediting and training lead-abatement professionals in accordance with federal standards.
- Establish a federal program for accrediting and training lead-abatement professionals in states that do not set up their own programs.
- Provide grants to states to carry out authorized accreditation and training programs.

By law, EPA must publish the final rule in the *Federal Register* by April 28, 1994.

Identification of dangerous levels of lead

EPA is developing a rule to identify lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil.

To develop lead standards for the rule, EPA is relying on the integrated exposure uptake biokinetic model, which estimates blood lead levels for people exposed to different environmental sources of lead.

Final rules for lead-based paint will be published by EPA in 1994.

The agency is now documenting the model, using blood lead studies for validation, and is performing independent review of epidemiological studies. EPA anticipates that the proposed rule will go to EPA's Office Directors' Lead Committee for review in December 1993.

The proposed rule would:

- Identify hazardous conditions for lead-based paint—for instance, paint in deteriorated condition, paint on surfaces accessible to children, or paint that is exposed to friction or high impacts.
- Develop health-based standards for determining hazardous levels of lead in dust and soil.

By law, EPA must publish the final rule in the *Federal Register* by April 28, 1994.

Renovation information

In August 1993, EPA submitted to agency review a proposed rule that would require renovators and remodelers to furnish customers with a copy of an EPA brochure about lead hazards before starting work. By law, EPA must publish the final rule in the *Federal Register* by October 28, 1994.

Disclosure of lead-based paint hazards to home-buyers and renters

In August 1993, EPA submitted to agency review a proposed rule that would:

- Require that people selling or leasing housing disclose all known lead-based paint hazards to homebuyers and renters.
- Require that people selling or leasing housing provide to homebuyers and renters EPA's pamphlet describing lead-based paint hazards.
- Allow homebuyers 10 days in which to obtain a lead inspection.
- Require the purchasing contract for a home to contain a warning that the property may contain lead-based paint.

By law, EPA must publish the final rule in the *Federal Register* by October 28, 1994.

Lead Legislation Gets Attention on Capitol Hill

Congress is expected to consider new lead legislation this session, some of which would expand the requirements of the Residential Lead-based Paint Hazard Reduction Act of 1993. As this article went to print in September 1993, Senator Harry Reid (D-NV), Senator Bill Bradley (D-NJ), and Representative Ben Cardin (D-MD) had introduced key lead bills.

Senate activity

Senator Reid's bill (S. 729) requires EPA to promulgate restrictions on the lead content of certain products such as industrial paint and children's toys. S. 729 would also require states to inspect schools and daycare centers for lead hazards, using grant funding to be distributed by EPA.

Senator Reid is not new to lead legislation. Over the last few years, he has introduced a number of lead bills. An element common to each of the bills, including S. 729, is an inventory of lead uses that EPA would be required to compile and update periodically. This inventory provision has faced strong opposition from industry. Another element of Senator Reid's bills in the past was training requirements for those conducting lead-based paint abatement activities. These training provisions were worked into the lead bill that passed last year and are being implemented by EPA. While the schools and daycare provisions are new to the Reid bill this year, Congressmen Henry Waxman (D-CA) and Al Swift (D-WA) included them in lead legis-

lation last year. Several committees acted on the legislation, but it never saw action on the House floor. As of September 1993, no lead bills similar to the Reid bill had been introduced in the House.

On June 29, the Toxic Substances Research and Development Subcommittee of the Senate Environment and Public Works Committee held a hearing on S. 729. Senator Reid chairs the subcommittee. Victor Kimm, acting assistant administrator for EPA's Office of Prevention, Pesticides and Toxic Substances, testified for EPA. Also testifying were representatives from the National PTA, the Alliance to End Childhood Lead Poisoning, the National School Boards Association, and the Lead Industries Association, among others.

Senator Bradley's lead bill was introduced earlier in the summer and has not seen any activity. The bill is very similar to Representative Cardin's bill, which is described in the next section.

House activity

The lead bill introduced by Representative Cardin has strong support from the environmental community. Representative Cardin's bill (H.R. 2479) would create a lead-abatement trust fund by levying an excise tax on lead and lead-containing products. The Department of Housing and Urban Development would allocate money from the trust fund to public organizations in urban areas to conduct inspections and abate-

ments of lead hazards. Representative Cardin introduced a bill with the same concept last year. The Bush Administration, represented by the Department of the Treasury and the Department of the Interior, opposed the bill at a hearing in the summer of 1992 before a subcommittee of the House Ways and Means Committee.

For more information

To obtain more information on activity surrounding these lead bills, call Ruth Heikkinen, of OPPT's Environmental Assistance Division, at (202) 260-1803.

Pamphlet on Lead Hazards Being Prepared

EPA expects to distribute more than 25 million copies a year of a pamphlet for homeowners and tenants about lead risks in housing and how to assess and avoid those risks. The pamphlet is being prepared by EPA, in cooperation with the Department of Housing and Urban Development and the Department of Health and Human Services.

The Residential Lead-based Paint Hazard Reduction Act of 1993 directed that the pamphlet be published and distributed. The pamphlet will be ready for distribution in October 1994.

OPPT Begins 'Check Our Kids for Lead' Program

Employee Program To Serve as Public, Private Model

By Joseph J. Breen, Sineta Wooten, and Cindy Stroup
Office of Pollution Prevention and Toxics

In the Office of Pollution Prevention and Toxics (OPPT), we have had many reasons to feel good about our activities to protect children from lead poisoning. These good feelings were bruised a bit, however, when staff members attending a national conference on lead poisoning in children overheard some comments to this effect: "All these government people ever talk about are their programs and statistics. What does it mean to my sister that 200,000 children are at risk? She wants to know about her boy."

When we returned from the conference, these comments prompted us to question how much our colleagues knew about preventing or reducing their children's exposures to lead. We decided to encourage all OPPT personnel with children under the age of 7—which is when children are at increased risk—to have them screened for lead poisoning.

OPPT management wholeheartedly supported the idea of a *Check Our Kids for Lead Program*. *Check Our Kids for Lead* brings a strong personal element into OPPT's strategy to reduce lead poisoning and serves as a model for business and government. In developing the program, we were helped by EPA's strong volunteer spirit and the special technical talents found in OPPT.

The *Check Our Kids for Lead* workgroup obtained support for the program from EPA's Office of Human Relations and Management, EPA's

Office of Safety and Health, and the labor unions. EPA's Safety, Health and Environmental Management Division was already considering a staff educational program on childhood lead poisoning. The division welcomed the idea of OPPT piloting a lead screening and education program.

The primary goals of *Check Our Kids for Lead* are to educate OPPT staff on lead exposure issues and to encourage OPPT employees to have their children's blood lead levels tested. Once the program is successfully piloted, we would like to make it available to other offices at EPA headquarters, EPA regional offices, other federal agencies, and the private sector. Toward that end, we are developing an education program that can be packaged and provided to other groups.

Some of the components of *Check Our Kids for Lead* that we have developed and implemented are described below.

- A baby card to celebrate the birth of a child in an OPPT family was designed by an OPPT staff member. The card welcomes the new arrival and includes a copy of the EPA brochure *Lead Poisoning and Your Children*. The baby card comes in pink or blue.
- A brochure listing blood lead screening laboratories that service Washington, D.C., and its surrounding areas in Maryland and

Virginia was produced.

- An information package about lead poisoning and how to minimize exposures was distributed to every OPPT staff member. The package included a cover memorandum signed by the OPPT deputy director and the presidents of the National Federation of Federal Employees, Local 2050, and American Federation of Government Employees, Local 3331.
- Public outreach activities have included a presentation to Leadership Washington, a group of public and private sector executives working to support the Washington, D.C., community; a lead awareness seminar for EPA employees; distribution of the information packages at EPA's Wellness Fair; and participation in the Public and Community Health Program of the Howard University College of Nursing.
- Discussions have been held with private sector institutes and corporations to develop *Check Our Kids for Lead* programs as part of their employee health care and wellness programs.

For more information

To obtain OPPT's *Check Our Kids for Lead* information packet, call Sineta Wooten, of OPPT's Chemical Management Division, at (202) 260-3888 or write to her at the address on page 43.

Lead Activities at the State Level Are Growing

Since Congress passed the Residential Lead-based Paint Hazard Reduction Act in 1992, states have increased their activities to reduce lead exposures. During the 1993 legislative sessions, 12 states introduced comprehensive bills relating to reduction of lead hazards. Four of these bills passed, five failed, and three others are pending.

Most of the state legislation

includes development of certification programs for lead-abatement professionals. In the Residential Lead-based Paint Hazard Reduction Act, Congress set aside funds for states to use for developing these programs.

Before the Residential Lead-based Paint Reduction Act was passed, eight states already had laws aimed at preventing lead poisoning: Cali-

fornia, Connecticut, Illinois, Maine, Maryland, Massachusetts, Minnesota, and Rhode Island.

Since passage of the act, four states have passed similar laws: Louisiana, Missouri, New Hampshire, and Vermont. Legislation is pending in New Jersey, Ohio, and Wisconsin.

The chart on this page identifies the basic elements of each state's lead-hazard reduction laws.

State Lead Hazard Reduction Statutes: September 1993

	Lead screening required	Lead poisoning must be reported to state	Abatement standards required	Training, certification, and accreditation required for abatement professionals	Disclosure of lead hazards in real estate transactions required	Public information and education required	Lead Task Force Required
AL		•				•	
AK		•					
AZ		•					•
AR	•		•				
CA	•	•	•	•	•	•	
CO		•					
CT	•	•	•	•		•	•
DE		•	•				
FL		•					
GA							•
HI		•					
ID		•					
IL	•	•	•	•		•	
IN		•					
IA		•	•				
KS		•					
KY	•	•	•			•	
LA		•	•	•		•	
ME	•	•	•	•		•	

State Lead Hazard Reduction Statutes: September 1993, cont'd.

	Lead screening required	Lead poisoning must be reported to state	Abatement standards required	Training, certification, and accreditation required for abatement professionals	Disclosure of lead hazards in real estate transactions required	Public information and education required	Lead Task Force Required
MD	•	•	•	•		•	•
MA	•	•	•	•	•	•	•
MN	•	•					
MI		•	•	•		•	
MS							
MO	•	•	•	•		•	•
MT							
NE							
NV							
NH	•	•	•	•	•	•	
NJ	•	•	•			•	
NM		•					•
NY		•	•				
NC	•	•	•			•	
ND		•					
OH		•					
OK		•					
OR		•					
PA		•					
RI	•	•	•	•	•	•	
SC	•	•	•				
SD							
TN							
TX		•					
UT		•					
VT	•	•	•	•	•	•	
VA							•
WA		•					
WV							
WI		•	•				
WY							

Lead Update

Clearinghouse Provides Technical Information about Lead

The U.S. government has a clearinghouse to provide federal publications, selected journal articles, and other technical information on lead. The clearinghouse is staffed by trained information specialists who can answer specific questions on lead-related issues. The clearinghouse serves interested citizens; people in the medical, health care, and public health fields; people in the housing construction and residential renovation sectors; people in the retail, financial, real estate, and insurance sectors; the news media; and public agencies at the federal, state, and local levels.

The telephone number for the National Lead Information Clearinghouse is (800) 424-LEAD (424-5323). In the Washington, D.C., metropolitan area, the number for the clearinghouse is (202) 833-1071. Hearing-impaired persons can reach the clearinghouse by calling TDD number (800) 526-5456; the TDD number for the Washington, D.C., area is (202) 293-0113.

U.S. Attends OECD Meetings on Chemicals

The Organization for Economic Cooperation and Development (OECD) held a series of meetings concerning chemicals the week of May 23, 1993. Representatives from the United States and the 23 other OECD member nations attended the meetings, which took place in Paris. Summaries of the meetings are below.

SIDS update

The nations that participate in OECD's Screening Information Data Set (SIDS) program agreed to update and expand the list of chemicals for which it is developing test data. Among the chemicals that will be considered are those on the European Community's list of existing chemicals that are produced or imported in excess of 1,000 tons each year. The European Community is using the list to identify chemicals of concern.

The SIDS program is an effort to develop a base set of test data for existing chemicals produced in the largest quantities worldwide. In 1990, the SIDS program identified for initial action 154 chemicals that are produced in large quantities worldwide. Since then, the SIDS program has worked with industry in its 24 member nations to voluntarily test the chemicals for toxicity potential. Prior to this effort, few test data were available publicly on these substances.

EPA's Office of Pollution Preven-

tion and Toxics (OPPT) represented the United States at the meeting. Also in attendance were representatives from the European Community, Mexico, the International Registry of Potentially Toxic Chemicals, and the Business and Industry Advisory Committee.

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A meeting was held in September 1993 to determine testing needs for the 58 chemicals in Phase 3 of the SIDS program. In the future, only those chemicals identified as needing discussion will be put on the agenda for SIDS review meetings. Other reviews will be conducted through written communications.

Risk reduction pilot project

The risk reduction pilot project is

exploring how to reduce the risks from exposure to lead, mercury, cadmium, methylene chloride, and brominated flame retardants. Each participating nation is developing a monograph that explains how it regulates each chemical. The monographs will be analyzed to identify risk reduction activities for the nations to act on, either individually or collectively.

Lead is the first chemical to undergo this process. The monograph was recently completed and member nations are developing collective activities for implementation. These activities will be incorporated into the OECD Council Lead Act. Drafting of the act will begin in November 1993.

Harmonization

The OECD renewed the mandate for the Good Laboratory Practice Panel and endorsed a document clarifying procedures for developing test guidelines that meet OECD harmonization standards. The United States and European Community nations are analyzing how each nation's industry will be affected economically by harmonization of health effects classifications. The OECD's long-term plans include harmonizing the classification of reproductive effects and carcinogenicity.

New chemicals assessments

The United States and Canada are conducting a pilot study on the feasibility of exchanging new chemicals assessments. The Australian delegation reported on the

results of a survey they conducted on new chemicals assessment programs. The study shows that nations agree on the need for increased exchange of assessments and notes existing barriers may prevent more sharing.

Intergovernmental forum on chemical safety

The Swedish delegation hosted an informal meeting to prepare for the first session of the Intergovernmental Forum on Chemical Safety, scheduled for April 1994. The forum will oversee implementation of the toxic chemicals program areas identified in UNCED Agenda 21, chapter 19. The program areas are risk assessment, risk reduction, information exchange, strengthening national capabilities for managing chemicals, and standardizing the way chemicals are classified and labeled.

At the meeting, the United States emphasized the need to move toward organizing risk-reduction activities around specific process or use patterns rather than on a chemical-by-chemical basis. This approach would allow risk comparisons, which helps assessors to identify safer products and processes that can prevent pollution. The United States also advocated that developing countries build their capacity for chemicals management by first implementing low-cost, high-benefit programs and moving to more sophisticated programs as resources permit.

Nations' Biotechnology Regulations Are Surveyed

In a survey of its member nations, the Organization for Economic Cooperation and Development found many similarities among the nations' biotechnology regulations. The results of the survey were reported in the Workshop on the Environmental Aspects of Biotechnology held in Brussels on May 3 and 4, 1993. A second workshop is scheduled for May 1994.

OECD Forms International Pesticide Forum

In June 1993, the OECD established a forum to support efforts to harmonize requirements for pesticide licensing programs. The new Environment Pesticide Forum will work on test guidelines, data requirements, hazard/risk assessment, re-registration, information exchange, risk reduction, and harmonization of classification systems. Forum members agreed that whenever its work overlapped with work being done by OECD's ongoing chemical program, the two programs would integrate their efforts. Two areas in which this is likely to occur are development of test guidelines and harmonization of classification systems.

EPA and Environment Canada Address Bioremediation Risk Assessment

A workshop on risk assessment issues related to use of bioremediation to clean up hazardous waste sites in the United States and Canada was held June 17 to June 18 in Duluth, Minnesota. The workshop was attended by about 90 people, representing universities, industries, federal organizations, and state and provincial governments in both nations.

The workshop targeted 10 groups of biodegradable wastes commonly found at U.S. and Canadian sites, including trichlorethylene (TCE), polychlorinated biphenyls (PCBs), and munitions. It was sponsored by Environment Canada's Commercial Chemicals Branch and two EPA offices—the Office of Pollution Prevention and Toxics (OPPT) and the Office of Research and Development (ORD).

At the workshop, a private firm, Southern Bioproducts, gave a detailed presentation on its proposal to test the TCE-degrading capabilities of a strain of *Pseudomonas cepacia* at a Canadian site. The test would involve the first North American release of a recombinant bacterium for on-site cleanup. The U.S. Department of Defense's laboratory at Fort Detrick, Maryland, also gave a presentation on a set of biological assays for toxicity screening of remediation site effluents.

Workshop participants received a detailed issue paper, prepared by

the University of Tennessee and EPA, summarizing the available literature in five areas:

- risk assessment schemes
- major metabolic pathways of selected hazardous pollutants
- human health protocols for metabolite and pathogenicity tests
- ecological effects protocols for metabolite and pathogenicity tests
- fate protocols and issues for microorganisms and metabolites

The workgroups' key findings and recommendations in these areas will be considered by EPA and Environment Canada as they continue to develop guidance for bioremediation product evaluations.

Summary of key findings

Risk assessment schemes. The risk assessment workgroup developed a general flow diagram for health and environmental risk assessment relevant to bioremediation sites. Information on microorganisms, site pollutants and their physical and chemical properties, and general site characteristics were identified as necessary components of a risk assessment. Participants recommended that laboratory and/or greenhouse efficacy studies (such as mass balance or other microcosm tests) and information on metabolic pathways also could be useful for identifying metabolites and assess-

ing metabolite toxicity.

Metabolic pathways. The goal of this workgroup was to determine the combinations of pollutants, pathways, and environmental factors that lead to generation of significant quantities of hazardous metabolites. The group concluded that the intermediates for some compounds (such as aromatics) and specific organisms are predictable given certain site information. Often, however, the presence of complex mixtures complicates the process. For metabolites of known structure, quantitative structure-activity analysis techniques can be useful in predicting toxicity. The workgroup discussed specific metabolites of concern for metals, aromatic hydrocarbons, phenolics, halogenated organic compounds, alkanes, pesticides, sulfur- and nitrogen-containing heterocyclics, complex mixtures, and munitions.

Human health protocols. This workgroup determined that metabolite toxicity should be tested separately from pathogenicity and toxin production. Participants acknowledged that reliable tests already exist for assessing metabolite toxicity but that techniques for extraction of chemicals sorbed to sediments need further development. Exposure routes for microorganisms depend on the specific bioremediation process, but pathogenicity tests might need to consider oral, intravenous or intraperitoneal, and pulmonary exposures

when the microorganism is unknown. When some information is available, rapid screening tests, such as gene probes, are needed. The group also recommended further research on the allergenicity effects of microbial antigens, and their effects when combined with chemicals at a site. The group also developed a decision tree for tiered mammalian health effects.

Ecological effects. Like the human health workgroup, the ecological effects workgroup also concluded that metabolite toxicity and pathogenicity should be addressed using separate tests, with pathogenicity tests dependent on the availability taxonomic information. The decision tree developed by the workgroup began with tests for pathogenicity, followed by single species tests with both positive and negative controls. For pathogenicity testing, the workgroup recommended using, for aquatic vertebrates and mammals, EPA Pesticides Program's Subdivision M tests and, for plants, *in vitro* screening tests, such as enzyme tests.

For toxicity testing, the group concluded that protocols such as EPA's Office of Water's short-term chronic tests would be appropriate, but that tests for terrestrial organisms might need refinement. The decision tree also included the selection of toxicity tests based on exposure and ecosystem tests, where applicable.

Fate protocols and issues. This workgroup felt that the microcosms currently used for efficacy studies

are simplistic relative to field conditions. Participants recommended the following test endpoints for risk assessments: mass balance for parent compounds, accumulated metabolites, and gaseous end products; persistence; and residual density of organisms mediating the bioremediation process. The workgroup also identified site information critical to determinations of chemical and microbial fate and transport. The workgroup examined the applicability of some mathematical models to determining metabolite and bacterial/fungal fate and transport in the subsurface, and found them inadequate for risk assessment. Items recommended for inclusion in risk assessment models were microorganism growth and death rates, dissemination and transport, persistence of boundary values such as lower survival levels of degradative organisms, sensitivity analysis, potential for formation and exposure, contaminant strategy under site conditions, potential for genetic exchange, predation rate quantitation, and net metabolite formation and decay.

For more information

Workshop findings will be detailed in an ORD report that will be available in early 1994. For more information, call Philip Sayre, OPPT's Health and Environmental Review Division, telephone, (202) 260-9570, or write to him at the address on page 43. Or, call Terry McIntyre, of Environment Canada, at (819) 953-6684.

Biotechnology Workshop Scheduled for January

A workshop to develop ecological tier testing schemes for microorganisms used in biotechnology applications will be held January 11 through 13, 1993, in Washington, D.C.

The applications on which the workshop will focus are bioremediation, biomining, mineral leaching, coal transformations, desulfurization of petroleum products, oil recovery, biomass conversion, fuel production, waste treatment, nitrogen fixation, and closed system fermentation.

Key findings and recommendations from the workshop will be considered by EPA and Environment Canada as the agencies develop guidance for using microorganisms in these applications for the United States and Canada, respectively.

The workshop is jointly sponsored by EPA's Office of Pollution Prevention and Toxics, EPA's Office of Research and Development, and the Commercial Chemicals Branch of Environment Canada.

For information about attending the workshop

To arrange to attend the conference, call Lou Borghi, telephone, (703) 934-3255 or Jennifer Welham, telephone, (703) 218-2639, at Clement International Corporation.

Roundup: Enforcement Activity

■ In a brief supporting its petition for review before the U.S. Court of Appeals for the District of Columbia Circuit, the Minnesota Mining and Manufacturing (3M) Company argued that the federal five-year statute of limitations should apply to assessment of civil penalties under the Toxic Substances Control Act (TSCA). Last year, EPA's Environmental Appeals Board upheld a 1988 administrative law judge's decision against the 3M Company for importing chemicals not on the TSCA Inventory and for incorrect import certification between 1980 and 1986. The 3M Company is headquartered in Minneapolis, Minnesota.

■ Hall-Kimbrell Environmental Services and EPA have signed consent agreements to settle cases brought by four EPA regional offices. The cases resolved the issue of whether drywall and hard plaster are suspect materials under the Asbestos Hazard Emergency Response Act (AHERA). Under the consent agreements in EPA regions 2, 7, 8, and 9, Hall-Kimbrell, an asbestos contractor, will pay penalties amounting to \$285,000. In EPA regions 7 and 8, Hall-Kimbrell will also send to every school district for

which it prepared an asbestos management plan a letter stating that EPA instructs the district to assume that any drywall and hard plaster in schools contain asbestos. EPA acknowledged in the agreements for regions 2 and 7 that Hall-Kimbrell had voluntarily re-performed \$5 million of work in schools. Hall-Kimbrell is based in Lawrence, Kansas. EPA's region 2 office is in New York, New York; the region 7 office is in Kansas City, Kansas; the region 8 office is in Denver, Colorado; and the region 9 office is in San Francisco.

■ EPA and the Ciba-Geigy Company have entered into a consent agreement that requires Ciba-Geigy to pay a civil penalty of \$62,000 and to perform an audit to ensure compliance with EPA regulations. Penalties stipulated as a result of this voluntary audit cannot exceed \$1 million. EPA filed suit against Ciba-Geigy and 21 other companies for failing to submit pre-manufacture notices (PMNs) before manufacturing or importing new chemical substances, as required by section 5 of the Toxic Substances Control Act (TSCA). The Ciba-Geigy case was the first of these cases to be settled.

Schools Awarded \$76.2 Million for Asbestos Abatement

EPA has awarded \$76.2 million in grants and loans to schools for use in abating asbestos. The funds were offered to public school districts and private nonprofit schools for abatement projects in 239 schools. More than 400 local education agencies had applied for the funds.

The awards consist of about \$5.7 million in grants and \$70.5 million in interest-free loans. They constitute the largest appropriation in the history of EPA's asbestos abatement program, established by the Asbestos School Hazard Abatement Act (ASHAA).

The schools that were offered awards met two conditions: They demonstrated financial need, and they contained asbestos posing a high degree of hazard. ASHAA directs EPA to rank each school's proposed projects according to the type of asbestos-containing building materials in the school and the materials' condition.

Since 1985, EPA has provided \$422 million to 2,377 schools for asbestos abatement. EPA estimates these abatement projects, once completed, will eliminate 28 million exposure hours per week.

Public school districts and private nonprofit schools will be notified if Congress appropriates funds for awards in fiscal 1994.

Availability of 8(e) Notices and FYI Submissions

Under section 8(e) of the Toxic Substances Control Act (TSCA), anyone who obtains information that indicates a chemical may pose a substantial risk of injury to human health or to the environment must report that information to EPA within 15 working days of obtaining it.

From October 1, 1991, to August 27, 1993, more than 7,900 TSCA section 8(e) notices were submitted to EPA's Office of Pollution Prevention and Toxics (OPPT). The majority of these were submitted by companies participating in EPA's Compliance Audit Program (CAP), which provides reduced penalties for companies submitting late studies.

FYI submissions

EPA received 10 For Your Information (FYI) submissions from April 1, 1993, to August 31, 1993. FYIs are voluntary submissions and may include data on chemical toxicity and exposure, epidemiology, monitoring, and environmental fate.

How to obtain 8(e) notices and FYI submissions

- Section 8(e) and FYI submissions can be reviewed and photocopied at EPA headquarters, in the TSCA Non-Confidential Information Center, telephone (202) 260-7099 or (202) 260-0660.

- A copy of a full section 8(e) or FYI submission can be obtained by writing to Freedom of Information Office (A101), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. Duplication of the first 166 pages of any document is free. At the 167th page, there is a \$25 fee and an additional \$0.15 charge for each page.
- Chronological indices of section 8(e) and FYI notices are available from the TSCA Hotline two to three months after the end of each fiscal quarter. The fiscal quarters end on September 30, December 31, March 31, and June 30. Information on contacting the hotline is on page 43.

Overview of TSCA Section 8(e) Notices

October 1, 1991 to August 27, 1993

Total number received	7,965
Number entering initial screening	5,958
Number completing initial screening	4,984
Hazard concern	
Low	1,358
Medium	1,863
High	1,763
Number on TSCA Inventory*	2,818

* Once a CAP submission enters initial screening, OPPT determines whether the chemical substance is listed on the TSCA Inventory. Thus, the numbers in this column do not include submissions that have not entered screening.

New Databases Available to the Public

The Office of Pollution Prevention and Toxics is making available the Toxic Substances Control Act (TSCA) section 8(e) database and the TSCA section 4 abstracts database.

Section 8(e) of TSCA requires manufacturers, importers, and distributors of chemical substances and mixtures to inform EPA of risk of injury to human health or the environment. The TSCA section 8(e) database contains the ranking system that EPA uses to prioritize section 8(e) submissions by toxicity concern.

Section 4 of TSCA requires industry to submit to EPA unpublished testing data on the health and environmental effects of specific chemicals. This database contains abstracted summaries of the full studies submitted under section 4.

Both databases can be used as pointer systems to access full studies of interest to users. For copies of the databases, please call the TSCA Hotline at (202) 554-1404.

TSCA Hotline: Question & Answer

Q: What are my responsibilities for providing updates to the TSCA inventory data base?

A: The Toxic Substances Control Act (TSCA) Chemical Substances Inventory is a comprehensive list of chemical substances that can legally be manufactured in the United States or imported. Every four years, EPA requires companies to report certain information to update the TSCA inventory. You will be required to report in 1994 if you import or manufacture 10,000 pounds or more of a reportable substance at any single site during the last fiscal year completed prior to the reporting period. The reporting period begins August 25, 1994, and runs to December 23, 1994.

All substances on the TSCA inventory are subject to the rule's reporting requirements, with the exception of polymers, inorganic substances, microorganisms, and naturally occurring substances. Substances in these excluded categories are reportable, however, if they are subject to proposed or

final rules under sections 4, 5(b), 5(e), 6 of TSCA, or if they are the subject of relief granted under a civil action under sections 5 or 7 of TSCA.

Exemptions from reporting

Exempted from reporting are certain small businesses and those that manufacture or import under limited circumstances (such as, nonisolated intermediates or small quantities of a substance for research and development).

Also exempted from reporting is anyone who has already submitted the information required for the inventory update to EPA under section 8(a) of TSCA. To qualify for this exemption during the next reporting period, the information would have to be submitted on or after August 25, 1993.

To submit information for the update

Information for the update must be reported on an original copy of Form U or by magnetic media. Complete instructions for completing the reporting form or

preparing a magnetic media report are in the booklet *Instructions for Reporting for the Partial Updating of the TSCA Chemical Inventory Data Base*.

Reporting forms and the instruction booklet for the 1994 reporting year will be available from the TSCA Hotline; telephone, (202) 554-1404. Anyone who reported for the last reporting period will automatically be mailed reporting materials.

Late reporting. The last reporting period began August 23, 1990, and was extended to February 21, 1991. If you were required to submit information for that period and did not do so, call Scott Sherlock, of OPPT's Information Management Division, at (202) 260-1536.

For more information

For more information about the Partial Updating of the TSCA Chemical Inventory Data Base, see 40 CFR 710.25 to 710.39.

IRIS Is Accessible to the Public

The Integrated Risk Information System (IRIS) is an EPA database containing health effects information and regulatory information on about 400 chemical substances. The database is accessible to the public

through the National Library of Medicine's Toxicology Data Network. Diskettes containing the database can be purchased from National Technical Information Service (NTIS) (order number

PB91-591331). For more information, call the National Library of Medicine at (301) 496-6531; the NTIS at (703) 487-4650; or IRIS User Support at (513) 569-7254.

Send All Correspondence to

Environmental Assistance Division (7408)
Office of Pollution Prevention and Toxics
U.S. EPA
401 M Street, S.W.
Washington, D.C. 20460

Would You Like to Receive the *Chemicals-in-Progress Bulletin*?

The *Chemicals-in-Progress Bulletin* is published by EPA's Office of Pollution Prevention and Toxics. If you are not currently receiving the *Bulletin* and would like to become a subscriber, or if you would like to stop receiving the *Bulletin*, please fill out this form or tape a mailing label onto it, and mail it to the address on this page.

- ☐ Please add my name to the mailing list.
- ☐ Please change my address.
- ☐ Please take my name off the mailing list.
- ☐ Please send me the following publication(s):

Name Title

Company or Organization Name Type of Business

Street Address

City State Zip Code

TSCA Hotline: Call (202) 554-1404

The TSCA Hotline operates Monday through Friday, from 8:30 a.m. to 5 p.m., Eastern time. To speak to an information specialist, call (202) 554-1404. FAX requests for documents are received every day, at all times, on (202) 554-5603. Documents can also be requested by deaf persons who have TDD equipment by calling (202) 554-0551.

To request assistance by mail, write to the Environmental Assistance Division at the address at the left.

Lead Hotline: Call (800) LEAD-FYI

Parents can obtain information about protecting their children from lead poisoning by calling the National Lead Information Center Hotline at (800) LEAD-FYI (532-3394). The hotline operates 24 hours a day, seven days a week, in English and in Spanish.

The line is answered by a recording that asks callers to leave their name and address. Callers are then sent information on reducing children's exposure to lead, testing a home for lead, getting blood-lead levels tested, and the possible lead hazards generated by home repairs and renovations. A list of state and local agencies that can provide additional information is also included. Materials are available in English or Spanish.