GUIDANCE FOR THE REREGISTRATION OF MANUFACTURING-USE AND CERTAIN END-USE PESTICIDE PRODUCTS

CONTAINING

CYANAZINE
(100101)

CASE NUMBER 066

ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF PESTICIDE PROGRAMS

WASHINGTON, D. C. 20460

December 1984

TABLE OF CONTENTS

APPENDICES

INTRODUCTION

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA sec. 3(g), as amended in 1978, directs EPA to reregister all pesticides as expeditiously as possible. Each registrant of a manufacturing use product of the active ingredient who wishes to continue to sell or distribute that product must apply for reregistration.

To carry out this task, we have established the Registration Standards program, which will review all pesticide active ingredients first registered before January 1, 1977. These pesticides will be reviewed in use clusters which are prioritized on the basis of a ranking scheme giving preference to pesticides used on food and feed crops.

The Registration Standards program involves a thorough review of the scientific data base underlying pesticide registrations and an identification of essential but missing studies which may not have been required when the product was initially registered or studies that are now considered insufficient. Our reassessment results in the development of a regulatory position, contained in this document, on each pesticide and its uses. Based on the regulatory position, the Agency may require the registrant to modify product labels to provide additional precautionary statements, restrict the use of the pesticide to certified applicators, provide reentry intervals, modify uses or formulation types, specify certain packaging limitations, or other requirements to assure that proper use of the pesticide poses no potential adverse effects to human health or the environment.

The scientific review, which is not contained in this Guidance Package but is available upon request, concentrates on the technical grade of the active ingredient and identifies missing generic data. However, during the review of these data we are also looking for potential hazards that may be associated with the formulated (end use) products that contain the active ingredient. If we find serious concerns, we will bring formulated products under the provisions of the Registration Standards program to the extent necessary to protect the public.

EPA has the authority under FIFRA §3(c)(2)(B) to require that registrants submit data that will answer our questions regarding the hazard that may result from the intended use of the pesticide under review. Further, §3(c)(2)(B) provides that these data are to be submitted by those registrants who do not qualify for the formulator's exemption [FIFRA §3(c)(2)(D)]. Normally, this means that the registrants who are responsible for filling the data gaps are the manufacturing use product producers (basic suppliers of the active ingredient). However, end use producers will not qualify for the formulator's exemption if the source of their active ingredient: (1) is

not registered with EPA, and/or (2) is produced by the registrant's firm, or a firm which has ownership in common with the registrant's firm. These end use producers can qualify for the formulator's exemption if they change their source of supply to a registered source, provided the source does not share ownership in common with the registrant's firm. If the end use product registrant decides to switch sources, a new Confidential Statement of Formula, EPA Form 8570-4, must be submitted to the appropriate Product Manager within 90 days of receipt of this Guidance Document. The chart on the following page shows what is generally required of those who do and do not qualify for the formulator's exemption in the Registration Standards program.

If you decide to request the Agency to cancel the registration of any of your products subject to the reregistration requirements of this Guidance Document, please notify the Product Manager named in the cover letter, within 90 days from the receipt of this document, that you wish to voluntarily cancel the registration(s). If you decide to maintain your product registration(s), you must provide the information described in the following pages within the timeframes outlined. EPA will issue a notice of intent to cancel or suspend the registration of any currently registered product if you fail to comply with the requirements set forth in this Guidance Document.

You are reminded that FIFRA sec. 6(a)(2) requires you at any time to submit factual information raising concerns of possible unreasonable adverse effects of a pesticide. You should notify the Agency of interim results of studies in progress if those results show possible adverse effects.

PRODUCTS SUBJECT TO THE REGISTRATION STANDARDS PROGRAM	ACTION(S) REQUIRED TO MAINTAIN REGISTRATION
I. Products That Do Not Qualify For The Formulator's Exemption	
A. Single Active Ingredient Products*	These products must be reregistered. To obtain reregistration, labeling, packaging and data requirements must be satisfied in accordance with the Registration Standards Guidance Document.
B. Multiple Active Ingredient Products	These products will not be reregistered at this time. However, generic data required to continue the registration of the active ingredient under review, as described in the Registration Standards Guidance Document, will be required and some labeling precautions may also be required.
II. Products That Do Qualify For The Formulator's Exemption	Only when additional restrictions or labeling are needed to protect man or the environment will these products be subject to the Registration Standard requirements. Affected products will be dealt with in a variety of ways, including but not limited to the Label Improvement Program and special intent to cancel notices.

* End use products of registrants who also produce a manufacturing use product will not be required to be reregistered provided that registrant fulfills the requirements specified in the Guidance Document for manufacturing use product(s). Such end use products will be subject to the labeling changes required for products in "II" above. If there are no manufacturing use products registered by any company end use products will be required to be reregistered.

NOTE: If all registrants in "I" above fail to meet the requirements in I-A and B above, then the registrants in "II" lose their right to qualify for the formulator's exemption and become subject to the requirements in I-A and B.

I. Regulatory Position and Rationale

A. Introduction

This Chapter describes the regulatory position of the Environmental Protection Agency, (the Agency), on all manufacturing-use products (MPs) containing the herbicide cyanazine as the sole active ingredient. The Agency's position is based on an evaluation of all registered uses and products containing cyanazine. This document also considers labeling requirements, tolerances, "Special Local Needs" (registrations authorized by Section 24(c) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)), as well as Federal registrations granted or pending under Section 3 of the FIFRA. In addition, this document sets forth the data requirements that must be met to register MPs covered by this Standard.

In developing its regulatory position, the Agency determines whether available data indicate that a pesticide has met or exceeded the risk criteria found in Section 162.11(a) of Title 40 of the U.S. Code of Federal Regulations (CFR). Pesticides meeting these criteria are candidates for a Special Review, an intensive risk/benefit analysis which is a modification of the Rebuttable Presumption Against Registration (RPAR) process. The Agency's determination as to whether the criteria have been met or exceeded and the rationale for any regulatory action are summarized in the regulatory position of this Standard.

This document addresses registration requirements for MPs containing cyanazine and their intermediaries. Cyanazine MPs that differ appreciably from those described here may require amendments to the Standard. Issues involving specific end-use products will not be addressed under this Standard, but general labeling requirements for formulated products will be discussed in Section G.

B. Use Profile

Cyanazine is a pre- or postemergent herbicide registered for use to control annual grasses and broadleaf weeds in corn, cotton, grain sorghum, winter wheat, and fallow crop land. Approximately 96% of the total domestic use is on corn. Cotton (3%) and grain sorghum (<1%) are the second and third most common uses. Application rates of the single active ingredient range from 0.6 to 5 lbs active ingredient per acre. Single active ingredient formulations include an 80% wettable powder, 10% and 15% granular forms, a 90% dry flowable form, and a 4 lb/gal flowable concentrate. These formulations may be applied with either ground or aerial equipment. To activate the herbicide, one and one-half to two inches of moisture (rainfall or irrigation) are required within 10 days of application. If such moisture is not available within the 10-day period, a shallow incorporation is recommended on labels, with the specific type of equipment and method of incorporation determined by site and equipment availability.

When applied preemergence, cyanazine is applied before, at, or after planting but before the crop emerges from the soil. If applied postemergence to the crop and/or at layby (the last time machinery can enter the field as is the case with cotton), crop height restrictions must appear on the labels. The target weeds will not be controlled if they exceed 1.5 inches in height at the time of application.

Cyanazine may be formulated for use with fertilizers and/or other herbicides such as atrazine, butylate, alachlor, EPTC, metolachlor or dicamba for use in corn, with norflurazon, MSMA, or dinoseb in cotton, with propachlor or propazine in grain sorghum, and with atrazine, paraquat, or 2,4-D on wheat fallow cropland.

C. Background and Description of the Chemical

Cyanazine is the common name for the herbicide 2-[[4-Chloro-6-(ethylamino)-s-triazin-2-yl]amino]-2-methylpropionitrile. The Chemical Abstracts Service (CAS) number is 21725-46-2 and the EPA chemical code number (also known as the Shaughnessy number) is 100101. The trade name for cyanazine is BLADEX®, and the chemical has also been known as SD-15418, Payze, and 2-chloro-4-[(1-cyano-1-methylethyl)amino]-6-(ethylamino)-s-triazine. Cyanazine was first registered in 1971 by the Shell Chemical Company.

Technical cyanazine is a white, crystalline substance with a mild chemical odor and a melting point of 166.5-167°C. At 23°C cyanazine is soluble in water up to 160 ppm. At 20°C the w/v solubility is 1.5% in benzene, <10% in xylene and chlorobenzene, 21.0% in chloroform and methylcyclohexanone, and 4.5% in ethanol. Cyanazine is stable in sunlight, at temperatures up to 75° C, and in water in neutral, slightly acidic or slightly basic media. The other manufacturing use product, a 28.2% flowable intermediate (FI) is a liquid, but other required information has not yet been submitted. The vapor pressure of cyanazine is 1.6×10^{-9} at 20°C. The molecular formula is $C_9H_{13}ClN_6$. The shelf life of formlated BLADEX® is greater than two years.

Cyanazine is readily absorbed by roots or foliage, and can be translocated from the roots to the leaves. Its mode of action is the inhibition of photosynthesis.

D. Regulatory Position and Rationale

Based on a review and evaluation of all available data and other relevant information on cyanazine, the Agency has made the following determinations:

1. Cyanazine has been placed into the Agency's Special Review process for analysis of the risks and benefits of its continued use. The positions stated in this section may be altered when the Special Review process is completed. Section I of this Standard gives the Agency's preliminary analysis of risks and benefits of continued cyanazine use.

   Rationale: The risk criterion listed in 40 CFR Section 162.11 has been exceeded, because studies have shown that cyanazine produces teratogenic effects in the Fischer 344 rat and fetotoxic effects in the New Zealand White Rabbit. An adequate margin of safety may not exist for applicators.

2. While the data gaps are being filled and the Special Review process is being completed, currently registered manufacturing-use products containing cyanazine as the sole active ingredient may be sold, distributed, formulated and used in the United States, subject to the terms and conditions specified in this Standard.

   Rationale: The evidence now before the Agency does not indicate that the continued use of cyanazine will pose an imminent hazard. Thus, there is no basis, at this time, for suspension of cyanazine. In addition, if the restricted use classification and precautionary labeling requirements are implemented, it is the Agency's judgment that continued use of cyanazine will not cause unreasonable adverse effects on the environment while the Special Review is being completed.

   Several data gaps exist. However, it is not the policy of the Agency to cancel or withhold registrations solely because of data gaps. (See Sections 3(c)(2)(b) and 3(c)(7) of FIFRA.) The Agency will reconsider whether initiation of suspension or cancellation proceedings is necessary when the Special Review process is completed, and when the data gaps are filled in response to this Standard and the accompanying FIFRA 3(c)(2)(b) letters.

3. Data on the potential for secondary exposure will not be required unless the Special Review conclusions (when completed) show that such concern is warranted.

   Rationale: Some potential for secondary exposure exists (i.e. exposure of farm worker's families through contact with their skin or clothes). This raises concerns because of cyanazine's apparent potential for causing teratogenic effects. However, because the Agency is not certain of the magnitude of the teratogenic risk of cyanazine when exposure occurs through the dermal route, any regulatory action regarding secondary exposures will be deferred until completion of the Special Review.

4. Registrants must provide or agree to develop the additional data specified in Tables A and B of this guidance document, in order to maintain existing registrations or to permit new registrations of substantially similar cyanazine MPs.

   Rationale: The Agency's data base on cyanazine is not complete. The Agency requires the data specified in Tables A and B to complete its analysis of the risks and benefits associated with continued registration of cyanazine products.

5. Cyanazine end-use products will be placed in the Restricted Use classification.

   Rationale: Cyanazine has been detected in groundwater and surface waters. Placing cyanazine in the Restricted Use classification will insure that it will only be applied under the supervision of individuals who have received instruction on following label directions and precautions.

6. The Agency will require groundwater and surface water monitoring data from all registrants. The specific data needs will be spelled out in a format which will cover all the triazine compounds (atrazine, simazine, etc). The first stage requirement will be specific use data (counties, crops, amounts), and data on the hydrogeological and climatic characteristics for each location where cyanazine is used. Data which the Agency requires to assess cyanazine's leaching potential will be required on an accelerated basis.

   Rationale: Cyanazine has been found in groundwater and surface water. Data requirements will be identical for all the triazine compounds because the triazine compounds follow similar degradative pathways in soil, and some of the intermediate breakdown products are identical. Leaching data will be required on an accelerated basis because of proven ability of cyanazine to move into groundwater, and its apparent potential for producing teratogenic effects.

7. The Agency will require registrants to place certain precautionary statements on the labels of manufacturing-use and end-use products containing cyanazine. The specific language of these statements is given in Section G of this Standard.

   Rationale: Because of the teratogenic potential and toxicological properties of cyanazine, certain precautionary statements are required on labels as a means of minimizing the exposure of humans and non-target wildlife.

8. Existing crop tolerances for cyanazine will be recalculated. The new tolerances will be based on the combined residue of the parent cyanazine compound and all metabolites that contain the triazine moiety. Tolerances for meat, milk, eggs, and poultry may have to be established, if residues are found in these commodities. If these meat/milk/egg/poultry tolerances are established, they will also include the triazine moiety metabolites. The Agency will require data sufficient to allow these recalculations, and new tolerances will not be granted until the data are reviewed.

   Rationale: Metabolites containing the triazine metabolites may contribute to or be responsible for some of the toxicological properties of cyanazine. Therefore, they must be included in the tolerances.

9. Reentry intervals will not be required.

   Rationale: The Agency has determined, based on the use patterns and available toxicology data, that the criteria in §158.140 have not been met. The characteristics of the method of application (e.g., soil incorporation and/or drenching, and application at very early plant life stage) will minimize exposure of workers who enter the fields after application.

E. Criteria for Registration Under This Standard

To be covered by this Standard, products must:

- be a manufacturing use product containing cyanazine as the sole active ingredient, and

- o bear required labeling and conform to the product composition, acute toxicity limits, and use pattern requirements listed in Sections F and G of this document.

The applicant for registration or reregistration of products subject to this Standard must comply with all terms and conditions described in it. This includes making a commitment to fill data gaps on a schedule specified by the Agency. Applicants for registration under this Standard must follow the instructions contained in this guidance package and complete and submit the appropriate forms within the time specified.

F. Acceptable Ranges and Limits

1. Product Composition Standard

Technical grade products must contain at least 94 percent cyanazine as the sole active ingredient. Each manufacturing-use product formulation proposed for registration must be fully described with an appropriate certification of limits. In addition, the active ingredient found in the manufacturing-use cyanazine products must be substantially similar to that in currently registered technical products. Any manufacturing-use product not meeting these requirements will be considered a new product and will not be registered under this Standard.

2. Acute Toxicity Limits

The Agency will consider registration of technical grade and manufacturing-use products containing cyanazine when the appropriate acute toxicity categories are no higher than Category II. The labeling of any registered products must bear the appropriate precautionary statements.

3. Use Patterns

To be registered under this Standard, manufacturing-use products containing cyanazine must be labeled for formulation into end-use products that are to be used for the control of grassy weeds or broadleaf weeds in corn, grain sorghum, fallow land, winter wheat, or cotton.

G. Required Labeling

All technical grade and manufacturing-use products containing cyanazine must bear appropriate labeling as specified in 40 CFR 162.10. Other portions of the guidance package contain specific information regarding label requirements. In addition, the following specific labeling requirements apply:

1. Use Pattern Statements

Labels of all manufacturing-use products must bear the statement:

"For formulation into end-use herbicide products intended only for use on corn, grain sorghum, fallow land, winter wheat, or cotton."

Labels of all formulated products must bear the following statements:

"RESTRICTED USE PESTICIDE: Because cyanazine can leach into groundwater, and has produced birth defects in laboratory animals, this product may be applied only by certified applicators or persons under their direct supervision."; and

"Cyanazine is a pesticide which can move (seep or leach) through soil and can enter groundwater which may be used as drinking water. Cyanazine has been found in groundwater as a result of agricultural use. Users are advised not to apply cyanazine where the water table (ground water) is close to the surface and where the soils are very permeable, i.e. well drained soils such as loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water."

2. Precautionary Statements

Labels of manufacturing-use products and end-use products (EUPs) must bear the statements:

a. Hazards to Humans Statements

"WARNING: May be fatal if swallowed. Harmful if inhaled or absorbed through the skin. Causes substantial but temporary eye injury. Avoid breathing dust (vapor or spray mist). Avoid contact with skin, eyes or clothing. Do not get in eyes or on clothing. Wear a face shield. Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse."; and

"Use of this product may be hazardous to your family's health. This product has been determined to cause birth defects in laboratory animals. Exposure of women of child-bearing age to cyanazine should be avoided."

b. Statements of Practical Treatment

"If on skin: Wash with plenty of soap and water. Get medical attention."

"If in eyes: Flush with plenty of water. Call a physician."

"If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person."

c. Environmental Hazard Statement

The following specific statements must appear on the labels of all manufacturing use products:

"Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."

The labels of EUPs intended for outdoor use must bear one of the following statements, depending on the formulation of the product:

Granular products must bear the statement:

"Do not apply directly to water or wetlands. In case of spills, collect for use or properly dispose of the granules. Do not contaminate water by cleaning of equipment or disposal of wastes."

Non-granular products must bear the statement:

"Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes."

The label of all products (except those intended solely for household use) must bear the appropriate container disposal statement. See Appendix IV-5 of this guidance package.

The required statements listed in this Standard must appear on the labels of all MUPs and EUPs released for shipment after June 30, 1985. The labels of all MUPs and EUPs currently in the channels of trade must be modified to include all the listed statements by January 1, 1986. After review of data to be submitted under this Standard, the Agency may impose additional label requirements.

H. Tolerance Reassessment

Tolerances ranging from 0.05 to 0.10 ppm have been established for the residues of cyanazine in or on certain raw agricultural food commodities such as corn, cottonseed oil, sorghum, and wheat. (See 40 CFR 180.307.) An acceptable daily intake (ADI) for man was set at 0.006 mg/kg/day, based on a "no observed effect level" (NOEL) of 12 ppm (0.6 mg/kg/day) and a toxic endpoint of significant reduction in body weight gain noted in a chronic feeding study in the rat. The customary safety factor of 100 fold was used in setting the ADI. The maximum permissible intake (MPI) for a 60 kg person was calculated to be 0.360 mg/day.

The theoretical maximum residue contribution (TMRC) to the human diet as a result of the existing tolerances was set at 0.0175 mg/day/1.5 kg of the diet, or 4.88% of the MPI. No tolerances were established for residues

of cyanazine in meat, milk, eggs, or poultry because at the time these tolerances were first considered, the parent compound was thought to be the only residue of concern, and it was not present at detectable levels in feed.

Reevaluation of the chronic feeding study mentioned above revealed major deficiencies that prevent the continued use of this study as a basis for the ADI. Since no other acceptable chronic feeding study is available, the existing ADI cannot be recalculated and must be considered invalid.

Under circumstances such as these, where the ADI cannot be calculated, a provisional acceptable daily intake (PADI) can be determined based on a "no observed effect level" generated from a subchronic feeding study, and a margin of safety of 2000 fold. A subchronic 13-week feeding study in the rats (MRID 00093198) was used to calculate this PADI. In this study, a NOEL of 25 ppm (1.25 mg/kg) was observed, with a toxic endpoint of organ to bodyweight changes. Therefore the PADI was set at 0.000625 mg/kg/day and the maximum permissible intake (MPI) was calculated to be 0.0375 mg/day for a 60 kg person, based on 1.5 kg diet per day. In this case, although the TMRC will not be changed, the portion of the MPI utilized will be increased from 4.88% under the old ADI to 46.66% under the new PADI.

After review of the existing data, the Agency has reason to believe that some or all of the metabolites which contain the triazine moiety may contribute to the overall toxicity levels observed. Therefore, existing crop tolerances for cyanazine will be recalculated. The new tolerances will be based on the combined residue of the parent cyanazine compound and all metabolites that contain the triazine moiety. Tolerances for meat, milk, eggs, and poultry may be established, if residues are found in animal feed. If these meat/milk/egg/poultry tolerances are established, they will also include the triazine moiety metabolites.

The Agency will require data sufficient to allow these recalculations, and new tolerances will not be granted until the data are reviewed.

It may be necessary to amend the TMRC, if the contribution to dietary intake is found to be increased by the inclusion of the triazine metabolites. If the TMRC is increased, the margins of safety for the teratogenic, maternal, and fetotoxic effects will be reduced. Further regulatory action may become necessary at that time, including changes in the regulatory positions stated herein, if circumstances warrant.

I. Preliminary Risk and Benefit Analysis for Cyanazine

A. Risk

1. Introduction

The Agency has concerns about teratogenic and fetotoxic effects that occurred when cyanazine was fed to experimental laboratory animals. A

preliminary risk assessment has been conducted and the Agency has determined that because of the teratogenic effects of cyanazine and the potential exposure to applicators it meets or exceeds the risk criterion set forth in CFR 40 162.11.

2. Teratogenicity Studies

A supplementary study (MRID 00091020, Shell Oil Co. 1981) with Fisher F-344 rats showed cyanazine teratogenic at 25 mg/kg. The no effect level (NOEL) was 10 mg/kg. The teratogenic effects were anaphthalmia and microphthalmia. Cyanazine also caused fetotoxic effects when fed to rabbits (Study No. 221/81, Shell Oil Co. 1981) at 2 mg/kg. The NOEL for this study was 1 mg/kg.

3. Dietary Exposure

Dietary exposures result from use on corn and other crops which are used for human food and livestock feed. Ninety-six percent of the cyanazine produced in the United States is applied to corn. A margin of safety for dietary exposure to a teratogen is usually determined based on a single serving of a given food commodity. However, the single serving for all raw agricultural commodities, for which cyanazine tolerance exist, is very close to the food factor based on the annual average. Thus the theoretical maximum residue contribution of each of these commodities can be used as an exposure estimate. On this basis, the margins of safety for the teratogenic and or maternal and fetotoxic effects can be calculated according to the following formula.

$$MOS = \frac{\text{no-observed effect level (mg/kg)}}{\text{Exposure (mg/kg)}}$$

The Margins of Safety (MOS) based on the no observable effect level (NOEL) for teratogenicity and fetotoxicity are as follows:

Table 1. Crop Margin of Safety (MOS) for Teratogenicity and Fetotoxicity

Crop	Margins of Safety (MOS)	
	Teratogenicity	Fetotoxicity
Corn	53,300	530
Cottonseed Oil	90,900	9,090
Sorghum	500,000	50,000
Wheat	643	64

Based on these margins of safety, the Agency has determined that the risk criterion in 40 CFR 162.11 has not been met for dietary exposure.

4. Non-Dietary Exposure

The Agency did not have specific data for cyanazine to allow an exposure assessment to be done. Therefore, a surrogate study was used as a basis for estimating exposure to cyanazine by agricultural workers. The study selected was a spray operation safety study from the British Agrichemicals Association, LtD. (BAAL). The BAAL study assessed human exposure associated with aqueous dilutions of a liquid 2,4-D herbicide formulation applied with several different types of agricultural spraying equipment.

Based on the use patterns of cyanazine and the results of the BAAL study, two occupational exposures of concern were identified: mixer/loader and applicator. Because the same person often performs both mixing/loading and application operations, mixer/loader and applicator exposure values should be added to get a reasonable worst case exposure figure.

The following table shows estimates for cyanazine exposure for the completely unprotected agricultural worker. More than 90% of this exposure can be eliminated if the workers wear rubber gloves.

Table 2. Exposure Estimates

Operation	Dermal Exposure Estimates
Mixing/loading (open system)	117 mg/Day/140 acres or 1.95 mg/kg/day (for a 60 kg woman)
Application	324 mg/10-hr Day/140 acres or 5.4 mg/kg/day (for a 60 kg woman)

The Margins of Safety (MOS) for applicator, mixer/loader are shown on the following table and are calculated by the following formula:

$$MOS = \frac{NOEL\ (mg/kg/day)}{Exposure\ (mg/kg/day)}$$

Table 3. Margins of Safety for Applicator, Mixer/Loader Personnel

Personnel	Margin of Safety (mg/kg)	
	Teratogenicity	Fetotoxicty
Mixer	5.1	0.5
Applicator	1.9	0.2

These MOS values demonstrate that exposures are likely to be close or comparable to levels at which effects occur in experimental laboratory animals. The Agency has concluded, based on the above data, that cyanazine has met the risk criterion set forth in 40 CFR 162.11. Therefore, the Agency is initiating an RPAR or Special Review for the pesticide.

B. Benefits Review

1. Introduction

The Agency has completed a current benefits review for cyanazine. The following information is preliminary in nature and will be expanded upon as the need arises. Reference documents utilized for this summary include: (1) Track A - Biological Data Base For A Current Benefits Evaluation of Cyanazine Herbicide and (2) Current Benefits Review of Cyanazine Herbicide.

2. Use Sites

Cyanazine as a herbicide is federally registered for use on agricultural sites of corn, cotton and grain sorghum and the terrestrial non-crop site for fallowland before planting wheat. Cyanazine is currently used under Section 24(c) as Special Local Need registrations in the following states: Kansas and Nebraska for use as a tank mix with 2,4-D or paraquat or atrazine and 2,4-D on grain sorghum; and in Texas for fall-winter weed control on idle farmland; in Kansas, Nebraska, and Oklahoma for early season weed control on winter wheat using cyanazine, 2,4-D or paraquat. An application for registration and a petition for tolerances for cyanazine for use as a preemergence on soybeans is pending with the Agency. Research has been completed for adding data to support an early preplant and post plant direct application of cyanazine to soybeans, but this data has not yet been submitted by the registrant.

Of the above mentioned cyanazine use sites, most use is on corn. For this reason, this preliminary analysis primarily addresses cyanazine use on corn. Ninety-six (96%) percent of total cyanazine use is on corn. The remaining use is on cotton which represents 3% of the total use and grain sorghum which accounts for about 1% of the total use. A small quantity of cyanazine is used on wheat fallowland.

3. Benefits On Corn

Approximately 4.6 million acres (14 to 16% of the total U.S. corn acreage) of corn were treated in 1982 with cyanazine as the sole active ingredient; in addition, 8.5 million acres are tank mixed with atrazine, alachlor, butylate, or metolachlor. When mixed with other herbicides, the cyanazine use rate drops from a range of 1.2 - 4.8 lb ai/A to a range of 0.4 - 3.6 lb ai/A depending upon the herbicide with which it is tank mixed and/or formulated with. The cyanazine dosage rate selected also is dependent upon soil texture and the percent organic matter. It is applied to corn as a preemergence or postemergence broadcast application by ground equipment in the spring. It may also be applied preemergent through a center pivot sprinkler irrigation system. A minimal amount of cyanazine (<1%) is applied aerially to corn. Growers selected cyanazine over other currently available corn herbicides for: (1) its wide broadleaf and annual grassy weed control spectrum; (2) the wide number of herbicides it can be tank mixed with to further increase its weed control spectrum; (3) its ability to reduce the carryover effect of other triazine herbicides on subsequent crops and (4) its lack of crop rotational restrictions.

Cyanazine also provides contact weed control in addition to its residual activity on seedling weeds when applied in a no-till or minimal till situation. In these situations it is usually applied alone or with alachlor or metolachlor. It is directed into stubble (soybean, small grains) or stalk ground (corn, sorghum). It may also be tank mixed with 2,4-D, or paraquat and dicamba where heavy crop residues are encountered.

4. Other Registered Herbicides for Corn

There are a limited number of corn herbicides registered for control of as wide a spectrum of weeds as cyanazine. The major alternative is Atrazine. Atrazine is the most widely used herbicide on corn; however, residues may carry over in the soil to the next crop and limit the growers options for rotational crops. Cyanazine because of its short residual life has no crop rotational restrictions and is often tank mixed with atrazine to permit a reduction in the amount of atrazine used and thus the carryover effect. Cyanazine is said to provide better control of some grasses such as fall panicum, crabgrass, and foxtail than many of the alternative herbicides available. The main problem with cyanazine is the lower crop tolerance and potential for phytotoxicity under certain conditions. Atrazine is the main alternative to cyanazine when it is applied postemergence. Other herbicides which compete with cyanazine are simazine, a tank mix of butylate and atrazine, and package mixes of metolachlor and atrazine and atrazine and propachlor. These alternatives have a smaller weed control spectrum; those mixed with atrazine still produce a carryover effect. Simazine is less flexible in its application timing than cyanazine as are tank mixes of butylate and atrazine and a package mix of atrazine and propachlor. The butylate and atrazine mixture has regional restrictions which cyanazine does not. The package mix of metolachlor and atrazine (Bicep®) also provides less control of certain broadleaf weeds than does cyanazine.

5. Other Cyanazine Use Sites

The other cyanazine use sites previously listed are considered "minor" usage sites in comparison to corn. Nevertheless, cyanazine may offer some benefits on these sites.

In cotton, cyanazine may be applied preemergent, directed early postemergent or as a layby (late) postemergent directed treatment. It can be tank mixed with norflurazon as a preemergent treatment or with MSMA or dinoseb as a postemergence directed spray. Both cyanazine and the tank mix with norflurazon are recommended as the best treatment for spotted spurge control. Possible alternatives to cyanazine use in cotton would be prometryn, fluometuron, and diuron, however, cyanazine is registered for control of more weeds than any of the other three herbicides. Diuron has more rotational crop restrictions than does cyanazine. Approximately 84% of the cyanazine used on cotton is reported to be applied as a directed postemergence treatment. The remaining 16% is applied as preemergent treatments.

Cyanazine may be applied to grain sorghum as a preemergent application but only when tank mixed with propachlor or with propazine. These tank mixes cannot be used on sand, sandy loam, loamy sand, and peat or muck soils. Also these tank mixes have several geographical restrictions because of possible crop injury under stress conditions. Potential alternatives to cyanazine include propachlor and atrazine as a tank or package mix, bifenox and propachlor tank mixed, and the package mix of metolachlor and atrazine. These alternatives except for propachlor also carry crop rotational or regional restrictions. The cyanazine tank mixes claim control of more broadleaf weeds than the other alternatives. Generally the tank mix of cyanazine and propazine is said to give better control of broadleaf weeds than the cyanazine and propachlor tank mix. However, cyanazine tank mixes are generally less effective on cocklebur and morningglory, two of the major weed problems in cotton.

II. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

A. This portion of the guidance document is a Notice issued under the authority of FIFRA sec. 3(c)(2)(B) and describes, in table format, the data required for maintaining the registrability of each product. Additionally, a bibliography (Appendix II-2) is included that identifies that data considered as part of the data base supporting this standard. EPA has determined that additional generic data described in this Notice must be submitted to EPA for evaluation in order to maintain in effect the registration(s) of your product(s) identified as an attachment to the cover letter accompanying this guidance document. As required by FIFRA sec. 3(c)(2)(B), you are required to take appropriate steps to comply with this Notice.

EPA may suspend the registration of each of those products unless, within the specified time, you have informed EPA how you will satisfy the requirements of this Notice. Any such suspension will remain in effect until you have complied with the terms of this Notice.

B. What Generic Data[1/] Must be Submitted. You may determine which generic data you must submit by consulting Table A at the end of this chapter. That table lists the generic data needed to evaluate the continued registrability of all products, and the dates by which the data must be submitted. The required studies must be conducted in accordance with EPA approved protocols (such as those contained in the Pesticide Assessment Guidelines [2/] or data collected under the approved protocols of the Organization for Economic Cooperation and Development (OECD). If you wish not to develop data which are necessary to support the reregistration of certain uses appearing in your labeling, you may delete those uses at the time you submit your revised labeling.

Also for certain kinds of testing (generally ecological effects), EPA requires the test substance to be a "typical

---

[1/] Generic data pertain to the properties or effects of a particular ingredient, and thus are relevant to an evaluation of the risks of all products containing that ingredient (or all such products having a certain use pattern), regardless of any such product's unique composition or use. Product-specific data relate only to the properties or effects of a product with a particular composition (or a group of products with closely similar composition).

[2/] The Pesticide Assessment Guidelines are available in hard copy or microfiche from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161.

formulation," and in those cases EPA needs data of that type for each major formulation category (e.g., emulsifiable concentrates, wettable powders, granulars, etc.) These are classified as generic data and when needed are specified in Table A. EPA may possess data on certain "typical formulations" but not others. Note: The "typical formulation" data should not be confused with product-specific data (Table B) which are required on each formulation. Product-specific data are further explained in Chapter III of this document.

C. Options Available for Complying With Requirements to Submit Data

Within 90 days of your receipt of this Notice you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" [EPA Form 8580-1, Appendix III-3] for each of your products. On that form you must state which of the following methods you will use to comply with the requirements of this Notice:

1. (a) Notify EPA that you will submit the data, and

(b) either submit the existing data you believe will satisfy the requirement, or state that you will generate the data by conducting testing. If the test procedures you will use deviate from (or are not specified in) the Pesticide Assessment Guidelines or protocols contained in the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must enclose the protocols you will use.

OR

2. Notify EPA that you have entered into an agreement with one or more other registrants to jointly develop (or share in the cost of developing) the data. If you elect this option, you must notify EPA which registrant(s) are parties to the agreement.

3. File with EPA a completed "Certification of Attempt to Enter Into an Agreement With Other Registrants for Development of Data" (EPA Form 8580-6, Appendix III-4)*/

OR

---

*/ FIFRA sec. 3(c)(2)(B) authorizes joint development of data by two or more registrants, and provides a mechanism by which parties can obtain an arbitrator's decision if they agree to jointly develop data but fail to agree on all the terms of the agreement. The statute does not compel any registrant to agree to develop data jointly.

(Footnote continued on next page)

4. Request that 'EPA amend your registration by deleting the uses for which the data are needed. (This option is not available to applicants for new products.)

OR

5. Request voluntary cancellation of the registration(s) of your products for which the data are needed. (This option is not available to applicants for new products.)

D. Procedures for Requesting Changes in Testing Methodology and 'Extensions of Time

'EPA recognizes that you may disagree with our conclusions regarding the appropriate ways to develop the required data or how quickly the data must be submitted. If the test procedures you plan to use deviate from (or are not specified in) the registration guidelines or protocols contained in the reports of the 'Expert Groups to the Chemical Groups, Organization for 'Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit the protocol for Agency review prior to the initiation of the test.

If you think that you will need more time to generate the required data than is allowed by 'EPA's schedule, you may submit a request for an extension of time. The extension request must be submitted in writing to the Product Manager. The extension request should state the reasons why you conclude that an extension is appropriate. While 'EPA considers your request, you must strive to meet the deadline for submitting the required data.

(Footnote continued from previous page)
In 'EPA's opinion, joint data development by all registrants who are subject to the requirements to submit a pertinent item of data or a cost-sharing agreement among all such registrants is clearly in the public interest. Duplication of testing could increase costs, tie up testing facilities, and subject an unnecessarily large number of animals to testing.

As noted earlier, 'EPA has discretion not to suspend the registration of a product when a registrant fails to submit data required under FIFRA Section 3(c)(2)(B). 'EPA has concluded that it is appropriate to exercise its discretion not to suspend in ways which will discourage duplicative testing. Accordingly, if (1) a registrant has informed us of his intent to develop and submit data required by this Notice; and (2) a second registrant informs 'EPA that it has made a bona fide offer to the first registrant to share in the expenses of the testing [on terms to be agreed upon or determined by arbitration under FIFRA Section 3(c)(2)(B)(iii)]; and (3) the first registrant has declined to agree to enter into a cost-sharing agreement, 'EPA will not suspend the second firm's registration.

LLI. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Note: Unless stated otherwise in Section I, Regulatory Position and Rationale, this Section applies only to manufacturing use products, not to end use products.

A necessary first step in determining which statements must appear on your product's label is the completion and submission to EPA of product-specific data* listed on the form entitled "Product Specific Data Report" (EPA Form 8580-4, Appendix LLI-1) to fill "gaps" identified by EPA concerning your product. Under the authority of FIFRA sec. 3(c)(2)(B), EPA has determined that you must submit these data to EPA in order to reregister your product(s). All of these data must be submitted not later than six months after you receive this guidance document.

"Product-Specific Data Requirements for Manufacturing Use Products" appearing in Table B permit you to determine which product-specific data you must submit. This can be done by examining the entries in the column of those tables entitled "Must Data By Submitted Under §3(c)(2)(B)."

---

*/ Product specific data pertain to data that support the formulation which is marketed; it usually includes product chemistry data and acute toxicity data.

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE* h100101

TYPE PESTICIDE: Herbicide

FORMULATIONS: Tech (94%); FI (28.2%); G (10%, 15%); WP (80%); FIC (4 lb/gal, 43%)

GENERAL WARNINGS AND LIMITATIONS: A selective herbicide used on corn, cotton, sorghum and fallow land. Effectiveness depends on adequate moisture to move the herbicide into the root zone of the weeds. This chemical is readily adsorbed to soil particles. The degree of adsorption varies with soil texture, percent organic matter and water content. Dosages are specific for certain soil textures and percent organic matter. Consult State Agricultural Cooperative Extension Service for help in determining soil texture, organic matter content and appropriate rates for local conditions. Under conditions which delay weed germination, such as low temperature, lack of soil surface moisture, or when germination extends over a long period, the effectiveness may be impaired. Supplemental cultural practices or postemergence herbicide treatments may be necessary under these conditions.

TIME REQUIRED FOR CONTROL: Not located.

PHYTOTOXICITY TO TARGET WEEDS: Not located.

PHYTOTOXICITY TO CROPS: Not located.

MODE OF ACTION: Absorbed by roots and translocated to the leaves where it inhibits the Hill reaction of photosynthesis.

BROADLEAF WEEDS CONTROLLED:

annual buttercup	@PZAAAFN
annual groundcherry	@PZAAABP
black mustard	@PBKAFBF
buffalobur	@PEWAIBF
carpetweed	@PADABBA
cocklebur	@PBFDQAA
common chickweed	@PAZAOBB
common groundsel	@PBFCXBK
common lambsquarters	@PBDAEBA
common mallow	@PDAAHBB
common purslane	@PEDADBA
corn spurry	@PAZAMBA
curly dock	@PEAARBE
falseflax	@PBKAGAA
florida pusley	@PEMAEBB

List continued on the next page.

*Cyanazine
Bladex

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

BROADLEAF WEEDS CONTROLLED (continued)

hedge mustard	@PBKBDBD
henbit	@PCOAFBA
ivyleaf morningglory	@PBGAFBG
jimsonweed	@PEWADBD
kochia	@PBDAIBA
ladysthumb	@PEAAGBP
lambsquarters	@PBDAEAB
mayweed	@PBFAHBB
pennsylvania smartweed	@PEAAGBO
pigweed	@PAAAABI
pineappleweed	@PBFCKBB
plantain	@PDXABAA
poorjoe	@PEMACBA
prickly lettuce	@PBFCEBF
prostrate knotweed	@PEAAGBD
prostrate spurge	@PBVAGBQ
ragweed	@PBFAEAA
redroot pigweed	@PAFACBI
red tasselflower	@PBFBFBA
russian thistle	@PBDAKBA
shepherdspurse	@PBKAHBA
smallflower galinsoga	@PBFBOBB
smallflower morningglory	@PBGAGBB
small white morningglory	@PBGAFBI
spiny amaranth	@PAFACBJ
spotted spurge	@PBVAGBK
sunflower	@PBFBUAA
tall morningglory	@PBGAFBL
tall waterhemp	@PAFACBK
tansymustard	@PBKANBB
tarweed	@PAAAACD
velvetleaf	@PDAABBB
wild buckwheat	@PEAAGBH
wild mustard	@PBKAFBE
wild radish	@PBKBABA
wild turnip	@PBKAFBA

GRASSES AND OTHER MONOCOTS CONTROLLED:

annual bluegrass	@PCACKBA
annual fescue	@PCABMAD
annual ryegrass	@PCABZBA
annual sedge	@PZAAAAI
barnyardgrass	@PCABHBB
bullgrass	@PCACFBL
cheat	@PCAATBK
crabgrass	@PCABFAA

List continued on the next page.

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

GRASSES AND OTHER MONOCOTS CONTROLLED (continued)

downy brome	@PCAATBM
fall panicum	@PCACEBD
giant foxtail	@PCACUBA
goosegrass	@PCABIBA
green foxtail	@PCACUBF
india lovegrass	@PCABKBH
italian ryegrass	@PCABZBA
johnsongrass (seedling)	@PCACWBG
junglerice	@PCABHBA
stinkgrass	@PCABKBC
wheat (volunteer)	@PCADFBA
wild oat	@PCAAOBB
witchgrass	@PCACEBC
yellow foxtail	@PCACUBD

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
AGRICULTURAL CROPS		
General Warnings and Limitations: A rotary hoeing or shallow cultivation is recommended if rainfall or sprinkler irrigation has not occurred within 10 days after application (4 to 6 days for granular formulations). Moisture should be sufficient to wet the top 1.5 to 2 inches of soil or make the soil too wet to cultivate. One-half inch of moisture is sufficient for most soils. Exact dosages for soil types will vary within the given range according to soil texture and percent organic matter. Reduce dosage in proportion to band area actually treated.		
Corn	0.05 ppm (grain) 0.05 ppm (fresh corn including sweet corn (kernels plus cob with husks removed)) 0.2 ppm (fodder, forage) CO state label Registration Number 000201-05703 KS state label Registration Number 000201-05704 MT state labels Registration Number 000201-05701 Registration Number 000201-05702 NB state label Registration Number 000201-05700 ND state label Registration Number 000201-05699 OR state label Registration Number 000201-05698 SD state label Registration Number 000201-05696 WA state label Registration Number 000201-05697 WY state label Registration Number 000201-05907	/2800500

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Corn (continued)		
1.60-3.20 (80% WP)	Broadcast. Use in early portion of fallow program prior to planting corn. Apply in 15 to 40 gallons of water per acre. For spring applications, do not use more than 2.4 pounds active ingredient per acre. In the presence of heavy crop residues and stubble, the effectiveness can be improved by applying during or following a stubble mulching operation. Use higher spray volumes where there are crop residues on the soil surface. Do not apply to soils with more than 2 percent organic matter. Do not plant crops less than 120 days after a spring or summer application, or less than 9 months after a fall application. May be tank mixed with paraquat dichloride for control of existing weeds. Apply this tank mix with a surfactant, but do not mix with liquid fertilizers.	$2800502 &080.0006 I9900300
Corn, Field	0.05 ppm (grain) 0.05 ppm (fresh corn including sweet corn (kernels plus cob with husks removed)) 0.2 ppm (fodder, forage) Do not make more than 1 application per crop season. General Information: When preplant applications have been made, avoid removal of treated soil from the seed row prior to or during the planting operation. Liquid fertilizers, if compatible, may replace all or part of the water as a carrier for preemergence applications, except when tank mixed with paraquat dichloride. Do not use liquid fertilizers in postemergence applications. Temporary yellowing of corn may result from postemergence applications, particularly under cold, adverse, growing conditions. If corn is cultivated, tillage should be shallow to minimize herbicide dilution in the soil. Unless otherwise specified, treated fields can be rotated from corn to other crops. Should the corn be lost due to adverse weather conditions, the field can be replanted the same season with corn or sorghum. Do not use on peat or muck soil, or on sand or loamy sand with less than 1 percent organic matter.	/2800600

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Corn, Field (continued)		
--	AL state label Registration Number 038749-10312 TX state label Registration Number 000201-05908	
1.20-4.00 (80% WP) (4 lb/gal FlC)	Preplant. Broadcast or band. Tank mix with paraquat dichloride. For use in minimum tillage systems where kill of existing vegetation and residual control of weeds is required. Apply in 15 to 30 gallons of water per acre with ground equipment, or in a minimum of 4 gallons of water per acre with aerial applications. Use with a surfactant. Do not apply this tank mix in liquid fertilizer.	$2800641 &080.0006 &104.0014 I9900300 I9001500
0.80-2.00 (80% WP) (4 lb/gal FlC)	Preplant. Soil incorporation. Broadcast or band. Tank mix or sequential treatment with S-ethyl diisobutylthiocarbamate. Apply as a tank mix and incorporate immediately or apply preemergence, following preplant incorporated application of S-ethyl diisobutylthiocarbamate. Apply in 15 to 30 gallons of water per acre with ground equipment, or in a minimum of 4 gallons of water per acre with aerial applications. Incorporate no deeper than 4 inches. Existing stands of quackgrass, yellow nutsedge, and purple nutsedge must be turned under and chopped up prior to treatment. Do not use on corn grown for seed.	$2800602 &080.0006 &104.0014 I9001500 I9900300
1.20-4.05 (10% G) (15% G) (80% WP) (4 lb/gal FlC)	Preemergence. Broadcast or band. Apply immediately before planting, at planting, or after planting but before crop emergence. Do not use on peat or muck soils. Apply the nongranular formulations in 15 to 30 gallons of water per acre with ground equipment, or in a minimum of 4 gallons of water per acre with aerial applications.	I9001500 &010.000 &015.000 &080.000 &104.001

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Corn, Field (continued)		
0.60-2.66 (80% WP) 0.60-2.67 (4 lb/gal F1C) 0.60-2.00 (80% WP) (4 lb/gal F1C)	Preemergence. Broadcast or band. Tank mix with alachlor. Apply immediately before planting, at planting, or after planting but before crop emergence. Apply in 15 to 30 gallons of water per acre with ground equipment, or in a minimum of 4 gallons of water per acre with aerial applications.	I9900300 &080.0006 I9001500 &104.0014 &080.0006 &104.0014
1.20-4.00 (4 lb/gal F1C)	Use limited to Western Plains States. Preemergence. Water application. Broadcast. Apply in center pivot sprinkler irrigation water after planting, but prior to crop emergence. Use 0.5 to 1 acre-inch of water.	$2800603 &104.0014
0.60-2.67 (4 lb/gal F1C)	Use limited to Western Plains States. Preemergence. Water application. Broadcast. Inject in combination with atrazine into center pivot sprinkler irrigation water. Apply after planting, but prior to crop emergence. Use 0.5 to 1 acre-inch of water.	I9900300 &104.0014
0.60-2.00 (4 lb/gal F1C)	Use limited to Western Plains States. Preemergence. Water application. Broadcast. Inject in combination with alachlor into center pivot sprinkler irrigation water. Apply after planting, but prior to crop emergence. Use 0.5 to 1 acre-inch of water.	I9900300 &104.0014
1.20-2.00 (80% WP) (4 lb/gal F1C)	Postemergence. Broadcast or band. Apply from crop emergence through the 4-leaf stage before weeds are 1.5 inches high. Do not apply if the fifth leaf is visible. Apply in 15 to 30 gallons of water per acre with ground equipment, or in a minimum of 4 gallons of water per acre with aerial applications. Use the higher dosage when dry conditions prevail. Under dry or arid conditions, effectiveness can be improved by the use of surfactants or emulsifible vegetable oils. Do not use any type of petroleum oil. Do not use surfactants or additives of any kind in applications to corn grown for seed.	$2800601 &080.0006 &104.0014 I9001500

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Corn, Pop	0.05 ppm (grain) 0.05 ppm (fresh corn including sweet corn (kernels plus cob with husks removed)) 0.2 ppm (fodder, forage) Do not make more than 1 application per crop season. General Information: When preplant applications have been made, avoid removal of treated soil from the seed row prior to, or during the planting operation. Liquid fertilizers, if compatible, may replace all or part of the water as a carrier for preemergence applications, except when tank mixed with paraquat dichloride. Do not use liquid fertilizers, surfactants or additives of any kind in postemergence applications. Temporary yellowing of the corn may result from postemergence applications, particularly under cold, adverse, growing conditions. If corn is cultivated, tillage should be shallow to minimize herbicide dilution in the soil. Unless otherwise specified, treated fields can be rotated from corn to other crops. Should the corn be lost due to adverse weather conditions, the field can be replanted with corn or sorghum during the same season. Do not use on peat or muck soil, or on sand or loamy sand with less than 1 percent organic matter.	/1500400
--	AL state label Registration Number 038749-10312 TX state label Registration Number 000201-05908	
	Preplant. Refer to Corn, Field for use and limitation information.	$1500441 S2800641
	Preplant and preemergence. Refer to Corn, Field for use and limitation information.	$1500402 S2800602
	Use limited to Western Plains States. Preemergence. Refer to Corn, Field for use and limitation information.	$1500403 S2800603
	Postemergence. Refer to Corn, Field for use and limitation information.	$1500401 S2800601

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Corn, Sweet	0.05 ppm (grain) 0.05 ppm (fresh corn including sweet corn (kernels plus cob with husks removed)) 0.2 ppm (fodder, forage) Do not make more than 1 application per crop season. General Information: When preplant applications have been made, avoid removal of treated soil from the seed row prior to, or during the planting operation. Liquid fertilizers, if compatible, may replace all or part of the water as a carrier for preemergence applications, except when tank mixed with paraquat dichloride. Do not use liquid fertilizers, surfactants or additives of any kind in postemergence applications. Temporary yellowing of the corn may result from postemergence applications, particularly under cold, adverse, growing conditions. If corn is cultivated, tillage should be shallow to minimize herbicide dilution in the soil. Unless otherwise specified, treated fields can be rotated from corn to other crops. Should the corn be lost due to adverse weather conditions, the field can be replanted with corn or sorghum during the same season. Do not use on peat or muck soil, or on sand or loamy sand with less than 1 percent organic matter.	/1500500
--	AL state label Registration Number 038749-10312 TX state label Registration Number 000201-05908	
	Preplant. Refer to Corn, Field for use and limitation information.	$1500541 S2800641
	Preplant and preemergence. Refer to Corn, Field for use and limitation information.	$1500502 S2800602
	Use limited to Western Plains states. Preemergence. Refer to Corn, Field for use and limitation information.	$1500503 S2800603
	Postemergence. Refer to Corn, Field for use and limitation information.	$1500501 S2800601

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Cotton	0.05 ppm (cottonseed) Do not graze or feed foliage from treated areas to livestock. General Information: Do not use on soils containing less than 1 percent organic matter. In fields where soil texture changes from coarse to fine, do not use the fine soil dosage on medium or coarse soil areas, or the medium soil dosage on coarse soil areas. Exceeding recommended dosages for the soil texture can result in yellowing or stunting of the crop and may result in stand reduction. Should the cotton be lost due to adverse weather conditions, the field can be replanted to cotton or soybeans. Postemergence applications may follow a preemergence application. On sandy loams, make 1 preemergence and 1 postemergence application. On other soil types, make 1 preemergence and 2 postemergence applications.	/2800700
--	AL state label Registration Number 038749-10312	
0.80-2.00 (80% WP) (4 lb/gal F1C)	Use limited to AL, AR, GA, LA, MS, MO, NC, OK, SC, TN and TX. Preemergence. Broadcast or band. May be used alone or in sequential treatment following preplant incorporated application of 4-(methylsulfonyl)-2,6-dinitro-N,N-dipropylaniline or trifluralin. Apply, in 15 to 30 gallons of water per acre, at planting, or after planting but before crop has emerged. Do not use on sand and loamy sands containing more than 70 percent sand.	$2800702 &080.0006 &104.0014 I9900300
0.60-1.00 (80% WP)	Use limited to AL, AR, GA, LA, MS, MO, NC, OK, SC, TN and TX. Postemergence. Directed spray. Apply in 15 to 40 gallons of water per acre after cotton is 6 inches high. On sandy loam soils do not apply before cotton is 12 inches high. Direct the spray to the base of cotton plants to cover emerged weeds beneath the cotton. Weeds should not be more than 2 inches high. Do not allow spray to strike the cotton leaves, as injury will result. Use with a surfactant. When dry or arid conditions exist, use the higher rates. May be tank mixed with monosodium acid methanearsonate. Apply the tank mix before cotton reaches the first bloom stage.	I9900300 &080.0006

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Cotton (continued)		
0.80-1.60 (80% WP)	Use limited to AL, AR, GA, LA, MS, MO, NC, OK, SC, TN and TX. Layby application. Directed spray. Apply in 15 to 40 gallons of water per acre after cotton is 12 or more inches high. Direct spray to the base of cotton plants to cover emerged weeds beneath the cotton. Weeds should not be more than 2 inches high. Do not allow spray to strike the cotton leaves, as injury will result. Use with a surfactant.	&080.0006
Sorghum	0.05 ppm (grain, fodder, forage) General Information: Apply tank mixes once per crop season. If replanting of sorghum is necessary, it should be done in previously treated soil without a second application.	/2801900
--	AL state label Registration Number 038749-10312 CO state label Registration Number 000201-05703 KS state label Registration Number 000201-05704 MT state labels Registration Number 000201-05701 Registration Number 000201-05702 NB state label Registration Number 000201-05700 NM state label Registration Number 000201-10248 ND state label Registration Number 000201-05699 OR state label Registration Number 000201-05698 TX state labels Registration Number 000201-10187 Registration Number 000201-10188 SD state label Registration Number 000201-05696 WA state label Registration Number 000201-05697 WY state label Registration Number 000201-05907	

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Sorghum (continued)		
0.80-1.20 (80% WP)	Use limited to KS, OK and TX. Preemergence. Broadcast or band. Tank mix with propazine. Apply in 20 to 30 gallons of water per acre, at planting or after planting, but before crop and weeds emerge. Do not use on peat, muck, sand, loamy sand or sandy loam soils.	$2801902 &080.0006 I9900300
0.96-1.60 (80% WP)	Use limited to states east of the Rocky Mountains. Preemergence. Broadcast or band. Tank mix with 2-chloro-N-isopropylacetanilide. Apply in 20 to 30 gallons of water per acre, at planting or after planting, but before crop and weeds emerge. Treated fields may be rotated from sorghum to other crops. Do not use on peat, muck, sand or loamy sand soils.	I9900300 &080.0006
1.60-3.20 (80% WP)	Broadcast. Use in early portion of fallow program prior to planting sorghum. Apply in 15 to 40 gallons of water per acre. For spring applications, do not use more than 2.4 pounds active ingredient per acre. In the presence of heavy crop residues and stubble, the effectiveness can be improved by applying during or following a stubble mulching operation. Use higher spray volumes where there are crop residues on the soil surface. Do not apply to soils with more than 2 percent organic matter. Do not plant crops less than 120 days after a spring or summer application or less than 9 months after a fall application. May be tank mixed with paraquat dichloride for control of existing weeds. Apply this tank mix with a surfactant, but do not mix with liquid fertilizers.	I9900300 &080.0006
Sorghum (grain crop)	0.05 ppm (grain, fodder, forage) General Information: Apply tank mixes once per crop season. If replanting of sorghum is necessary, it should be done in previously treated soil without a second application.	/2400600
--	AL state label Registration Number 038749-10312	

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
Sorghum (grain crop) (continued)		
0.80-1.20 (80% WP)	Use limited to KS, OK and TX. Preemergence. Broadcast or band. Tank mix with propazine. Apply in 20 to 30 gallons of water per acre, at planting or after planting, but before crop and weeds emerge. Do not use on peat, muck, sand, loamy sand or sandy loam soils.	$2400602 &080.0006 I9900300
0.96-1.60 (80% WP)	Use limited to states east of the Rocky Mountains. Preemergence. Broadcast or band. Tank mix with 2-chloro-N-isopropylacetanilide. Apply in 20 to 30 gallons of water per acre, at planting or after planting, but before crop and weeds emerge. Treated fields may be rotated from sorghum to other crops. Do not use on peat, muck, sand or loamy sand soils.	I9900300 &080.0006
Wheat	0.1 ppm (grain, green forage, straw)	/2806500
—	AL state label Registration Number 038749-10312 CO state label Registration Number 000201-05703 KS state label Registration Number 000201-05704 MT state labels Registration Number 000201-05701 Registration Number 000201-05702 NB state label Registration Number 000201-05700 ND state label Registration Number 000201-05699 OR state label Registration Number 000201-05698 SD state label Registration Number 000201-05696 WA state label Registration Number 000201-05697 WY state label Registration Number 000201-05907	
	Broadcast. Refer to Corn for use and limitation information.	$2806502 S2800502

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations	
AGRICULTURAL PREMISES		
Fallow Land	N.P. General Information: In the presence of heavy crop residues and stubble, the effectiveness can be improved by applying during or following a stubble mulching operation. Use higher spray volumes where there are crop residues on the soil surface. Do not apply to soils with more than 2 percent organic matter. Do not plant crops less than 120 days after a spring or summer application or less than 9 months after a fall application.	/6600200
--	AL state label Registration Number 038749-10312 CO state label Registration Number 000201-05703 KS state label Registration Number 000201-05704 MT state labels Registration Number 000201-05701 Registration Number 000201-05702 NB state label Registration Number 000201-05700 ND state label Registration Number 000201-05699 OR state label Registration Number 000201-05698 SD state label Registration Number 000201-05696 WA state label Registration Number 000201-05697 WY state label Registration Number 000201-05907	
1.60-3.20 (80% WP)	Broadcast. Use in early portion of fallow program prior to planting corn, sorghum or wheat. Apply in 15 to 30 gallons of water per acre. For spring applications, do not use more than 2.4 pounds active ingredient per acre.	$6600202 &080.000(
1.60-3.20 (80% WP)	Broadcast. Tank mix with paraquat dichloride for control of existing weeds. Apply in 20 to 40 gallons of water per acre. Use with a surfactant. Do not apply this tank mix in liquid fertilizers.	I9900300 &080.000(

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
AERIAL AND TANK MIX APPLICATIONS	
Aerial Application	
—	Refer to AGRICULTURAL CROPS Corn (Field), Corn (Pop), Corn (Sweet)
Tank Mix	
—	Refer to AGRICULTURAL CROPS Corn, Corn (Field), Corn (Pop), Corn (Sweet), Cotton, Sorghum, Sorghum (grain crop), Wheat AGRICULTURAL PREMISES Fallow Land

2-((4-CHLORO-6-(ETHYLAMINO)-S-TRIAZIN-2-YL)AMINO)-2-METHYLPROPIONITRILE

Listing of Registered Pesticide Products by Formulation

94% technical chemical — &094.0001
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-00298

28.2% formulation intermediate — &228.2002
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-00380

10% granular — &010.0004
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-00280

15% granular — &015.0004
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-00332

80% wettable powder — &080.0006
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #

000201-00279	000201-00374	000201-00379	000201-00382
000201-05696	000201-05697	000201-05698	000201-05699
000201-05700	000201-05701	000201-05703	000201-05704
000201-05907	000201-05908	000201-10187	000201-10188
000201-10248	038749-10312		

4 lb/gal flowable concentrate — &104.0014
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-00281 000201-00404

43% flowable concentrate — &243.0014
2-((4-chloro-6-(ethylamino)-s-triazin-2-yl)amino)-2-methylpropionitrile (100101) #
000201-05702

TABLE A

GENERIC DATA REQUIREMENTS FOR CYANAZINE (94% TECHNICAL)

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]
§158.120 Product Chemistry				
Product Identity:				
61-1 - Identity of Ingredients	TGAI	Yes	00093184 GS0066-02 GS0066-03	No
61-2 - Statement of Composition	TGAI	Partially	GS0066-03	Yes[3]
61-3 - Discussion of Formation of Impurities	TGAI	Partially	GS0066-03 GS0066-05 GS0066-06 GS0066.004	Yes[4]
Analysis and Certification of Product Ingredients				
62-1 - Preliminary Analysis of Product Samples	TGAI	Partially	GS0066-08	Yes[5]
Physical and Chemical Characteristics				
63-2 - Color	TGAI	Yes	00093184 GS0066-01 GS0066-07	No
63-3 - Physical State	TGAI	Yes	00093184 GS0066-01 GS0066-07	No

TABLE A
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIPRA Section 3(c)(2)(B)?[2]
§158.120 Product Chemistry (continued)				
63-4 - Odor	TGAI	Yes	00093184 GS0066-01 GS0066-07	No
63-5 - Melting Point	TGAI	Yes	00093184 GS0066-01 GS0066-07	No
63-6 - Boiling Point	N/A[4]	-	-	-
63-7 - Density, Bulk Density, or Specitic Gravity	TGAI	No	-	Yes
63-8 - Solubility	TGAI or PAI	Yes	00093184 GS0066-01 GS0066-07	No
63-9 - Vapor Pressure	PAI	Yes	00093184 GS0066-01 GS0066-07	No
63-10 - Dissociation constant	PAI	No	-	Yes

38

TABLE A
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 2/
§158.120 Product Chemistry (continued)				
63-11 - Octanol/water partition coefficient	PAI	No	-	Yes
63-12 - pH	TGAI	No	-	Yes
63-13 - Stability	TGAI	Yes	00093184 GS0066-01 GS0066-07	No
Other Requirements:				
64- 1 - Submittal of samples	N/A	-	-	-

1/ Composition: TGAI = Technical grade of the active ingredient; PAI = Pure active ingredient. Choice = Choice of several test substances determined on a case-by-case basis.

2/ Data must be submitted no later than six months after publication of this Standard, unless otherwise indicated.

3/ Information is required on the details of the manufacturing process, such as the purities of the starting materials, description of the reaction conditions, any quality control measures used for the technical and the flowable intermediate products, and the name and address of the manufacturer or producer of the starting materials.

4/ Information is required on any impurities believed to be present at >0.1%, based on knowledge of the beginning materials, all possible chemical reactions, and any contamination.

5/ Data is required on analysis of five or more representative samples of the 94% technical (and the 28.2% flowable intermediate - see Table B) for the amount of active ingredient and each impurity present for which a certified limit is required. Data must include a description of the analytical methods used in the analysis of the unintentional ingredients present at >0.1%, other than the nitrosamines.

BLE A
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirements	Composition[1]/	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation		Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]/
§158.125 Residue Chemistry					
171-4 - Nature of Residue (Metabolism)					
- Plants	PAIRA	Yes	00022775 00022853 GS0066-08		No
- Livestock	PAIRA	Partially	GS0066-09		Yes[3]/
171-4 - Residue Analytical Method					
- Plant residues	TGAI and metabolites	Partially	00015609 00022270 00022786 00023132	00023828 00023829 00044453 GS0066-10 GS0066-11	Yes[4]/
- Animal Residues	TGAI and metabolites	No	-		Yes[4]/

A

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirements	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]
§158.125 Residue Chemistry (continued)				
171-4 - Storage Stability Data	PAI and metabolites	Partially	00022792 00026435	Yes[5]
171-4 - Magnitude of the Residue-Residue Studies for Each Food Use[6]				
Crop Group 1 - Legume Vegetables				
Crop 1 (Soybeans)				
-- Crop field trials	TEP	N/A[7]		
Crop Group 2 - Cereal Grains Group				
Crop 1 (Corn)				
-- Crop field trials	TEP and metabolites	Partially	GS0066-15 GS0066-16 GS0066-17	Yes[6]
Crop 2 (Grain Sorghum)				
-- Crop field trials	TEP and metabolites	Partially	00044420	Yes[6]
Crop 3 (Wheat)				
-- Crop field trials	TEP and metabolites	Partially	GS0066-18	Yes[6]

TABLE A
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.125 Residue Chemistry (continued)				
Crop Group 2 (Cereal Grains) (continued)				
Crop 4 (Forage, Fodder and Straw of Cereal Grains Group)				
-- Crop field trials	TEP and metabolites	Partially	GS0066-16 GS0066-17 GS0066-19	Yes[6/]
Crop 5 (Grain Sorghum forage and fodder)				
-- Crop field trials	TEP and metabolites	Partially	00044432	Yes[6/]
Crop 6 (Wheat forage and straw)				
-- Crop field trials	TEP and metabolites	Partially	GS0066-18 GS0066-21	Yes[6/]
Miscellaneous Commodities				
-- Cottonseed	TEP and metabolites	Partially	00093192	Yes[8/]
-- Meat/milk/poultry/eggs	TGAI or plant metabolites	Partially	00022792 00022795 00022796 00023869 GS0066-09	Reserved[8/]

§158.125 Residue Chemistry
(continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product; EP = End-use product.

2/ Data must be submitted no later than six months after publication of this Standard, unless otherwise indicated.

3/ Additional metabolism data depicting more clearly the nature of the final residues in poultry and ruminants utilizing [^{14}C] cyanazine are required.

4/ Registrants must submit validation data for the methods used to determine plant metabolites and animal residues, if necessary.

5/ If additional metabolites of concern are found, then registrants must submit storage stability data on such metabolites (in plants and animals, if necessary).

6/ At present, cyanazine tolerances are expressed in terms of the parent compound only. Data including the qualitative and quantitative information on all metabolites containing the triazine moiety must be submitted for corn, cotton, sorghum, and wheat.

7/ Cyanazine is not currently registered for use on soybeans, but a petition is pending. Data on the residues of parent compound and metabolites containing the triazine moiety must be submitted to support a registration for use on soybeans.

8/ These data requirements will depend on the outcome of the animal metabolism studies. If data are required, it will be in the form of poultry and ruminant feeding studies at three concentrations, as per the Residue Chemistry Guidelines. In addition to feeding the animals the parent compound, major plant metabolites must be fed at appropriate levels.

TABLE A

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.130 Environmental Fate					
DEGRADATION STUDIES-LAB:					
161-1 - Hydrolysis	TGAI or PAIRA	A,B	No	-	Yes
Photodegradation					
161-2 - In water	TGAI or PAIRA	A,B	No	-	Yes
161-3 - On soil	TGAI or PAIRA	A,B	No	-	Yes
161-4 - In air	TGAI or PAIRA	A,B	No	-	No[4]
METABOLISM STUDIES-LAB:					
162-1 - Aerobic Soil	TGAI or PAIRA	A,B	Partially	00022853 00044431 00023212 00093202 00027862	Yes[5]
162-2 - Anaerobic Soil	TGAI or PAIRA	A,B	No	-	Yes[5]
162-3 - Anaerobic Aquatic	TGAI or PAIRA	N/A	No	-	No[6]
162-4 - Aerobic Aquatic	TGAI or PAIRA	N/A	No	-	No[6]

TABLE II

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.130 Environmental Fate (continued)					
MOBILITY STUDIES:					
163-1 - Leaching and Adsorption/Desorption	TGAI or PAIRA	A,B	Partially	00071228 05017166 05018132	Yes[7]
163-2 - Volatility (Lab)	TEP	A,B	No	-	No[4]
163-3 - Volatility (Field)	TEP	A,B	No	-	No[4]
DISSIPATION STUDIES-FIELD:					
164-1 - Soil	TEP	A,B	Partially	00026261 00064604 00026264 00064605 00063847 00064606	Yes[8]
164-2 - Aquatic	TEP	N/A	No	-	No[6]
164-3 - Forestry	TEP	N/A	No	-	No[6]
164-4 - Combination and Tank Mixes		A,B	Yes	00023820 00027093	No[9]
164-5 - Soil, Long-term	TEP	A,B	No	-	No[10]

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.130 Environmental Fate					
ACCUMULATION STUDIES:					
165-1 - Rotational Crops (Confined)	PAIRA	A	No	-	No[11]
165-2 - Rotational Crops (Field)	TEP	A	Yes	00023716 00064604 00026261 00064605 00063847 00064606	No
165-3 - Irrigated Crops	TEP	N/A	No	-	No
165-4 - In Fish	TGAI or PAIRA	A,B	Yes	GS0066-08	No
165-5 - In Aquatic Non-Target Organisms	TEP	N/A	No	-	No
§158.140 Reentry Protection	TEP	A	No	-	No[12]
Monitoring of Surface and Ground Water	TEP	A,B	No	-	Yes[13]

97

TABLE
GENERIC DATA REQUIREMENTS FOR CYANAZINE

§158.130 Environmental Fate
(continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor

3/ Unless otherwise indicated, data must be submitted no later than six months after publication of this Standard.

4/ No data are required because cyanazine has a very low vapor pressure.

5/ The submitted studies lack data on the material balance between the parent compound and its degradates. Data must be submitted no later than 24 months after publication of this Standard.

6/ No data are required because cyanazine does not have any aquatic, forestry, or aquatic impact uses.

7/ An aged soil study of degradates is needed to fill the data requirements under this section.

8/ In the submitted studies, sampling depth was only 6 inches. Cyanazine has been found in ground water. Therefore, registrants must submit studies in which samples were taken beyond the leaching depth. Data must be submitted no later than 24 months after publication of this Standard.

9/ No data are required because this standard deals only with single active ingredient products.

10/ No data are required because cyanazine dissipates rapidly in the environment.

11/ No data are required because field data showed no accumulation in rotated crops.

12/ No data are required because cyanazine does not meet the criteria set forth in Subpart K. Workers reentering treated fields are not expected to be exposed to significant amounts of residue, based on the registered use patterns.

13/ The rationale for requiring these data is given in the registration standard text. Data must be submitted within 18 months after the publication of this Standard.

TABLE X
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Use Patterns[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.135 Toxicology					
ACUTE TESTING:					
81-1 - Acute Oral Toxicity - Rat	TGAI	A	Yes	00026424	No
81-2 - Acute Dermal Toxicity	TGAI	A	Yes	00026425	No
81-3 - Acute Inhalation Toxicity - Rat	TGAI	A	Yes	00022798	No
81-4 - Primary Eye Irritation - Rabbit	TGAI	A	Yes	00026427	No
81-5 - Primary Dermal Irritation	TGAI	A	Partially	00026428	Yes
81-6 - Dermal Sensitization	TGAI	A	Yes	00026428	No
81-7 - Acute Delayed Neurotoxicity - Hen	TGAI	N/A	No	-	No[4]
SUBCHRONIC TESTING:					
82-1 - 90-Day Feeding - Rodent,	TGAI	A	Yes	00093193	No
Non-rodent	TGAI	A	Yes	00093199	No
82-2 - 21-Day Dermal	TGAI	N/A	No	-	No[5]
82-3 - 90-Day Dermal	TGAI	N/A	No	-	No[5]
82-4 - 90-Day Inhalation - Rat	TGAI	N/A	No	-	No[5]
82-5 - 90-Day Neurotoxicity- Mammal	TGAI	N/A	No		No[4]

TABLE

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Use Patterns[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.135 Toxicology (continued)					
CHRONIC TESTING:					
83-1 - Chronic Toxicity - 2 species: Rodent and Non-rodent	TGAI	A	No	-	Yes[6]
83-2 - Oncogenicity Study - 2 species: Rat and Mouse preferred	TGAI	A	Partially	00100503	Yes[7]
83-3 - Teratogenicity - 2 species	TGAI	A	Partially	00125660 00071020	Yes[8]
83-4 - Reproduction - 2-generation	TGAI	A	No	-	Yes[9]
MUTAGENICITY TESTING					
84-2 - Gene Mutation	TGAI	A	No	-	Yes[10]
84-2 - Chromosomal Aberration	TGAI	A	Partially	00023836	Yes[11]
84-2 - Other Genotoxic Effects	TGAI	A	No	-	Yes[12]

TABLE A

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1/]	Use Pattern[2/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?
§158.135 Toxicology (continued)					
SPECIAL TESTING:					
85-1 - General Metabolism	PAI or PAIRA	A	Yes	00032348 00022856	No
85-2 - Dermal Absorption	TEP	All	No	-	Yes[13/]

1/ Composition: TGAI = technical grade of the active ingredient; PAI = Pure active ingredient; PAIRA = Pure active ingredient, radiolabelled; Choice = Choice of several test substances determined on a case-by-case basis. TEP = Typical end-use product.

2/ Possible use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Unless otherwise specified, data must be submitted no later than six months after the publication of this Standard.

§158.135 Toxicology
(continued)

4/ Data are not required, because cyanazine is not known to have toxic effects to neurological systems.

5/ Requirement is contingent upon the outcome of the worker exposure analysis.

6/ Testing is required in both rats (3-year study) and dogs (2-year study). Data from the dog study must be submitted no later than two years after the publication of this Standard. Data from the rat study must be submitted no later than three years after the publication of this Standard.

7/ Testing is required in the rat. Testing should be performed according to a modified protocol to include plant metabolites and to investigate possible nitrosamine formation. Data must be submitted no later than three years after the publication of this Standard

8/ Testing is required in the Fischer 344 rats. Data must be submitted no later than one year after the publication of this Standard.

9/ Testing is required. The Agency prefers data submissions based on the Fischer 344 rat. Data must be submitted no later than twenty months after publication of this Standard.

10/ Testing is required in microbiological systems (Ames assay), and in mammalian cells (mouse lymphoma L5178Y; or CHO, HGPRT locus). Data is required on both the parent compound and plant metabolites.

11/ Testing is required in an in vitro system (SCE in CHO cells or cells or other mammalian cell lines); and in an in vivo system (dominant lethal test in rodents). Data must be submitted no later than twelve months after the publication of this Standard. Data is required on both the parent compound and plant metabolites.

12/ Testing is required for DNA repair in mammalian cells, using both the parent compound and plant metabolites.

13/ Registrants have been sent a §3(c)(2)(B) letter requiring submission of this data no later than July 1, 1985.

TABLE A

GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.145 Wildlife and Aquatic Organisms					
AVIAN AND MAMMALIAN TESTING					
71-1 - Acute Avian Oral Toxicity	TGAI	A,B	Partially	GS0066-22 GS0066-23	Reserved[4]
71-2 - Avian Dietary Toxicity	TGAI	A,B	No	-	Yes
71-3 - Wild Mammal Toxicity	TGAI	A,B	No	-	No
71-4 - Avian Reproduction	TGAI	A,B	No	-	Reserved[4]
71-5 - Simulated and Actual Field Testing - Mammals and Birds	TEP	A,B	No	-	No
AQUATIC ORGANISM TESTING					
72-1 - Acute Toxicity - Freshwater Fish	TGAI	A,B	Yes	GS028026 (Johnson & Finley)	No
72-2 - Acute LC_{50} Freshwater Invertebrates	TGAI	A,B	Partially[5]	GS028026	Yes
72-3 - Acute LC_{50} Estuarine and Marine Organisms	TGAI	A,B	Yes	00093206	No

TABLE A
GENERIC DATA REQUIREMENTS FOR CYANAZINE

Data Requirement	Composition[1/]	Use Pattern[2/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3/]
§158.145 Wildlife and Aquatic Organisms (continued)					
72-4 - Fish Early Life Stage and Aquatic Invertebrate Life-Cycle	TGAI	A,B	No	-	No
72-5 - Fish - Life-Cycle	TGAI	A,B	No	-	No
72-6 - Aquatic Organism Accumulation	TGAI	A,B	No	-	No
72-7 - Simulated or Actual Field Testing - Aquatic Organisms	TGAI	A,B	No	-	No

1/ Composition: TGAI = Technical grade of the active ingredient; PAI = Pure active ingredient; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor

3/ Unless otherwise specified, data must be submitted no later than six months after publication of this Standard.

4/ Reserved pending evaluation of the results of guideline citation 71-2.

5/ Mature organisms were used in the submitted study. Another study, using the more sensitive immature stages, must be submitted.

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.155 Nontarget Insect					
NONTARGET INSECT TESTING -					
Pollinators:					
141-1 - Honey bee acute contact toxicity	TGAI	A	Yes	00006652	No
141-2 - Honey bee toxicity of residues on foliage	TEP	A	No	-	No
141-3 - Wild bees important in alfalfa pollination-toxicity of residues on foliage	TEP	A	No	-	No
141-4 - Honey bee subacute feeding study	TEP	A	No	-	[Reserved][4]
141-5 - Field testing for pollinators	TEP	A	No	-	No

Data Requirement	Composition[1]	Use Pattern[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.155 Nontarget Insect (continued)					
NONTARGET INSECT TESTING - AQUATIC INSECTS:					
142-1 - Acute toxicity to aquatic insects	TGAI	A	No	-	[Reserved][4]
142-2 - Aquatic insect life-cycle study	TGAI	A	No	-	[Reserved][4]
142-3 - Simulated or actual field testing for aquatic insects	TGAI	A	No	-	[Reserved][4]
143-1- thru 143-3 NONTARGET INSECT TESTING PREDATORS AND PARASITES	TGAI	A	No	-	[Reserved][4]

1/ Composition: TGAI = Technical grade of the active ingredient; TEP = Typical end-use product.
2/ The use pattern codes are as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.
3/ Data must be submitted no later than six months after publication of this Standard, unless otherwise indicated.
4/ Reserved pending decision as to whether data requirements should be established.

TABLE B

20 PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CYANAZINE (94% TECHNICAL)[1]

Data Requirement	Composition[2]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[3]
§158.120 Product Chemistry				
Product Identity				
61-1 - Identity of Ingredients	MP	Yes	Refer to Product Chemistry Chapter	No
61-2 - Statement of Composition	MP	Partially		Yes[4]
61-3 - Discussion of Formation of Impurities	MP	Partially		Yes[5]
Analysis and Certification of Product Ingredients				
62-1 - Preliminary Analysis	MP	Partially		Yes[6]
62-2 - Certification of Limits	MP	Partially		Yes[7]
62-3 - Analytical Methods for Enforcement of Limits	MP	Partially		Yes[8]
Physical and Chemical Characteristics				
63-2 - Color	MP	Yes		No
63-3 - Physical State	MP	Yes		No
63-4 - Odor	MP	Yes		No
63-7 - Density, bulk density, or specific gravity	MP	No		Yes

TABLE B

21 PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CYANAZINE (94% TECHNICAL)

Data Requirement	Composition[1/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No, Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2/]
§158.120 Product Chemistry (continued)				
63-12 - pH	MP	No	Refer to Product Chemistry Chapter	Yes
63-14 - Oxidizing/Reducing Action	MP	No		Yes
63-15 - Flammability	MP	No		Yes
63-16 - Explodability	MP	No		Yes
63-17 - Storage stability	MP	No		Yes
63-18 - Viscosity	N/A[9/]	N/A		No
63-19 - Miscibility	N/A[9/]	N/A		No
Other Requirments:				
64-1 - Submittal of samples	N/A	N/A		No

1/ The 94% technical also serves as a manufacturing-use product.
2/ Composition: MP = manufacturing-use product.
3/ Data must be submitted no later than six months after publication of this Standard, unless otherwise indicated.
4/ Information is required on the details of the manufacturing process, such as the purities of the starting materials, description of the reaction conditions, any quality control measures used for the technical and the flowable intermediate products, and the name and address of the manufacturer or producer of the starting materials.
5/ Information is required on any impurities believed to be present at >0.1%, based on knowledge of the beginning materials, all possible chemical reactions, and any contamination.
6/ Data is required on analysis of five or more representative samples of the 94% technical for the amount of active ingredient and each impurity present for which a certified limit is required. Data must include a description of the analytical methods used to analyze the unintentional ingredients present at >0.1%, other than the nitrosamines.
7/ Upper and lower limits must be provided (and certified) for the active ingredient and each intentional added ingredient in the 94% technical, and limits must be provided for all impurities associated with the active ingredient.
8/ Data must be provided on a quantitative method to determine the unintentional ingredients (if >0.1%).
9/ Not required, because the 94% technical is a solid at room temperature.

TA[redacted]E

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CYANAZINE (28.2% FI)

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)?[2]
§158.120 Product Chemistry				
Product Identity				
61-1 - Identity of Ingredients	MP	Yes	Refer to Product Chemistry Chapter	No
61-2 - Statement of Composition	MP	Partially		Yes[3]
61-3 - Discussion of Formation of Impurities	MP	No		Yes[4]
Analysis and Certification of Product Ingredients				
62-1 - Preliminary Analysis	MP	Partially		Yes[5]
62-2 - Certification of Limits	MP	Partially		Yes[6]
62-3 - Analytical Methods for Enforcement of Limits	MP	Partially		Yes[7]
Physical and Chemical Characteristics				
63-2 - Color	MP	No		Yes
63-3 - Physical State	MP	Yes		No
63-4 - Odor	MP	No		Yes
63-7 - Density, bulk density, or specific gravity	MP	No		Yes

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CYANAZINE (28.2% FI)

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No, Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA Section 3(c)(2)(B)? 2/
§158.120 Product Chemistry (continued)				
63-12 - pH	MP	No	Refer to Product Chemistry Chapter	Yes
63-14 - Oxidizing/Reducing Action	MP	No		Yes
63-15 - Flammability	MP	No		Yes
63-16 - Explodability	MP	No		Yes
63-17 - Storage stability	MP	No		Yes
63-18 - Viscosity	MP	No		Yes
63-19 - Miscibility	MP	No		Yes
Other Requirements:				
64-1 - Submittal of Samples	N/A	N/A		No

1/ Composition: MP = Manufacturing-use product; Choice = Choice of several test substances determined on a case-by-case basis; FI = Flowable Intermediate

2/ Data must be submitted no later than six months after publication of this Standard unless otherwise specified.

3/ Information is required on the details of the manufacturing process, such as the purities of the starting materials, description of the reaction conditions, any quality control measures used for the technical and the flowable intermediate products, and the name and address of the manufacturer or producer of the starting materials.

4/ Information is required on any impurities believed to be present at >0.1%, based on knowledge of the beginning materials, all possible chemical reactions, and any contamination.

5/ Data is required on analysis of five or more representative samples of the 28.2% flowable intermediate for the amount of active ingredient and each impurity present for which a certified limit is required. Data must include a description of the analytical methods used in the analysis of the unintentional ingredients present at >1.0%, other than the nitrosamines.

6/ Upper and lower limits must be provided (and certified) for the active ingredient and each intentional added ingredient in the 28.2% flowable intermediate, and limits must be provided for all impurities associated with the active ingredient.

7/ Data must be provided on a quantitative method to determine the unintentional ingredients (if >0.1%).

IV. SUBMISSION OF REVISED LABELING INFORMATION

Note: This section applies to end use products only to the extent described in Section I (Regulatory Position and Rationale). Otherwise, the following information pertains exclusively to manufacturing use products.

FIFRA requires each product to be labeled with accurate, complete and sufficient instructions and precautions, reflecting the results of data concerning the product and its ingredients. Labeling requirements are set out in 40 CFR 162.10 (see Appendix IV-1) and are summarized for products containing this active ingredient as part of this Guidance Document (See Appendix IV-2). Applications submitted in response to this notice must include draft labeling for Agency review.

If you fail to submit revised labeling information complying with this section and/or Section I, EPA may issue a notice of intent to cancel the registration under FIFRA sec. 6(b)(1).

A. Label Contents

40 CFR 162.10 requires that certain specific labeling statements appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to Appendix IV-2.

Item 1. PRODUCT NAME - The name, brand or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading.

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text.

Item 3. NET CONTENTS - A net contents statement is require on all labels or on the container of the pesticide. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be expressed in the largest suitable unit, e.g., "1 pound 10 ounces" rather than "26 ounces." In addition to English units, net contents may be expressed in metric units. See Appendix IV-1. [40 CFR 162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No.," or "EPA Reg. No." The registration number must be set in type of a

size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. See Appendix IV-1. [40 CFR 162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment number on the immediate container cannot be clearly read through such wrapper or container. See Appendix IV-1. [40 CFR 162.10(f)]

Item 6. INGREDIENTS STATEMENT - An ingredients statement is required on the front panel and must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredients statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. See Appendix IV-1. [40 CFR 162.10(g)]

Item 6A. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

Item 7. FRONT LABEL PRECAUTIONARY STATEMENTS - Front panel precautionary statements must be grouped together, preferably within a block outline. The table below shows the minimum type size requirements for various size labels.

Size of Label on Front Panel in Square Inches	Signal Word as Required Minimum Type Size All Capitals	"Keep Out of Reach of Children" as Required
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - The statement "Keep Out of Reach of Children" must be located on the front panel above the signal word except where contact with children during distribution or use is unlikely. See Appendix IV-1. [40 CFR 162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (Caution, Warning, or Danger) is required on the front panel immediately below the child hazard warning statement. See Appendix IV-1. [40 CFR 162.10 (h)(1)(i)]

Item 7C. SKULL & CROSSBONES AND WORD "POISON" - On products assigned a toxicity Category I on the basis of oral, dermal, or inhalation toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word POISON. See Appendix IV-1. [40 CFR 162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in toxicity Categories I, II, and III. See Appendix IV-1. [40 CFR 162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. See Appendix IV-1. [40 CFR 162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements as listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. See Appendix IV-1. [40 CFR 162.10 (h)(2)].

Item 8A. HAZARD TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. See Appendix IV-1. [40 CFR 162.10 (h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. See Appendix IV-1. [40 CFR 162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD

1. Flammability statement. Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in Appendix IV-3. The requirement is based on the results of the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

2. Criteria for declaration of non-flammability. The following criteria will be used to determine if a product is non-flammable:

a. A "non-flammable gas" is a gas (or mixture of gases) that will not ignite when a lighted match is placed against the open cylinder valve.

b. A "non-flammable liquid" is one having a flashpoint greater than 350°F (177°C).

c. A "non-flammable aerosol" is one which meets the following criteria:

i. The flame extension is zero inches;

ii. There is no flashback; and

iii. The flashpoint of the non-volatile liquid component is greater than 350°F (177°C).

3. Declaration of non-flammability. Products which meet the criteria for non-flammability specified above may bear the notation "non-flammable" or "non-flammable (gas, liquid, etc.)" on the label. It may appear as a substatement to the ingredients statement, or on a back or side panel, but shall not be highlighted or emphasized (as with an inordinately large type size) in any way that may detract from precaution.

4. Other physical/chemical hazard statements. When chemistry data demonstrate hazards of a physical or chemical nature other than flammability, appropriate statements of hazard will be prescribed. Such statements may address hazards of explosivity, oxidizing or reducing capability, or mixing with other substances to produce toxic fumes.

Item 9. PRODUCT CLASSIFICATION - Section 3(d) of FIFRA requires that all pesticide formulations/uses be classified for either general or restricted use, and that those uses classified as restricted be limited to use by certified applicators or persons under their direct supervision (or subject to other restrictions that may be imposed by regulation).

In the Registration Standard, the Agency has (1) indicated certain formulations/uses to be restricted, based either on a previous classification determination made through the optional procedures of 40 CFR 162.30 or based on data already available to the Agency, or (2) reserved any classification decision until appropriate data are submitted.

The Regulatory Position and Rationale states whether products containing this active ingredient are classified for restricted use. If they are restricted the draft label(s) submitted to the Agency as part of your application must reflect this determination (see below).

If you wish to propose that your product should not be classified for restricted use, you must submit any information and rationale with your application for reregistration. During the Agency's review of your application, your proposed classification determination will be evaluated in accordance with the provisions of 40 CFR 162.11(c). You will be notified of the Agency's classification decision.

A. Classification Labeling Requirements

1. All Uses Restricted - Pesticide products bearing directions for use for formulations or uses classified restricted shall bear statements of restricted use classification on the front panel as described below:

a. The statement "RESTRICTED USE PESTICIDE," must appear at the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in 40 CFR 162.10(h)(1)(iv).

b. Directly below this statement on the front panel, a summary statement of the terms of restriction shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification."

2. Some But Not all Uses Restricted - If the Regulatory Position and Rationale states that some uses are classified for restricted use and some uses are unclassified, several courses of action are available:

a. You may label the product for restricted use. If you do so, you may include those uses that are unrestricted, but you may not distinguish them on the label as being unrestricted.

b. You may delete all restricted uses from your label and submit draft labeling bearing only unrestricted uses.

c. You may "split" your registration, i.e., register two separate products with identical formulations, one containing only unrestricted uses, and the other restricted uses. To do so, submit two applications for reregistration, each containing all forms and necessary labels. Both applications should be submitted simultaneously. Note that the product names will be assigned separate registration numbers.

B. Compliance Schedules

No product with a use classified for restricted use under this Standard may be released for shipment by the registrant or producer after one year from the date of issuance of this Standard, unless such product bears the restricted use classification. All products still in channels of trade after two years from the date of issuance of this Standard must be labeled for restricted use.

Item 10A. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix IV-4 to determine the disposal instructions appropriate for your products.

Item 10B. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. See Appendix IV-1. [40 CFR 162.10]

B. Collateral Labeling

Bulletins, leaflets, circulars, brochures, data sheets, flyers, or other graphic printed matter which is referred to on the label or which is to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product. It should be made part of the response to this notice and submitted for review.

V. INSTRUCTIONS FOR SUBMISSION

All applications prepared in response to this Notice should be addressed as follows:

Robert Taylor
Product Manager
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
Washington, D.C. 20460
Phone No. (703) 557-1800

For each product for which continued registration is desired:

1. Within 90 days from receipt of this document, you must submit the "FIFRA Section 3(c)(2)(B) Summary Sheet" EPA Form 8580-1. Refer to Appendix LI-3 with appropriate attachments.

2. Within 6 months from receipt of this document you must submit:

   a. Confidential Statement of Formula, EPA Form 8570-4.

   b. Product Specific Data Report, EPA Form 8580-4 (Appendix LII-1).

   c. Two copies of any required product-specific data.

   d. Two copies of draft labeling, including the label and associated brochures. If current labeling conforms to the requirements of this guidance document and the results of the short-term data, you may submit such labeling. End use product labeling must comply specifically with the instructions in Section LI (Regulatory Position and Rationale) of this guidance document. The labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 inch files. The draft label must indicate the intended colors of the final label, clear indication of the front panel label, and the intended type sizes of the text.

   e. Evidence of compliance with data support requirements of FIFRA sec. 3(c)(1)(D). Refer to PR Notice 84-4 (enclosed) for latest requirements.

3. Within the times set forth in Table A, all generic data must be submitted.

Note: If for any reason any required test is delayed or aborted so that meeting the agreed submission time will be delayed, notify the Product Manager.

Guide to Use of This Bibliography

1. Content of Bibliography: This bibliography contains citations of all the studies reviewed by EPA in arriving at the positions and conclusions stated elsewhere in the Standard. The bibliography is divided into two sections: (1) citations that contributed information useful to the review of the chemical and that are considered to be part of the data base supporting registrations under the Standard, and (2) citations examined and judged to be inappropriate for use in developing the Standard. This second part of the bibliography exists in the Agency's files and does not accompany this Standard. Interested parties may request a copy from the Agency. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions, and the published technical literature.

2. Units of Entry: The unit of entry in this bibliography is called a "study". In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the Agency, the Agency has sought to identify documents at a level parallel to the published article from within the typically larger volumes in which they were submitted. The resulting "studies" generally have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. The Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. Identification of Entries: The entries in this bibliography are sorted by author, date of the document, and title. Each entry bears, to the left of the citation proper, an eight-digit numeric identifier. This number is unique to the citations, and should be used at any time specific reference is required. This number is called the "Master Record Identifier", or "MRID". It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted data; see paragraph 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by an eight-character temporary identifier. This is also to be used whenever specific reference is needed.

4. Form of the Entry: In addition to the Master Record Identifier (MRID), each entry consists of a bibliographic citation containing standard elements followed, in the case of materials submitted to EPA, by a description of the earliest known submission. The bibliographic conventions used reflect the standards of the American National Standards Institute (ANSI), expanded to provide for certain special needs. Some explanatory notes of specific elements follow;

    a. Author: Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown an identifiable laboratory or testing facility as author. As a last resort, the Agency had shown the first known submitter as author.

    b. Document Date: When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title: This is the third element in the citation. In some cases it has been necessary for Agency bibliographers to create or enhance a document title. Any such editorial insertions are contained between square brackets.

d. Trailing Parentheses: For studies submitted to the Agency in the past, the trailing parentheses include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

(1) Submission Date: Immediately following the word 'received' appears the date of the earliest known submission.

(2) Administrative Number: The next element, immediately following the word 'under', is the registration number, experimental permit number, petition number, or other administrative number associated with the earliest known submission.

(3) Submitter: The third element is the submitter, following the phrase 'submitted by'. When authorship is defaulted to the submitter, this element is omitted.

(4) Volume Identification: The final element in the trailing parentheses identifies the EPA accession number of the volume in which the original submission of the study appears. The six digit accession number follows the symbol 'CDL', standing for "Company Data Library". This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volume. For example, within accession number 123456, the first study would be 123456-A; the second 123456-B; the 26th, 123456-Z, and the 27th 123456-AA.

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting
Registrations Under the Cyanazine Standard

00006652 Atkins, E.L.; Greywood, E.A.; Macdonald, R.L. (1973) Toxicity of Pesticides and Other Agricultural Chemicals to Honey Bees: Laboratory Studies. Rev. By Univ. of California, Dept. of Entomology. Riverside, Calif.: U.C. (Agricultural Extension M-16; also in unpublished submission received Nov 17, 1975 under 359-620; submitted by Rhone-Poulenc, Inc., Monmouth Junction, N.J.; CDL:223344-A)

00015609 Shell Development Company (1976) Residue Determination of Bladex (R) Herbicide in Crops and Soil: GLC-Electron Capture Detector Method. Method MMS-R-202-4 dated Apr 1976. (Unpublished study received Oct 20, 1978 under 100-583; submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:235359-S)

00022270 Shell Development Company (1973) Residue Determination of Bladex (R) Herbicide in Crops: GLC-Alkali Flame Ionization Detector. Method MMS-R-218-4 dated Mar 1973. (Unpublished study received Jul 2, 1979 under 476-2157; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:238817-F)

00022775 Beynon, K.I.; Stoydin, G.; Wright, A.N. (1972) The breakdown of the Triazine herbicide Cyanazine in wheat and potatoes grown under indoor conditions in treated soils. Pesticide Science 3(?): 379-387. (Also in unpublished submission received Jan 7, 1976 under 6F1729; submitted by Shell Chemical Co., Washington, D.C.; CDL:094884-G)

00022786 Shell Development Company (1975) Residue Determination of the Chloro and Hydroxy acid Metabolites of Bladex (R) Herbicide in Water, Soil, and Crops: GLC-Alkali Flame Ionization Detector. Method MMS-R-357-3 dated Oct 1975. (Unpublished study received Jan 7, 1976 under 6F1729; CDL:094884-AH)

00022792 Shell Chemical Co. (1979) Report Nos. TIR-22-106-77 and TIR-22-106-78. received July 18, 1979 under 9F2232 submitted by Shell Chemical (Acc. No. 098395-D-6 and 7) titled "Residues of ^{14}C in Milk and Tissues from Cows Fed SD 33104-^{14}C by J.C. Potter.

Shell Chemical Co. (1979) Storage Stability of Frozen Residue Samples. Received July 18, 1979 under 9F2232 (Acc. No. 098395-D-12)

00022795 Potter, J.C.; Arnold, D.L. (1977) Residues of 14C in Milk and Tissues from Cows Fed SD 33104-14C: TIR-22-106-78. Including four undated methods. (Unpublished study received Jul 18, 1979 under 201-279; submitted by Shell Chemical Co., Washington, D.C.; CDL:098395-Q)

00022796 Potter, J.C. (19??) Residues of 14C in Milk and Tissues from Cows Fed SD 31224-14C: TIR-22-106-77. Including six undated methods. (Unpublished study received Jul 18, 1979 under 201-279; submitted by Shell Chemical Co., Washington, D.C.; CDL:098395-R)

00022798 Shell Chemical Company (19??) Storage Stability of Frozen Residue Samples. (Unpublished study received Jul 18, 1979 under 201-279; CDL:098395-X)

00022853 Beynon, K.I.; Stoydin, G.; Wright, A.N. (1972) The breakdown of the Triazine herbicide Cyanazine in soils and maize. Pesticide Science 3(?):293-305. (Also in unpublished submission received Oct 7, 1977 under 100-566; submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:231969-A)

00022856 Crayford, J.V.; Hutson, D.H. (1972) The metabolism of the herbicide, 2-Chloro-4-(ethylamino)-6-(1-cyano-1-methylethylamino)-:S Triazine in the rat. Pesticide Biochemistry and Physiology 2(?):295-307. (Also in unpublished submission received Oct 7, 1977 under 100-566; submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:231969-E)

00023132 Shell Chemical Company (19??) A Study of the Possible Interference of Other Pesticides with the Analytical Methods for SD 15418, SD 20262, SD 20258 and SD 31222-D. (Unpublished study including TIR-26-113-73, received Jul 18, 1979 under 201-279; CDL: 098395-W)

00023212 Shell Chemical Company (1970) Table of Radiolabelled Components from Bladex Metabolism Study. (Unpublished study received Jul 1, 1971 under unknown admin. no.; CDL:221995-Q)

00023716 Zimdahl, R. (1974) Residue Data for Bladex in Wheat and Straw: TIR-24-107-70. (Unpublished study including TIR-24-104-70, TIR-24-120-70, TIR-24-126-72...and data found in 094884-AI, received Dec 10, 1974 under 201-379; prepared in cooperation with Colorado State Univ., submitted by Shell Chemical Co., Washington, D.C.; CDL:028277-E)

00023820 Shell Development Company (1975) Dissipation of Bladex (R) Herbicide and Sutan in Soil following Application of Bladex, Sutan, or a Tank Mix of Bladex and Sutan: TIR-24-134-74. (Unpublished study including FSDS no. A-10063, received Jan 6, 1976 under 476-2180; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:224370-J)

00023828 Shell Development Company (1970) Residue Determination of Bladex Herbicide in Corn: GLC-Cesium Bromide/Flame Detector Method. Method MMS-R-218-2 dated Aug 1970. (Unpublished study received Mar 28, 1973 under 3G1377; CDL:095516-H)

00023829 Shell Development Company (1973) Residue Determination of Bladex (R) Herbicide in Crops: GLC-Alkali Flame Ionization Detector. Method MMS-R-218-3 dated Feb 1973. (Unpublished study received Mar 28, 1973 under 3G1377; CDL:095516-I)

00023869 Shell Chemical Company (1970) 1970 Residue Data for Bladex Herbicide in Chicken Tissue and Eggs from Hens Fed This Chemical. (Unpublished study received Jul 1, 1971 under unknown admin. no.; CDL:221995-AP)

00026261 Shell Chemical Company (1970?) Dissipation of Residues in Soil: Rate of Dissipation. (Unpublished study received Jul 1, 1971 under unknown admin. no.; CDL:221995-B)

00026264 Shell Chemical Company (1971) Soil Residue Data for Bladex. (Unpublished study received Sep 23, 1971 under 0F0998; CDL: 094492-A)

00026424 Young, S.M.; Adamik, E.R. (1979) Acute Oral Toxicity Study in Rats with SD 15148 (Technical Bladex (R) Herbicide): Code 16-8-0-0: Project No. WIL-1223-78. (Unpublished study received Jan 10, 1980 under 201-281; submitted by Shell Chemical Co., Washington, D.C.; CDL:099198-B)

00026425 Young, S.M.; Adamik, E.R. (1979) Acute Dermal Toxicity Study in Rabbits with SD 15418 (Technical Bladex (R) Herbicide): Code 16-8-0-0: Project No. WIL-1223-78. (Unpublished study received Jan 10, 1980 under 201-281; submitted by Shell Chemical Co., Washington, D.C.; CDL:099198-C)

00026427 Young, S.M.,;Adamik, E.R. (1979) Acute Eye Irritation study in Rabbits with SD 15418 (Technical BLADEX® Herbicide): Code-16-8-0-0: Project No. WIL-1223-78. (Unpublished study received Jan 10, 1980 under 201-281; submitted by Shell Chemical Co., Washington, DC; CDL:099198-E)

00026428 Young, S.M.; Adamik, E.R. (1979) Delayed Contact Hypersenisitivity Study in Guinea Pigs with SD 15418 (Technical BLADEX® Herbicide): Code 16-8-0-0: Project No. WIL-1223-78. (Unpublished Study received Jan 10, 180 under 201-281; submitted by Shell Chemical Co., Washington, D.C.;CDL:099198-F)

00026435 Marxmiller, R.L. (1979) Determination of Bladex (R) Herbicide Stability in Peanuts following Storage at -20° C for 18 Months: TIR 24-265-77C. (Unpublished study received Jan 10, 1980 under 201-281; submitted by Shell Chemical Co., Washington, D.C.; CDL: 099198-Q)

00027093 Shell Chemical Company (1976) Dissipation of Bladex (R) Herbicide and Sutan in Soil following Application of Bladex, Sutan Plus, or a Tank Mix of Bladex and Sutan Plus: TIR-24-134-74. (Unpublished study including FSDS No. A-10063, received Apr 22, 1976 under 201-279; CDL:224067-B)

00027862 Beynon, K.I.; Stoydin, G.; Wright, A.N. (1972) A Comparison of the breakdown of the Triazine herbicides Cyanazine, Atrazine, and Simazine in Soils and in Maize. Pesticide Biochemistry and Physiology 2(?):153-161. (Also in unpublished submission received Jul 17, 1978 under 100-541; submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:234455-B)

00032348 Shell Chemical Company (1969) Metabolism. (Unpublished study received Jun 5, 1969 under 9G0844; CDL:095023-G)

00044420 Shell Chemical Company (1974) Residue Data Developed from the Use of Bladex (R) Herbicide on Sorghum. (Unpublished study received on unknown date under 5F1532; CDL:094155-E)

00044431 Shell Chemical Company (1970) Metabolism: Plants and Soil. (Unpublished study received on unknown date under 5F1532; CDL: 094156-J)

00044432 Shell Chemical Company (1973) Bladex Herbicide in Grain: TIR-24-148-72A. (Unpublished study including TIR-24-118-72A, TIR-24-118-73A and TIR-24-150-73A, received on unknown date under 5F1532; CDL:094156-M)

00044453 Shell Development Company (1969) Determination of SD 15418 Residues in Corn Kernels and Other Corn Tissues, Oats and Soil: GLC-Electron Capture Method. Method MMS-R-202-2 dated Oct 1969. (Unpublished study received Jun 5, 1969 under 9G0844; CDL:093140-F)

00063847 Shell Chemical Company (1970) Summary of Information Regarding SD 15418 Residues on Corn. (Compilation; unpublished study received on unknown date under 0F0998; CDL:091722-A)

00064604 Shell Chemical Company (1970) Residue Data by Isotope Dilution Procedure for Compound XII and XIII in Soybeans (Follow-up Crop). (Unpublished study received Nov 15, 1970 under 0F0998; CDL: 091725-A)

00064605 Shell Chemical Company (1970) Residue Data by Isotope Dilution Procedure for Compound XII and XIII in Sugarbeets (Follow-up Crop). (Unpublished study received Nov 15, 1970 under 0F0998; CDL: 091725-B)

00064606 Shell Chemical Company (1970) Residue Data for Bladex and Compounds XII and XIII in Oats (Follow-up Crop). (Unpublished study received Nov 15, 1970 under 0F0998; CDL:091725-C)

00071228 Lee, P.W. (1979) Determination of the Mobility of SD 9129, SD 6120, SD 14114, SD 12011, SD 15418, SD 45328 and Selected Reference Pesticides by Soil Thin-layer Chromatography: TIR-22-125-79. (Unpublished study received Jan 22, 1981 under 201-157; submitted by Shell Chemical Co., Washington, D.C.; CDL:099891-M)

00091020 Lu, C.C.; Tang, B.S.; Chai, E.Y.; et al. (1981) Technical Bladex (R) (SD 15418) Teratology Study in Rats: Project No. 61230. (Unpublished study received Jan 4, 1982 under 201-279; submitted by Shell Oil Co., Washington, D.C.; CDL:070584-A)

00093184 Shell Chemical Company (1970) Summary of Basic Data for Technical Bladex (TM) Herbicide. San Ramon, Calif.: Shell. (Technical data bulletin ACD: 70-203; also unpublished submission received Feb 28, 1975 under 5F1599; CDL:094364-B)

00093192 Shell Chemical Company (1974) Residue Data Developed from the Use of Bladex (R) Herbicide on Cotton. Includes methods MMS-R-218-4 dated Mar 1973 and MMS-R-202-3 dated Oct 1969. (Compliation; unpublished study, including TIR-24-113-73, TIR-24-175-72, TIR-24-195-72..., received Feb 28, 1975 under 5F1599; CDL: 094363-Q).

00093193 Shell Chemical Company (1969) Toxicology Summary: SD 15418. Summary of studies 091460-B through 091460-I. (Unpublished study received Oct 17, 1969 under 9G0844; CDL:091460-A)

00093199 Walker, A.I.T.; Stevenson, D.E. (1968?) The Toxicity of the S-Triazine Herbicide DW 3418: 13 Week Oral Toxicity Experiment in Dogs: Group Research Report TLGR.0016.68. (Unpublished study received Oct 17, 1969 under 9G0844; prepared by Shell Research, Ltd., England, submitted by Shell Chemical Co., Washington, D.C.; CDL:091460-G)

00093202 Shell Chemical Company (19??) Metabolism of SD 15418 in Corn and Soil. (Unpublished study received Oct 17, 1969 under 9G0844; CDL:091460-J)

00093206 Shell Chemical Company (1968) Toxicity of SD 15418 to Sheepshead Minnow and Various Subjects. (Compilation of reports by U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Biological Laboratory; unpublished study; CDL:091460-N)

00099198 Great Lakes Biochemical Company, Incorporated (19??) Slow Release Algimycin PLL-C. (Unpublished study received Jan 30, 1974 under 7364-26; CDL:009692-C)

00100503 Gellatly, J.B.M.; Hend, R.W.; Cole, P.N.; et al. (1981) A Two Year Feeding Study of Bladex in Mice: Group Research Report SBGR.81.171. (Unpublished study received Apr 7, 1982 under 201-279; prepared by Sittingbourne Research Centre, England, submitted by Shell Chemical Co., Washington, D.C.; CDL:247295-A; 247296; 247297; 247298)

00125660 Dix, K.; Cassidy, S.; Daniel, D.; et al. (1982) Teratology Study in New Zealand White Rabbits Given Bladex Orally: SBGR.82.357. (Unpublished study received Feb 1, 1983 under 201-279; prepared by Shell Research Ltd., Eng., submitted by Shell Chemical Co., Washington, DC; CDL:071382-A)

05017166 Majka, J.T., et al (1977) Adsorption, mobility, and .01 of 01 degradation of cyanazine and diuron in soils. Weed V33200 Science 25(5):401-406.

05018132 Majka, J.T. (1976) Adsorption, mobility and 01 of 01 degradation of Cyanazine and Diuron in Soils. V33907.

GS0066-01* Shell Chemical Co. (1969) Product Chemistry Data - Section A; Received June 6, 1969 under 9G0844 (Acc. No. 116126-A)

GS0066-02 Shell Chemical Co. (1970) Technical Data Bulletin entitled "Summary of Basic Data for Technical Bladex Herbicide". Received Jan 17, 1975

GS0066-03 Shell Chemical Co. (1975) Confidential Statement of Formula for EPA Reg. No. 201-380; Received Jan 17, 1975

GS0066-04 Shell Chemical Co. (1977a) Determination of nitroso-bladex and nitrosoatrazine in technical bladex herbicide. Report No. TIR-24-701-77-B. Submitted by Shell Chemical Co. in a letter (dated 5/2/77) from E.L. Hobson of Shell to R.J. Hummel of the EPA Nitrosamine Panel. Includes a description of the analytical method.

GS0066-05 Shell Chemical Co. (1977b) Determination of N-nitrosodimethylamine, N-nitrosodiethylamine, and N-nitrosodi-n-propylamine in technical bladex herbicide. Report No. TIR-24-701-77. Submitted by Shell Chemical Co. in a letter (dated 2/16/77) from E.L. Hobson of Shell to M.H. Rogoff of EPA. Includes a description of the analytical method.

GSC066-06* Shell Chemical Co. (1972) Technical Data Bulletin - Summary of Basic Data for Technical Bladex® Herbicide; received Jan 10, 1980 under OG2314 (Acc. No. 099198) submitted by Shell Chemical Co. Agric. Div., San Ramone, CA

GSC066-07 EPA (1976) Cyanazine EPA-1. In EPA Manual of Chemical Methods for Pesticides and Devices. EPA, OTS.

GSC066-08* Shell Chemical Co. (1969) Metabolism of SD 15418 in Corn and Soil. Received June 6, 1969 under 9G0844 Section C-II (Acc. No. 116124) submitted by Shell Chemical Co. Agric. Div., San Ramone, CA

GSC066-09* Shell Chemical Co. (1969) Milk Cow Experiments. Received June 6, 1969 under 9G0844 Section C-II (Acc. No. 116124) submitted by Shell Chemical Co. Agric. Div, San Ramone, CA

GSC066-10* Shell Chemical Co. (1970) Determination of Residues of DW 3418 Triazine Herbicide in Crops and Soils - Gas Liquid Chromatographic Method WAMS-63-2. Received Nov 18, 1970 under OF0998 (Acc. No. 116738, Tab 5); submitted by Shell Chemical Co.

GSC066-11* EPA (1971) Report on Method Tryout for Bladex (SD 15418) on Corn Grain (Acc. No. 116735) under 3G1377

GSC066-15* Shell Chemical Co. (1974) Report Nos. TIR-24-162-72, TIR-24-163-72, and TIR-24-170-71 in Section D of 5E1565 (Acc. No. 119044-D) received Jan 11, 1974 under 5E1565

GSC066-16* Shell Chemical Co. (1970) Section D of OF0998 (Acc. Nos. 116738 and 116740.) Received Nov 18, 1970

GSC066-17* Shell Chemical Co. (1969) Section D of 9G0844 (Acc. No. 116123-D) received Dec 9, 1969

GSC066-18 Shell Chemical Co. (1976) Project Nos. TIR-26-189-73, TIR-24-126-72 I, II, III, and IV, -189-73 I, II, III, and IV, -129-75 I, II, III and IV, -127-72 A, B, and C, -107-70, -120-70, and -104-70. received Jan 22, 1976 under 6F1729 (Acc. No. unknown - none on petition jacket)

GSC066-19* Shell Chemical Co. (1975) Report Nos. TIR-24-162-72, TIR-24-163-72, and TIR-170-71 in Section D of 5E1565 (Acc. No. 119044) received Nov 1, 1974

GSC066-21* Shell Chemical Co. (1969) 1968 Residue Data for Oats Grown in Soil Treated with SD 15418 in 1967 from University of Minnesota Plots and Residue in Oats Grown in Soil Treated in 1967, from University of Missouri Plots, Page Nos. 00118 and 00119 of OF0998, submitted by Shell Chemical Co. received Nov 18, 1970 (Acc. No 116738)

GS0066-22 Tucker, R.K. (1968) USDI Fish and Wildlife Service, Denver, Colorado, letter dated Oct. 25, 1968 Acc. No. 91460, pp 178-180.

GS0066-23 Tucker, R.K. (1968) USDI Fish and Wildlife Service, Denver, Colorado, letter dated Oct. 28, 1968, Acc. No. 91460, pp 182-183.

PRODUCTS SUBJECT TO THE REGISTRATION STANDARDS PROGRAM	ACTION(S) REQUIRED TO MAINTAIN REGISTRATION
I. Products That Do Not Qualify For The Formulator's Exemption	
A. Single Active Ingredient Products*	These products must be reregistered. To obtain reregistration, labeling, packaging and data requirements must be satisfied in accordance with the Registration Standards Guidance Document.
B. Multiple Active Ingredient Products	These products will not be reregistered at this time. However, generic data required to continue the registration of the active ingredient under review, as described in the Registration Standards Guidance Document, will be required and some labeling precautions may also be required.
II. Products That Do Qualify For The Formulator's Exemption	Only when additional restrictions or labeling are needed to protect man or the environment will these products be subject to the Registration Standard requirements. Affected products will be dealt with in a variety of ways, including but not limited to the Label Improvement Program and special intent to cancel notices.

* End use products of registrants who also produce a manufacturing use product will not be required to be reregistered provided that registrant fulfills the requirements specified in the Guidance Document for manufacturing use product(s). Such end use products will be subject to the labeling changes required for products in "II" above. If there are no manufacturing use products registered by any company end use products will be required to be reregistered.

NOTE: If all registrants in "I" above fail to meet the requirements in I-A and B above, then the registrants in "II" lose their right to qualify for the formulator's exemption and become subject to the requirements in I-A and B.

II-3 (cont)

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET	EPA REGISTRATION NO.

PRODUCT NAME

APPLICANT'S NAME	DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 3. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products.

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

REGISTRANT'S AUTHORIZED REPRESENTATIVE	SIGNATURE	DATE

EPA Form 8580-1 (10-82)

OMB Approval No. [illegible]

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

(To qualify, certify ALL four items)

1. I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:

GUIDANCE DOCUMENT DATE

ACTIVE INGREDIENT

NAME OF FIRM	EPA COMPANY NUMBER

(This firm or group of firms is referred to below as "my firm".)

2. My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

3. My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):

NAME OF FIRM	DATE OF OFFER

However, none of those firm(s) accepted my offer.

4. My firm requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

TYPED NAME	SIGNATURE	DATE

EPA Form 8580-6 (10-82)

PRODUCT SPECIFIC DATA REPORT

'EPA Registration No._____ Guidance Document for_____

Date_____

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For 'EPA Use Only) Accession Numbers Assigned
			Citing MRID#	Submitting Data (Attached)	
§158.20 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) Accession Numbers Assigned
			Citing MRID#	Submitting Data (Attached)	
63-13	Stability				
63-14	Oxidizing/reducing reaction				
63-15	Flammability				
63-16	Explodability				
63-17	Storage stability				
63-18	Viscosity				
63-19	Miscibility				
63-20	Corrosion characteristics				
63-21	Dielectric breakdown voltage				
§158.135 TOXICOLOGY					
81-1	Acute oral LD-50, rat				
81-2	Acute dermal LD-50				
81-3	Acute inhalation, LC-50 rat				
81-4	Primary eye irritation, rabbit				
81-5	Primary dermal irritation				
81-6	Dermal sensitization				

cant obtained the data from another firm (identify); applicant copied data from a publication; applicant obtained a copy of the data from EPA).

(d) The applicant shall submit with his application a statement that EPA, in its evaluation of the properties, efficacy, and safety of the formulated end-use product, may not consider any data as supporting the application, except the following data:

(1) The data the applicant has submitted to EPA under paragraph (b) of this section;

(2) Other data pertaining to the safety of the product's active ingredients, rather than to the safety of the end-use product; and

(3) Existing tolerances, food additive regulations, exemptions, and other clearances issued under the Federal Food, Drug, and Cosmetic Act.

(e) If the applicant knows that any item of data he submitted under this section was generated by (or at the expense of) another person who originally submitted the data to EPA (or its predecessor, USDA) on or after January 1, 1970, to support an application for registration, experimental use permit, or amendment adding a new use to an existing registration, or for reregistration (unless the applicant and the original data submitter have reached written agreement on the amount and the terms of payment of any compensation that may be payable under FIFRA section 3(c)(1)(D)(ii)) with regard to approval of the application), the applicant shall submit to EPA a statement that he has furnished to each such identified original data submitter:

(1) A notification of the applicant's intent to apply for registration, including the proposed product name;

(2) An offer to pay the person compensation, with regard to the approval of the application, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D);

(3) An identification of the item(s) of data to which the offer applies;

(4) An offer to commence negotiations to ascertain the amount and terms of compensation to be paid; and

(5) The applicant's name, address, and telephone number.

(f) If the applicant's product contains any active ingredient other than those that are present solely because of the incorporation into the product, during formulation, of one or more other registered pesticide products purchased from another producer, then the applicant shall also comply with § 162.8-5 as to such active ingredient, and the application shall contain an acknowledgment that for purposes of FIFRA section 3(c)(1)(D) the application relies on (and any resulting registration should be regarded as if it were based on the Administrator's consideration of) the following data:

(1) All data submitted or specifically cited by the applicant in support of the registration; and

(2) Each other item of data in the Agency's files which:

(i) Concerns the properties or effects of any such active ingredient; and

(ii) Is one of the types of data that EPA would require to be submitted for scientific review by EPA if the applicant sought the initial registration under FIFRA Section 3(c)(5) of a product with composition and intended uses identical to those proposed for the applicant's product, under the data requirements in effect on the date EPA approves the applicant's present application.

(Secs. 3, 6, and 25 of FIFRA, as amended; 7 U.S.C. 136 *et seq.*)

[44 FR 27953, May 11, 1979]

§ 162.10 Labeling requirements.

(a) *General*—(1) *Contents of the label.* Every pesticide product shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) *Prominence and legibility.* (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) *Language to be used.* All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) *Placement of Label*—(i) *General.* The label shall appear on or be securely attached to the immediate container of the pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) *Tank cars and other bulk containers*—(A) *Transportation.* While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170-189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers and left with the consignee at the time of delivery.

(B) *Storage.* When pesticide products are stored in bulk containers whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) *False or misleading statements.* Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular, including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device;

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by

any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) *Final printed labeling.* (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) *Name, brand, or trademark.* (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4).

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for * * *," "Distributed by * * *," or "Sold by * * *" to show that the name is not that of the producer.

(d) *Net weight or measure of content.* (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68° F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) *Product registration number.* The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall run par-

allel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) *Producing establishments registration number.* The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) *Ingredient statement.*—(1) *General.* The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) *Position of ingredient statement.* (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) *The text of the ingredient statement* must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) *Names to be used in ingredient statement.* The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of Section 25(c)(6).

(4) *Statements of percentages.* The percentages of ingredients shall be stated in terms of weight-to-weight. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." In the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) *Accuracy of stated percentages.* The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) *Deterioration.* Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) *Inert ingredients.* The Administrator may require the name of an

inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) *Warnings and precautionary statements.* Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups: those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) *Required front panel statements.* With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD_{50}	Up to and including 50 mg/kg	From 50 thru 500 mg/kg	From 500 thru 5000 mg/kg	Greater than 5000 mg/kg
Inhalation LC_{50}	Up to and including .2 mg/liter	From .2 thru 2 mg/liter	From 2 thru 20 mg/liter	Greater than 20 mg/liter
Dermal LD_{50}	Up to and including 200 mg/kg	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000
Eye effects	Corrosive; corneal opacity not reversible within 7 days.	Corneal opacity reversible within 7 days; irritation persisting for 7 days.	No corneal opacity; irritation reversible within 7 days.	No irritation.
Skin effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours.

(i) *Human hazard signal word—(A) Toxicity Category I.* All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) *Toxicity Category II.* All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) *Toxicity Category III.* All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) *Toxicity Category IV.* All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) *Use of signal words.* Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) *Child hazard warning.* Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) *Statement of practical treatment—(A) Toxicity Category I.* A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the

placement of the statement of practical treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) *Other toxicity categories.* The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) *Placement and prominence.* All the require front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label (sq. in.)	Points	
	Required signal word all capitals	"Keep out of reach of Children"
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) *Other required warnings and precautionary statements.* The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) *Hazard to humans and domestic animals.* (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye toxic effects
I	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Prompt special statement of practical treatment required.]	Corrosive; causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.]	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.]
III	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.]	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	[No precautionary statements required.]	[No precautionary statements required.]

(ii) *Environmental hazards.* Where a hazard exists to non target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident injury or damage. Examples of th hazard statements and the circum

stances under which they are required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient with a mammalian acute oral LD_{50} of 100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC_{50} of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD_{50} of 100 mg/kg or less, or a subacute dietary LC_{50} of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) *Physical or chemical hazards.* Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) Pressurized Containers	
Flash point at or below 20° F. If there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
Flash point above 20° F and not over 80° F or if the flame extension is more than 18 in long at a distance of 6 in from the flame.	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
(B) Nonpressurized Containers	
At or below 20° F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20° F and not over 80° F	Flammable. Keep away from heat and open flame.
Above 80° F and not over 150° F	Do not use or store near heat or open flame.

(i) *Directions for Use*—(1) *General requirements*—(i) *Adequacy and clarity of directions.* Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

(ii) *Placement of directions for use.* Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which accompanies the pesticide provided that

(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular;" and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) *Exceptions to requirement for direction for use*—(A) Detailed directions for use may be omitted from labeling of pesticides which are intended

for use only by manufacturers of products other than pesticide products in their regular manufacturing processes, provided that:

(*1*) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(*2*) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(*3*) The product will not come into the hands of the general public except after incorporation into finished products; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(*1*) The label clearly states that the product is for use only by physicians or veterinarians;

(*2*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(*3*) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(*1*) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(*2*) The label clearly states that the product is intended for use only in manufacturing, formulating, mixing, or repacking for use as a pesticide and specifies the type(s) of pesticide products involved;

(*3*) The product as finally manufactured, formulated, mixed, or repackaged is registered; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(*2*) *Contents of Directions for Use.* The directions for use shall include the following, under the headings "Directions for Use":

(i) The statement of use classification as prescribed in 162.10(j) immediately under the heading "Directions for Use."

(ii) Immediately below the statement of use classification, the statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."

(iii) The site(s) of application, as for example the crops, animals, areas, or objects to be treated.

(iv) The target pest(s) associated with each site.

(v) The dosage rate associated with each site and pest.

(vi) The method of application, including instructions for dilution, if required, and type(s) of application apparatus or equipment required.

(vii) The frequency and timing of applications necessary to obtain effective results without causing unreasonable adverse effects on the environment.

(viii) Specific limitations on reentry to areas where the pesticide has been applied, meeting the requirements concerning reentry provided by 40 CFR Part 170.

(ix) Specific directions concerning the storage and disposal of the pesticide and its container, meeting the requirements of 40 CFR Part 165. These instructions shall be grouped and appear under the heading "Storage and Disposal." This heading must be set in type of the same minimum size, as required for the child hazard warning (See Table in § 162.10(h)(1)(iv).)

(x) Any limitations or restrictions on use required to prevent unreasonable adverse effects, such as:

(A) Required intervals between application and harvest of food or feed crops.

(B) Rotational crop restrictions.

(C) Warnings as required against use on certain crops, animals, objects, or in or adjacent to certain areas.

(D) [Reserved]

(E) For restricted use pesticides, a statement that the pesticide may be applied under the direct supervision of a certified applicator who is not physically present at the site of application but nonetheless available to the person applying the pesticide, unless the Agency has determined that the pesticide may only be applied under the direct supervision of a certified applicator who is physically present.

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) *Statement of Use Classification.* By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j)(1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) *General Use Classification.* Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) *Restricted Use Classification.* Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) *Front panel statement of restricted use classification.* (A) At the top of the front panel of the label, set in type of the same minimum sizes as require for human hazard signal words (se table in § 162.10(h)(1)(iv)), and appear ing with sufficient prominence relativ to other text and graphic material o the front panel to make it unlikely t be overlooked under customary condi tions of purchase and use, the state ment "Restricted Use Pesticide" sha appear.

(B) Directly below this statement o the front panel, a summary statemen of the terms of restriction imposed a a precondition to registration sha appear. If use is restricted to certifie applicators, the following statement i required: "For retail sale to and us only by Certified Applicators or pe sons under their direct supervision an only for those uses covered by the Ce tified Applicator's certification." I however, other regulatory restriction are imposed, the Administrator wi define the appropriate wording for th terms of restriction by regulation.

(k) Advertising. [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 3232 Aug. 1, 1975; 40 FR 36571, Aug. 21, 1975, a amended at 43 FR 5786, Feb. 9, 1978]

§ 162.11 Criteria for determinations of u reasonable adverse effects.

(a) *Criteria for Issuance of Notice o Intent to Deny Registration, Cancel Registration, or to Hold a Hearing.* (1) *Presumption.* (i) A rebuttable pre sumption shall arise that a notice o intent to deny registration pursuant t section 3(c)(5) of the Act, a notice o intent to cancel registration pursua to section 6(b)(1) of the Act, or notice of intent to hold a hearing t determine whether the registratio should be cancelled or denied, as a propriate, shall be issued upon a de termination by the Administrator tha the pesticide meets or exceeds any o the criteria for risk set forth in para graph (a)(3) of this section. Upon suc determination, the Administrato shall issue notice by certified mail t the applicant or registrant, as the cas may be, stating that the applicant o registrant has the opportunity t submit evidence in rebuttal of suc presumption in accordance with para graph (a)(4) of this section. The appli cant or registrant shall have forty-fiv

LABELING REQUIREMENTS OF THE FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . .," "Distributed by. . .," etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units
4	EPA Est. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Reg. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lbs. ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of practical treatment	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8B, and 8C; preferably blocked.
8A	Hazards to humans and domestic animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flash points under 150°F	None	Same as above	
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9C	Misuse statement	All products	Immediately following statement of classification or ahead of directions for use		
10A	Re-entry statement	All cholinesterase inhibitors	In the directions for use	Immediately after misuse statement	
10C	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from from other directions for use.
10D	Directions for use	All products	None	None	May be in metric as well as U.S. units

PHYSICAL-CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20°F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
B. Flashpoint above 20°F and not over 80°F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
C. ALL OTHER PRESSURIZED CONTAINERS	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20°F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20°F and not over 80°F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80°F and not over 150°F.	Do not use or store near heat and open flame.
D. Flashpoint above 150°F.	None required.

STORAGE AND DISPOSAL INSTRUCTIONS FOR PESTICIDES

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL." The STORAGE AND DISPOSAL heading must appear in the minimum type size listed below:

Size of label front panel in square inches	Required type size for the heading STORAGE AND DISPOSAL (all capitals)
10 and under	.6 point
Above 10 to 15	.8 point
Above 15 to 30	10 point
Over 30	12 point

Storage and disposal instructions must be set apart and clearly distinguishable from other directions for use. Blocking storage and disposal statements with a solid line is suggested as a means of increasing their prominence.

A. Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

B. Pesticide Disposal Instructions:

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients appearing on the "Acutely Hazardous" Commercial Pesticide Products List (RCRA "E" List) at the end of this appendix or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, skin or eye irritation potential, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

   "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

   The labels of all products, except those intended for domestic use, containing active or inert ingredients that appear on the "Toxic" Commercial Pesticide Products List (RCRA "F" List) at the end of this appendix or presently meet any of the criteria in Subpart C, 40 CFR 261 for a hazardous waste must bear the following pesticide disposal statement:

"Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

"Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

3. Products intended for domestic use only must bear the following disposal statement: "Securely wrap original container in several layers of newspaper and discard in trash."

C. Container Disposal Instructions

The label of each product must bear container disposal instructions appropriate to the type of container.

1. All products intended for domestic use must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. The labels for all other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.

Container Type	Statement
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording).

[1]Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

2. The labels for all other products must bear container disposal instructions, based on container type, listed on the first page of this Appendix.

Pesticides that are hazardous wastes under 40 CFR 261.33(e) and (f) when discarded.

"Acutely Hazardous" Commercial Pesticides (RCRA "E" List)
Active Ingredients, (no inerts):

Acrolein
Aldicarb
Aldrin
Allyl alcohol
Aluminum phosphide
4-Aminopyridine
Arsenic acid
Arsenic pentoxide
Arsenic trioxide
Calcium cyanide
Carbon disulfide
p-Chloroaniline
Cyanides (soluble cyanide salts, not specified elsewere)
Cyanogen chloride
2-Cyclohexyl-4,6-dinitrophenol
Dieldrin
0,0-Diethyl S-[2-ethylthio)ethyl] phosphorodithioate
(disulfoton, Di-Syston)
0,0-Diethyl 0-pyrazinyl phosphorothioate (Zinophos)
Dimethoate
0,0-Dimethyl 0-p-nitrophenyl phosphorothioate (methyl parathion)
4,6-Dinitro-o-cresol and salts
4,6-Dinitro-o-cyclohexylphenol
2,4 Dinitrophenol
Dinoseb
Endosulfan
Endothall
Endrin
Famphur
Fluoroacetamide
Heptachlor
Hexanethyl tetraphosphate
Hydrocyanic acid
Hydrogen cyanide
Methomyl
alpha-Naphthylthiourea (ANTU)
Nicotine and salts
Octamethylpyrophosphoramide (OMPA, schradan)
Parathion

"Acutely Hazardous" Commercial Pesticides (RCRA "P" List)
Active Ingredients continued:

Phenylmercuric acetate (PMA)
Phorate
Potassium cyanide
Propargyl alcohol
Sodium azide
Sodium cyanide
Sodium fluoroacetate
Strychnine and salts
0,0,0,0-Tetraethyl dithiopyrophosphate (sulfotepp)
Tetraethyl pyrophosphate
Thallium sulfate
Thiofanox
Toxaphene
Warfarin
Zinc phosphide

"Toxic" Commercial Pesticide Products (RCRA "F" List)
Active Ingredients:

Acetone
Acrylonitrile
Amitrole
Benzene
Bis(2-ethylhexyl)pthalate
Cacodylic acid
Carbon tetrachloride
Chloral (hydrate)
Chlordane (technical)
Chlorobenzene
4-Chloro-m-cresol
Chloroform
o-Chlorophenol
4-Chloro-o-toluidine hydrochloride
Creosote
Cresylic acid
Cyclohexane
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one
(kepone, chlordecone)
1,2-Dibromo-3-chloropropane (DBCP)
Dibutyl phthalate
S-3,3-(Dichloroallyl diisopropylthiocarbamate (diallate, Avadex)
o-Dichlorobenzene
p-Dichlorobenzene
Dichlorodifluoromethane (Freon 12®)
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide (pronamide,Kerb)
Dichloro diphenyl dichloroethane (DDD)
Dichloro diphenyl trichloroethane (DDT)
Dichlorethyl ether
2,4-Dichlorophenoxyacetic, esters and salts (2,4-D)
1,2-Dichloropropane
1,3-Dichloropropane (Telone)
Dimethyl phthalate
Ethyl acetate
Ethyl 4,4'-dichlorobenzilate (chlorobenzilate)
Ethylene dibromide (EDB)
Ethylene dichloride
Ethylene oxide
Formaldehyde
Furfural
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloroethane
Hydrofluoric acid

"Toxic" Commercial Pesticide Products (RCRA "P" List)
Active Ingredients:

Isobutyl alcohol
Lead acetate
Lindane
Maleic hydrazide
Mercury
Methyl alcohol
Methyl bromide
Methyl chloride
2,2'-Methylenebis (3,4,6-trichlorophenol) (hexachlorophene)
Methylene chloride
Methyl ethyl ketone
4-Methyl-2-pentanone (methyl isobutyl ketone)
Naphthalene
Nitrobenzene
p-Nitrophenol
Pentachloroethane
Pentachloronitrobenzene (PCNB)
Pentaclorophenol
Phenol
Phosphorodithioic acid, 0,0-diethyl, methyl ester
Propylene dichloride
Pyridine
Resorcinol
Safrole
Selenium disulfide
Silvex
1,2,4,5-Tetrachlorobenzene
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Thiram
Toluene
1,1,1-Trichloroethane
Trichloroethylene
Trichloromonofluoromethane (Freon 11®)
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
Xylene