United States
Environmental Protection
Agency

Prevention, Pesticides
And Toxic Substances
(7508W)

EPA 738-R-94-020
September 1994

Reregistration Eligibility Decision (RED)

Sodium Cyanide

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

CERTIFIED MAIL

Dear Registrant:

I am pleased to announce that the Environmental Protection Agency has completed its reregistration eligibility review and decisions on the pesticide chemical case for sodium cyanide. The enclosed Reregistration Eligibility Decision (RED) contains the Agency's evaluation of the data base of this chemical, its conclusions of the potential human health and environmental risks of the current product uses, and its decisions and conditions under which these uses and products will be eligible for reregistration. The RED includes the data and labeling requirements for products for reregistration.

To assist you with a proper response, read the enclosed document entitled "Summary of Instructions for Responding to the RED". This summary also refers to other enclosed documents which include further instructions. You must follow all instructions and submit complete and timely responses. **The first set of required responses are due 90 days from the date of this letter. The second set of required responses are due 8 months from the date of this letter.** Complete and timely responses will avoid the Agency taking the enforcement action of suspension against your products.

If you have questions on the product specific data requirements or wish to meet with the Agency, please contact the Special Review and Reregistration Division representative Franklin Gee at (703) 308-8008.

Sincerely yours,

Louis P. True, Jr., Acting Director
Special Review and
Reregistration Division

Enclosures

SUMMARY OF INSTRUCTIONS FOR RESPONDING TO THE REREGISTRATION ELIGIBILITY DECISION (RED)

1. **DATA CALL-IN (DCI) OR "90-DAY RESPONSE"**--If **generic data** are required for reregistration, a DCI letter will be enclosed describing such data. If **product specific data** are required, another DCI letter will be enclosed listing such requirements. If **both generic and product specific data** are required, a combined Generic and Product Specific letter will be enclosed describing such data. Complete the two response forms provided with each DCI letter (or four forms for the combined) by following the instructions provided. **You must submit the response forms for each product and for each DCI within 90 days of the date of this letter (RED issuance date); otherwise, your product may be suspended.**

2. **TIME EXTENSIONS AND DATA WAIVER REQUESTS**--No time extension requests will be granted for the 90-day response. Time extension requests may be submitted only with respect to actual data submissions. Requests for data waivers must be submitted as part of the 90-day response. Requests for time extensions should be submitted in the 90-day response, but certainly no later than the 8-month response date. All data waiver and time extension requests must be accompanied by a full justification. All waivers and time extensions must be granted by EPA in order to go into effect.

3. **APPLICATION FOR REREGISTRATION OR "8-MONTH RESPONSE"--You must submit the following items for each product within eight months of the date of this letter (RED issuance date).**

a. **Application for Reregistration** (EPA Form 8570-1). Use only an original application form. Mark it "Application for Reregistration." Send your Application for Reregistration (along with the other forms listed in b-e below) to the address listed in item 5.

b. **Five copies of draft labeling** which complies with the RED and current regulations and requirements. Only make labeling changes which are required by the RED and current regulations (40 CFR 156.10) and policies. Submit any other amendments (such as formulation changes, or labeling changes not related to reregistration) separately. You may delete uses which the RED says are ineligible for reregistration. For further labeling guidance, refer to the labeling section of the EPA publication "General Information on Applying for Registration in the U.S., Second Edition, August 1992" (available from the National Technical Information Service, publication #PB92-221811; telephone number 703-487-4650).

c. **Generic or Product Specific Data**. Submit all data in a format which complies with PR Notice 86-5, and/or submit citations of data already submitted and give the EPA identifier (MRID) numbers. Before citing these studies, you must **make sure that they meet the Agency's acceptance criteria** (attached to the DCI).

d. **Two copies of the Confidential Statement of Formula (CSF)** for each basic and each alternate formulation. The labeling and CSF which you submit for each product must comply with P.R. Notice 91-2 by declaring the active ingredient as the **nominal concentration**. You have two options for submitting a CSF: (1) accept the standard certified limits (see 40 CFR §158.175) or (2) provide certified limits that are supported by the analysis of five batches. If you choose the second option, you must submit or cite the data for the five batches along with a certification statement as described in 40 CFR §158.175(e). A copy of the CSF is enclosed; follow the instructions on its back.

e. **Certification With Respect to Data Compensation Requirements**. Complete and sign EPA form 8570-31 for each product.

4. **COMMENTS IN RESPONSE TO FEDERAL REGISTER NOTICE**--Comments pertaining to the content of the RED may be submitted to the address shown in the Federal Register Notice which announces the availability of this RED.

5. **WHERE TO SEND PRODUCT SPECIFIC DCI RESPONSES (90-DAY) AND APPLICATIONS FOR REREGISTRATION (8-MONTH RESPONSES)**

By U.S. Mail:

Document Processing Desk **(RED-SRRD-PRB)**
Office of Pesticide Programs (7504C)
EPA, 401 M St. S.W.
Washington, D.C. 20460-0001

By express:

Document Processing Desk **(RED-SRRD-PRB)**
Office of Pesticide Programs (7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

6. **EPA'S REVIEWS**--EPA will screen all submissions for completeness; those which are not complete will be returned with a request for corrections. EPA will try to respond to data waiver and time extension requests within 60 days. EPA will also try to respond to all 8-month submissions with a final reregistration determination within 14 months after the RED has been issued.

REREGISTRATION ELIGIBILITY DECISION

SODIUM CYANIDE

LIST C

CASE 3086

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDE PROGRAMS
SPECIAL REVIEW AND REREGISTRATION DIVISION

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GLOSSARY OF TERMS AND ABBREVIATIONS

AE	Acid equivalent
a.i.	Active Ingredient
APHIS	Animal and Plant Health Inspection Service
CAS	Chemical Abstracts Service
CSF	Confidential Statement of Formula
DWEL	Drinking Water Equivalent Level (DWEL) The DWEL represents a medium specific (i.e. drinking water) lifetime exposure at which adverse, non carcinogenic health effects are not anticipated to occur.
EEC	Estimated Environmental Concentration. The estimated pesticide concentration in an environment, such as a terrestrial ecosystem.
EP	End-Use Product
EPA	U.S. Environmental Protection Agency
FDA	Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FFDCA	Federal Food, Drug, and Cosmetic Act
GRAS	Generally Recognized As Safe as designated by FDA
HA	Health Advisory (HA) The HA values are used as informal guidance to municipalities and other organizations when emergency spills or contamination situations occur.
HDT	Highest Dose Tested
LC_{50}	Median Lethal Concentration. A statistically derived concentration of a substance that can be expected to cause death in 50% of test animals. It is usually expressed as the weight of substance per weight or volume of water, air or feed, e.g., mg/l, mg/kg or ppm.

GLOSSARY OF TERMS AND ABBREVIATIONS

LD_{50}	Median Lethal Dose. A statistically derived single dose that can be expected to cause death in 50% of the test animals when administered by the route indicated (oral, dermal, inhalation). It is expressed as a weight of substance per unit weight of animal, e.g., mg/kg.
LD_{lo}	Lethal Dose-low. Lowest Dose at which lethality occurs
LEL	Lowest Effect Level
LOC	Level of Concern
LOEL	Lowest Observed Effect Level
MCLG	Maximum Contaminant Level Goal (MCLG) The MCLG is used by the Agency to regulate contaminants in drinking water under the Safe Drinking Water Act.
MP	Manufacturing-Use Product
MPI	Maximum Permissible Intake
MOE	Margin Of Exposure
MRID	Master Record Identification (number). EPA's system of recording and tracking studies submitted.
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NOEL	No Observed Effect Level
OPP	Office of Pesticide Programs
PADI	Provisional Acceptable Daily Intake
ppm	Parts Per Million
Q^*_1	The Carcinogenic Potential of a Compound, Quantified by the EPA's Cancer Risk Model
RED	Reregistration Eligibility Decision

GLOSSARY OF TERMS AND ABBREVIATIONS

RfD	Reference Dose
RS	Registration Standard
TD	Toxic Dose. The dose at which a substance produces a toxic effect.
TC	Toxic Concentration. The concentration at which a substance produces a toxic effect.
TGAI	Technical Grade Active Ingredient
TMRC	Theoretical Maximum Residue Contribution
USDA	United States Department of Agriculture

EXECUTIVE SUMMARY

Sodium cyanide is used as a single dose poison in the M-44 ejector device to control coyote (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cineoargenteus*) and wild dog (*C. familiaris*) populations that either prey upon (or are likely to prey upon) livestock, poultry and federally-designated threatened or endangered species, or that are vectors of communicable disease. This product is for use in pastures, range land and forest land only by trained and certified applicators under the direct supervision of a government agency.

Sodium cyanide, as used in the M-44 device, is considered to be a high acute risk pesticide for terrestrial vertebrates, including nontarget and endangered birds and mammals.

Sodium cyanide is a restricted use pesticide from which endangered species may not currently be adequately protected. Under the Endangered Species Act of 1973 (ESA), as amended, all federal agencies have responsibility to ensure that any action authorized, funded, or carried out by that agency is not likely to jeopardize the continued existence of any federally listed endangered or threatened species or result in the destruction or adverse modification of critical habitat. Furthermore, federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species.

The U. S. Environmental Protection Agency (referred to as "the Agency") is currently developing a program, the Endangered Species Protection program (ESP), to identify all pesticides whose use may cause adverse impacts on endangered and threatened species and to implement mitigation measures that will eliminate the adverse impacts. The program will require use modifications or a generic product label statement, requiring users to consult county-specific bulletins. These bulletins will provide information about specific use restrictions to protect endangered and threatened species on a county-specific basis. The Agency plans to publish a description of the Endangered Species Program in the Federal Register in 1994 and by 1995 have enforceable county-specific bulletins available.

The U.S. Fish and Wildlife Service (referred to as "the Service") issued a Biological Opinion in March, 1993 for sodium cyanide and other vertebrate pesticide chemicals. The specific Biological Opinion for sodium cyanide is included in Appendix G of this document. Jeopardy determinations were made for the Florida panther, jaguarundi, Louisiana black bear, ocelot, San Joaquin Kit fox, and California condor. The Service has provided "reasonable and prudent alternatives" and "reasonable and prudent measures" for sodium cyanide, which it believes, in their best professional judgement, will provide the appropriate level of protection to the species listed in their jeopardy determinations.

Through this document, the Agency is requiring the registrants of sodium cyanide to modify their labeling to include the Service's "reasonable and prudent alternatives" and/or "measures."

The Agency has determined that all current uses of sodium cyanide are eligible for reregistration. Labeling for all M-44 sodium cyanide capsule products must include the 26 use restrictions currently required plus language determined to be needed to protect endangered species likely to be jeopardized by use of M-44 devices.

Before reregistering the products containing sodium cyanide, the Agency is requiring that product specific data, revised Confidential Statements of Formula (CSF) and revised labeling be submitted within eight months of the issuance of this document. These data include product chemistry for each registration and efficacy data. After reviewing these data and any revised labels and finding them acceptable in accordance with Section 3(c)(5) of FIFRA, the Agency will reregister a product.

I. INTRODUCTION

In 1988, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was amended to accelerate the reregistration of products with active ingredients registered prior to November 1, 1984. The amended Act provides a schedule for the reregistration process to be completed in nine years. There are five phases to the reregistration process. The first four phases of the process focus on identification of data requirements to support the reregistration of an active ingredient and the generation and submission of data to fulfill the requirements. The fifth phase is a review by the Agency of all data submitted to support reregistration.

FIFRA Section 4(g)(2)(A) states that in Phase 5 "the Administrator shall determine whether pesticides containing such active ingredient are eligible for reregistration" before calling in data on products and either reregistering products or taking "other appropriate regulatory action." Thus, reregistration involves a thorough review of the scientific data base underlying a pesticide's registration. The purpose of the Agency's review is to reassess the potential hazards arising from the currently registered uses of the pesticide; to determine the need for additional data on health and environmental effects; and to determine whether the pesticide meets the "no unreasonable adverse effects" criterion of FIFRA.

This document presents the Agency's decision regarding the reregistration eligibility of the registered uses of sodium cyanide. The document consists of six sections. Section I is the introduction. Section II describes sodium cyanide, its uses, data requirements and regulatory history. Section III discusses the human health and environmental assessment based on the data available to the Agency. Section IV presents the reregistration decision for sodium cyanide. Section V discusses the reregistration requirements for sodium cyanide. Finally, Section VI is the Appendices which support this Reregistration Eligibility Decision. Additional details concerning the Agency's review of applicable data are available on request.

II. CASE OVERVIEW

A. Chemical Overview

The following active ingredient is covered by this Reregistration Eligibility Decision:

- **Common Name:** Sodium Cyanide
- **Chemical Name:** Sodium salt of Hydrocyanic acid
- **CAS Registry Number:** 143-33-9
- **OPP Chemical Code:** 074002
- **Empirical Formula:** NaCN
- **Molecular Weight:** 49.10
- **Trade and Other Names:** Cyanogran

B. Use Profile

The following is information on the currently registered uses with an overview of use sites and application methods. A detailed table of these uses of sodium cyanide is in Appendix A.

For **Sodium Cyanide**:

Type of Pesticide: Predacide/Rodenticide (single dose poison)

Mechanism of Action: Inhibits oxidative enzyme systems and causes death from anoxia.

Use Sites: Pastures, Rangeland, Forest (all or unspecified)

Target Pests:	Coyote, Red Fox, Gray Fox, wild Dog
Formulation Type Registered:	Sodium cyanide powder enclosed in polyethylene capsules. A voluntary action taken by the principal registrant, United States Department of Agriculture/Animal and Plant Health Inspection Service (USDA/APHIS), is to color code the top of each capsule with paint per year of manufacture. The capsules are also coded per state of use with day- glow plastic fluorescent markers.
Method and Rates of Application:	For application, each capsule is loaded into a capsule holder which is screwed onto the ejector mechanism of an M-44 device. This device had previously been inserted into the unit's base, which has been pounded into the ground for use. The capsule holder is then treated with a scent used to attract canids to the unit. When an animal tugs at the capsule holder, a spring-driven plunger ejects the sodium cyanide capsule into its mouth. Labeling use restrictions limit application rates to no more than 10 units per 100 acres of pastureland or 12 units per square mile of open range-land. For use in forest lands, the rangeland rate applies, unless the forest is within an area that is fenced (or otherwise enclosed) on all sides and serves as a pasture.
Single Active Ingredient:	91.06% sodium cyanide 88.78% sodium cyanide
Use Practice Limitations:	Sodium cyanide is a restricted use pesticide for which the applicators must be trained and certified specifically for the use of these capsules in M-44 devices.

The use of sodium cyanide in the M-44 device is currently registered in only twelve states (Arizona, California, Idaho, Kansas, Montana, Nebraska, New Mexico, Oregon, South Dakota, Texas, Washington, and Wyoming). While the USDA/APHIS holds the principal registration, four State agencies have state-limited, FIFRA §3 registrations (Montana, Wyoming, New Mexico and Kansas). Other area-limited registrations are held by the Navajo Nation (Arizona) and the Texas Department of Agriculture. The product registered to the Kansas Fish and Game Department is the only one which still, officially, is 88.78% sodium cyanide.

The following list of use restrictions represents the USDA/APHIS product. The claims made for the six other registered M-44 capsule products differ somewhat and the 26 use restrictions differ accordingly.

1. Use of the M-44 device shall conform to all applicable Federal, State, and local laws and regulations.

2. Applicators shall be subject to such other regulations and restrictions as may be prescribed from time-to-time by the U.S. Environmental Protection Agency (EPA).

3. Each applicator of the M-44 device shall be trained in: (1) safe handling of the capsules and device, (2) proper use of the antidote kit, (3) proper placement of the device, and (4) necessary record keeping.

4. M-44 devices and sodium cyanide capsules shall not be sold or transferred to, or entrusted to the care of any person not supervised or monitored by the Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC) program or any agency not working under an ADC cooperative agreement.

5. The M-44 device shall only be used to take wild canids: (1) suspected of preying on livestock or poultry; (2) suspected of preying on Federally designated threatened or endangered species, or; (3) that are vectors of a communicable disease.

6. The M-44 device shall not be used solely to take animals for the value of their fur.

7. The M-44 device shall only be used on or within seven miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before application of the M-44 is undertaken. This use restriction is not applicable when wild canids are controlled to protect Federally designated threatened or endangered species or are vectors of a communicable disease.

8. The M-44 device shall not be used: (1) in areas within national forests or other Federal lands set aside for recreational use, (2) areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or, (4) except for the protection of federally designated threatened or endangered species, in National and State Parks; National or State Monuments; federally designated wilderness areas; and wildlife refuge areas.

9. The M-44 device shall not be used in areas where federally listed threatened or endangered animal species might be adversely affected. Each applicator shall be issued a map, prepared by or in consultation with the U.S. Fish and Wildlife Service, which clearly indicates such areas.

10. One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field.

11. In areas where more than one governmental agency is authorized to place M-44 devices, the Agencies shall exchange placement information and other relevant facts to ensure that the maximum number of M-44's allowed is not exceeded.

12. The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water, provided that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered "bodies of water" for purposes of this restriction.

13. The M-44 device shall not be placed in areas where food crops are planted.

14. The M-44 device shall be placed at least a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to

remove it from the sight of persons and domestic animals using any such public road or pathway.

15. The maximum density of M-44's placed in any 100 acre pasture land areas shall not exceed 10; and the density in any 1 square mile of open range shall not exceed 12.

16. No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station and no more than five draw stations shall be operated per square mile.

17. Supervisors or applicators shall check the records, warning signs, and M-44 devices of each applicator at least once a year to verify that all applicable laws, regulations, and restrictions are being strictly followed.

18. Each M-44 device shall be inspected at least once every week, weather permitting access, to check for interference or unusual conditions and shall be serviced as required.

19. Damaged or nonfunctional M-44 devices shall be removed from the field.

20. An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.

21. All persons authorized to possess and use sodium cyanide capsules and M-44 devices shall store such capsules and devices under lock and key.

22. Used sodium cyanide capsules shall be disposed of by deep burial or at a proper landfill site. Incineration may be used instead of burial for disposal. Place the capsules in an incinerator or refuse hole and burn until the capsules are completely consumed. Capsules may be incinerated using either wood or diesel fuel.

23. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

    a. Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to ensure their continued presence and ensure that they are conspicuous and legible.

b. An elevated sign shall be placed within 25 feet of each individual M-44 device warning persons not to handle the device.

24. Each authorized or licensed applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain at least six pearls of amyl nitrite and instructions on their use. Each authorized or licensed applicator shall also carry on his person instructions for obtaining medical assistance in the event of accidental exposure to sodium cyanide.

25. In all areas where the use of the M-44 device is anticipated, local medical people shall be notified of the intended use. This notification may be through a poison control center, local medical society, the Public Health Service, or directly to a doctor or hospital. They shall be advised of the antidotal and first-aid measures required for treatment of cyanide poisoning. It shall be the responsibility of the supervisor to perform this function.

26. Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

a. The number of devices placed.
b. The location of each device placed.
c. The date of each placement, as well as the date of each inspection.
d. The number and location of devices which have been discharged and the apparent reason for each discharge.
e. Species of animals taken.
f. All accidents or injuries to humans or domestic animals.

C. Data Requirements

Data required in the September 30, 1992 Data Call-In for sodium cyanide include studies on product chemistry and ecological effects. These data were required to support the uses listed in the Data Call-In. Appendix B includes all data requirements identified by the Agency for currently registered uses needed to support reregistration.

D. Regulatory History

Sodium cyanide was initially registered as a pesticide on December 23, 1947, to control ants on uncultivated agricultural and non-agricultural areas. Sodium cyanide was

also registered to control certain bacteria, insects, and commensal rodents in human residences; railway cars; food marketing, storage, and distribution facilities; and commercial institutional and industrial premises. All non-predacidal uses of sodium cyanide were canceled in 1987 pursuant to a generic data call-in issued by EPA.

The only currently registered uses of sodium cyanide are for toxicant-filled capsules to be placed in M-44 spring-loaded ejectors used to kill wild canids: coyotes (*Canis latrans*), wild dogs (*C. familiaris*), red foxes (*Vulpes vulpes*), and gray foxes (*Urocyon cineoargenteus*). All currently registered products are restricted use pesticides with specific applicator training and certification required. Use is limited to situations in which the above named canids prey upon (or are likely to prey upon), livestock, poultry, or Federally-designated threatened or endangered species, or where named canids are vectors of communicable diseases. Not all of these claims appear on all registered labels.

Prior to early 1972, sodium cyanide was used to control predators in a gunpowder-fired unit called the "Humane Coyote Getter." This use was canceled in 1972 along with all predator control uses of sodium cyanide, sodium fluoroacetate (Compound 1080), and strychnine (Ruckelshaus, 1972). The primary reasons given for cancellation of predacidal uses of sodium cyanide in the "Humane Coyote Getter", were (1) injuries to humans associated with the "Humane Coyote Getter" device, and (2) the occasional taking of domestic dogs."

Use of sodium cyanide in M-44 capsules was reinstated in 1975 following Subpart D hearings (Train, 1975). Supporting an initial decision by an Administrative Law Judge, the EPA Administrator concluded that "substantial new evidence" had been provided which indicated that use of sodium cyanide capsules in the M-44 device was safer and more selective than use of the capsules in the "Humane Coyote Getter." Reinstated uses of sodium cyanide were subject to 26 use restrictions which were believed to minimize potential adverse impacts on man and the environment. Among other things, these restrictions required that applicators be appropriately trained and certified for using sodium cyanide capsules in M-44 devices, that applicators carry antidote kits with them, and that M-44 devices not be placed in areas likely to cause adverse impacts on humans and endangered or other nontarget species. The 1975 decision addressed uses of sodium cyanide to control canids that prey on livestock and poultry and canids that vector diseases. The latter use was not added to the label for any sodium cyanide product until 1992.

Subsequent hearing activities have led to adjustments to the 26 use restrictions for M-44 capsules and authorization for use of sodium cyanide capsules to protect threatened and endangered species (Greene, 1986). The opinion rendered regarding the protection of threatened and endangered species addressed uses to control Arctic foxes (*Alopex lagopus*), but this species claim has not been proposed formally for any M-44 capsule product.

The Agency issued a subsequent Data Call-In on September 30, 1992 for sodium cyanide requiring additional product chemistry and ecological effects data. This Reregistration Eligibility Decision reflects a reassessment of all data which were submitted to support the reregistration of sodium cyanide.

III. SCIENCE ASSESSMENT

A. Physical Chemistry Assessment

- **Color:** White granules
- **Physical State:** Solid
- **Odor:** Almond-like
- **Melting Point:** 563°C
- **Density, Bulk Density Specific Gravity:** 1.61 gm/cm^3
- **Solubility:** 34% in water at 15°C, slightly soluble in alcohol
- **Vapor Pressure:** $<10^{-6}$ torr at 25°C
- **Dissociation Constant:** pK_a for HCN = 9.31
  pK_b for CN^- = 4.69
- **Octanol/Water Partition Coefficient:** N/A. Inorganic polar salt
- **pH:** 12.12 in 1 M solution
  11.37 in 0.1 M solution
  10.47 in 0.01 M solution
- **Stability:** Stable under ordinary conditions of use and storage, readily hydrolyzes to hydrogen cyanide

B. Human Health Assessment

1. Toxicology Assessment

Sodium cyanide is highly toxic to warm-blooded animals. It is considered to be Category I for oral, dermal, and inhalation toxicity. It is highly corrosive to the skin and eyes. The toxicological data base for sodium cyanide is adequate and will support reregistration eligibility.

Based on the use information, there are no applicator/mixer/loader or post-applicator exposure concerns; there is limited potential for exposure because of label restrictions specifying use by certified personnel only.

a. Acute Toxicity

Because of the corrosive properties of sodium cyanide and its toxicity, requirements for acute toxicity were waived.

ACUTE TOXICITY DATA

TEST	RESULTS	CATEGORY
Oral LD_{50} - rat	7.5 mg/kg	I
Dermal LD_{50} - rabbit	41 mg/kg M; 50 mg/kg F	I
Dermal irritation - rabbit	corrosive, lethal	I

An acute oral toxicity study in Wistar rats found the LD_{50}s were 7.5 mg/kg for the combined sexes, 7.5 mg/kg for males, and 7.4 mg/kg for females. All deaths occurred within 4 hours of dosing (MRID 42610801). An oral LD_{50} for rats was reported in the literature as 6.4 mg/kg (Sax and Lewis, 1989).

An acute dermal toxicity study with New Zealand albino rabbits found LD_{50}s of 41 mg/kg for males, 50 mg/kg for females, and 44 mg/kg for combined sexes (MRID 41731201).

In a primary dermal irritation study with New Zealand albino rabbits, the application of 0.5 g of sodium cyanide resulted in the death of four out of six rabbits. The remaining two rabbits showed severe dermal irritation with eschar formation (MRID 42610802).

It has been reported that cyanide liquid, and possibly vapor, can be absorbed through intact skin; vapor can be absorbed extremely rapidly through the respiratory tract. It has been estimated that human exposure to

hydrogen cyanide in air may be immediately fatal at a concentration of 0.3 mg/l and the LC_{50} after 10 minutes may be 0.61 mg/l (Clayton and Clayton, 1982).

It has been reported in the literature that 5.0 mg/kg was an LD_{50} for rabbits by the ocular route (Sax and Lewis, 1989).

Low acutely toxic doses for humans by the oral route have been reported as 0.7 mg/kg, 6.6 mg/kg, and 2.9 mg/kg (Sax and Lewis, 1989).

b. Chronic toxicity

In the literature, an experiment has been reported in which Carworth Farms rats were given food fumigated with hydrogen cyanide for two years. The food was shown to contain, on the average, 0, 100, or 300 ppm of hydrogen cyanide. There was no evidence of typical cyanide toxicity, but there were definite increases in thiocyanate concentrations found in the tissues of the test animals (MRID 00129738).

c. Metabolism

Cyanide readily forms relatively stable complexes with some biologically active metal ions, thus inhibiting a number of enzyme reactions. The most important effect is the interaction of cyanide with the iron in cytochrome oxidase. The inhibition of cytochrome oxidase prevents the oxidation of cytochrome C, thus stopping the utilization of oxygen by cells; this leads rapidly to loss of cellular functions and to cell death. Cyanide also combines rapidly with methemoglobin. It has been estimated that the rate of metabolism in humans of intravenously injected hydrogen cyanide is about 0.017 mg/kg/min. If the concentration of cyanide is not lethal, then it is released from the combinations with metal ions, converted to thiocyanate ion, and excreted in the urine. Very low levels of cyanide can be found in normal human blood, and some is found in exhaled air, saliva, and sweat (Clayton and Clayton, 1982).

2. Exposure Assessment

a. Dietary Exposure

Based on currently registered use patterns, there will be no sodium cyanide exposure to the general population through the diet.

b. Occupational and Residential

Based on the use restrictions, there are no applicator/mixer/loader or post-application exposure concerns other than following the label restriction for use by certified personnel only.

3. Risk Assessment

a. Toxicological Endpoints

Because of the specific nature of this registered use, the primary concern is for the potential risk of acute toxicity.

b. Occupational and Residential

There are no currently registered uses of sodium cyanide in residential environments.

The risk of cyanide poisoning from the current pesticidal uses to workers is minimal because of the current label restrictions.

C. Environmental Assessment

1. Environmental Fate

No additional data are required at this time. The Agency used information from the open chemical literature, information on biodegradative processes provided by the registrant (MRID #00118813) and a review undertaken by the U.S. Department of the Interior Bureau of Mines to assess the fate and transport of sodium cyanide and degradates in the environment.

a. Environmental Chemistry, Fate and Transport

The availability of cyanide to different organisms varies with the chemical form (speciation) of cyanide present in the environment. Speciation in the environment is dependent on pH, exposure to light and air, biodegradation and the presence and chemical forms of metal components in soils capable of reacting with cyanide. Factors influencing the transport of cyanide species are their solubilities, adsorption on soil components and clays, and interactions with biomass.

The oxidation state of carbon in cyanide is C(II). The two major chemical forms of cyanide are "free cyanide," which refers to uncomplexed cyanide ion (CN^-) and/or molecular hydrogen cyanide (HCN) and "complexed cyanide," which refers to cyanide bound to metal ions. Uncomplexed CN^- and HCN are related by the acid dissociation of HCN (pK_a ca. 9). The concentration of HCN relative to CN^- varies as a function of pH. At pHs above 9.0, the CN^- ion is the predominant species while at pHs below 9.0, HCN becomes the predominant species.

When dissolved in water or in contact with moisture, cyanide salts (such as sodium cyanide) can react with atmospheric carbon dioxide (CO_2) and liberate HCN gas. This reaction is the primary reaction in the environment. However, an additional series of reactions (nonoxidative and oxidative) contribute to the degradation of free cyanide. The resulting reaction products can undergo further reactions to other products. Based on thermodynamic considerations, the ultimate fate of carbon in cyanide is CO_2 or carbonates. The ultimate products for nitrogen in cyanide are determined by the availability of oxidizing species present in the media. The resulting nitrogen species may be ammonia (NH_3), nitrogen (N_2), nitrite (NO_2^-), or nitrate (NO_3^-). Some of the reactions of the intermediates leading to these final products may be kinetically slow.

"Free cyanide" does not absorb light in the region of 290 to 800 nm and, therefore, it will not degrade by direct photolysis. However, cyanide complexes of iron, cobalt, or chromium (which absorb light strongly in the visible region) can degrade by direct photolysis. The fate of the liberated cyanide ion is not well understood. Photo-oxidation of "free cyanide" catalyzed by titanium dioxide has been reported. Cyanide adsorbed to metal sites in minerals present in soil are also sensitive to photodegradation.

There is evidence that microorganisms can decompose cyanide on soils and that the end-products of this decomposition are CO_2 and NH_3. Therefore, groundwater contamination from the pesticidal use of sodium cyanide is not expected.

b. Environmental Fate Assessment

The Agency does not anticipate significant environmental exposure to sodium cyanide when used as an encapsulated material together with the M-44 ejector device and when the directions specified on the label are followed.

Should an accidental spill of sodium cyanide from the capsules occur in the field, several processes would contribute to the dissipation of cyanide. Hydrogen cyanide formed by reaction with moisture will diffuse to the atmosphere and be diluted into the air compartment. Reactions with soil components (including microorganisms) will convert cyanide to carbon dioxide and ammonia or other nitrogen containing compounds. Groundwater contamination by cyanide from M-44 ejectors is not anticipated.

The environmental impact of the pesticidal use of sodium cyanide is expected to be minimal because of its mode of application (encapsulated in ejector devices).

2. Ecological Effects

a. Ecological Effects Data

(1) Terrestrial Animal Data

(A) Avian Toxicity

Acute avian studies were waived because sodium cyanide has been demonstrated in human toxicological literature to be a known toxicant. In addition, conducting a study using sodium cyanide poses a hazard to the technicians. There is sufficient evidence to categorize sodium cyanide as very highly toxic to birds when administered orally on an acute basis.

(B) Toxicity to Nontarget Mammals

Again, testing was not required because sodium cyanide is a well known toxicant. There is sufficient evidence to categorize sodium cyanide as very highly toxic to mammals.

(2) Aquatic Data

(A) Freshwater Fish and Invertebrates Toxicity

Only one study was evaluated on the effects to freshwater fish. This study was done by EPA's Animal Biology Laboratory in 1977 (MRID 13701) using the TEP

"Durham's Sodium Cyanide Balls" (EPA registration # 430-01) and rainbow trout. Sodium cyanide was categorized as highly toxic to rainbow trout.

Freshwater Fish Acute Oral Toxicity Findings			
Species	**% Test Material (TGAI)**	**LC_{50}**	**Conclusions**
Rainbow trout	96.5	0.118 ppm	highly toxic

Based on the existing study and the known characteristics of sodium cyanide, it is considered to be very highly toxic to aquatic organisms for the purpose of risk evaluation.

(B) Estuarine/Marine Toxicity

Estuarine and marine organisms are not expected to be exposed to sodium cyanide from the M-44. No studies were required.

(3) Nontarget Insects Data

Because nontarget insects are not expected to be exposed to sodium cyanide, nontarget insect toxicity testing was not required.

(4) Nontarget Plants Data

Due to the use pattern, chemical characteristics and low volume of use, plants are not expected to be exposed to sodium cyanide from the M-44. No studies were required.

b. Ecological Effects Risk Assessment

Sodium cyanide is formulated into capsules for use in an M-44 device as a canid predacide. The mode of action is by conversion to

hydrogen cyanide gas which poisons, by inactivation, an enzyme essential to mammalian cellular respiration. This results in central nervous system depression, cardiac arrest, and gross respiratory failure.

Because most animals able to activate the trigger of the cyanide ejector device will be exposed to a lethal dose, sodium cyanide, as used in the M-44 device, would be considered a high acute risk pesticide for terrestrial vertebrates. This includes nontarget and endangered birds. Therefore, labeling for M-44 cyanide capsule products, must include the list of 26 use restrictions (See Section II.B. above) to be followed to reduce the risk to nontarget terrestrial and aquatic animals and to endangered species.

Even with the above restrictions, some endangered species would not be adequately protected as determined by the U.S. Fish and Wildlife Service in their Biological Opinion (Appendix G) dated March 1993. Jeopardy determinations have been made for the Florida panther, jaguarundi, Louisiana black bear, ocelot, San Joaquin kit fox, and California condor. The FWS has established their reasonable and prudent alternatives and measures that the Agency is implementing as part of this document.

Although the above restrictions will reduce the risk to nontarget terrestrial animals, nontarget kills will likely occur with the M-44. These kills tend to be of predatory and scavenger animal species.

(1) Risk to Terrestrial Animals

(A) Nontarget insects

Consistent with its use pattern, no direct or indirect effects are expected with M-44 capsules with respect to nontarget insects.

(B) Avian and mammalian species

(i) Avian Acute Oral

Because of its low volume of production and since sodium cyanide is well known as a poison, the Agency waived the data requirements for avian studies. Therefore, the Agency does not have the basic toxicity data generally used to calculate the risk quotients. However, sodium cyanide can be categorized as very highly toxic to birds based on the

nature of the poison. Carrion-feeding birds able to activate the trigger of the M-44 sodium cyanide ejector device are at risk.

(ii) Avian Dietary

Because of its use pattern and chemical characteristics (rapid degradation), sodium cyanide is not expected to be a dietary hazard to birds.

(iii) Nontarget Mammals

Although the restrictions described above reduce the risk to nontarget terrestrial animals, nontarget kills will likely occur with the M-44. These kills tend to be of predatory and scavenger animal species.

Evidence was submitted by USDA/APHIS that secondary poisonings would not be expected with sodium cyanide based on their experience in finding nontarget kills, the distribution of sodium cyanide in the body of a target animal, and the fate and distribution of sodium cyanide in the environment.

(2) Aquatic

Based on the one study reviewed, sodium cyanide was categorized as highly toxic to rainbow trout. Because of the nature of the product and the terrestrial use pattern, it is not expected that fish and aquatic invertebrates will be exposed to sodium cyanide.

(3) Plants

Consistent with its use patterns, no direct or indirect effects are expected with M-44 cyanide capsules with respect to plants.

(4) Endangered Species

The U.S. Fish and Wildlife Service Biological Opinion (Appendix G) has outlined restrictions for specific endangered species at risk from use of the M-44. Jeopardy determinations have

been made for the Florida panther, jaguarundi, Louisiana black bear, ocelot, San Joaquin kit fox, and California condor.

IV. RISK MANAGEMENT AND REREGISTRATION DECISION

A. Determination of Eligibility

Section 4(g)(2)(A) of FIFRA calls for the Agency to determine, after submission of relevant data concerning an active ingredient, whether products containing the active ingredients are eligible for reregistration. The Agency has previously identified and required the submission of the generic (i.e. active ingredient specific) data required to support reregistration of products containing sodium cyanide active ingredients. The Agency has completed its review of these generic data, and has determined that the data are sufficient to support reregistration of all products containing sodium cyanide. Appendix B identifies the generic data requirements that the Agency reviewed as part of its determination of reregistration eligibility of sodium cyanide, and lists the submitted studies that the Agency found acceptable.

The data identified in Appendix B were sufficient to allow the Agency to assess the registered uses of sodium cyanide and to determine that sodium cyanide can be used without resulting in unreasonable adverse effects to humans and the environment. The Agency therefore finds that all products containing sodium cyanide as the active ingredient are eligible for reregistration. The reregistration of particular products is addressed in Section V of this document.

The Agency made its reregistration eligibility determination based upon the target data base required for reregistration, the current guidelines for conducting acceptable studies to generate such data and the data identified in Appendix B. Although the Agency has found that all uses of sodium cyanide are eligible for reregistration, it should be understood that the Agency may take appropriate regulatory action, and/or require the submission of additional data to support the registration of products containing sodium cyanide, if new information comes to the Agency's attention or if the data requirements for registration (or the guidelines for generating such data) change.

1. Eligibility Decision

Based on the reviews of the generic data for the active ingredient sodium cyanide, the Agency has sufficient information on the health effects of sodium cyanide and on its potential for causing adverse effects in fish and wildlife and the environment. The Agency has determined that sodium cyanide products, labeled and used as specified in this Reregistration Eligibility Decision, will not pose unreasonable risks or adverse effects to humans or the environment. Therefore, the

Agency concludes that products containing sodium cyanide for all currently registered uses are eligible for reregistration.

2. Eligible Uses

The Agency has determined that all current uses of sodium cyanide are eligible for reregistration.

B. Regulatory Position

The following is a summary of the regulatory positions and rationales for sodium cyanide. Where labeling revisions are imposed, specific language is set forth in Section V of this document.

1. Endangered Species Statement

The Agency has concerns about the exposure of threatened and endangered animal species to sodium cyanide as discussed above in Section III.C.2.b. The U.S. Fish and Wildlife Service Biological Opinion has outlined restrictions for specific endangered species at risk from use of the M-44. Jeopardy determinations have been made for the Florida panther, jaguarundi, Louisiana black bear, ocelot, San Joaquin kit fox, and California condor. A copy of the pertinent pages (II-73 through II-78) of the U.S. Fish and Wildlife Service Biological Opinion dated March, 1993 for sodium cyanide is contained in Appendix G.

Currently, the Agency is developing a program, ("The Endangered Species Protection Program") to identify all pesticides whose use may cause adverse impacts on endangered and threatened species and to implement mitigation measures that will eliminate the adverse impacts. The program would require use modifications or a generic product label statement, requiring users to consult county-specific bulletins. These bulletins would provide information about specific use restrictions to protect endangered and threatened species in the county. Consultations with the Fish and Wildlife Service will be necessary to assess risks to newly listed species or from proposed new uses.

The Agency plans to publish a description of the Endangered Species Program in the Federal Register in 1994 and by 1995 have enforceable county-specific bulletins available. Any additional requirements for product use modifications may occur in the future under the Endangered Species Protection Program.

2. Hazards to Nontarget Species

Sodium cyanide, as used in the M-44 device, is considered to be a high acute risk pesticide for terrestrial vertebrates, including nontarget and endangered birds and mammals. Animals able to activate the trigger of the cyanide ejector device will be exposed to a lethal dose of sodium cyanide. Therefore, the labeling for M-44 cyanide capsule products must include the list of 26 use restrictions to be followed, in order to reduce the risk to nontarget terrestrial animals and to endangered species. These use restrictions will also reduce risks to aquatic species.

Even with the above restrictions, endangered species are not adequately protected. Additional restrictions for sodium cyanide have been outlined for species at risk in the U.S. Fish and Wildlife Service Biological Opinion (Appendix G). Jeopardy determinations have been made for the Florida panther, jaguarundi, Louisiana black bear, ocelot, San Joaquin kit fox, and California condor.

3. Risk Reduction Measures

a. The 26 Use Restrictions, currently part of registered labeling for M-44 sodium cyanide capsule products, will remain part of the labeling that acompanies all of these products.

b. Label modifications are required to reflect the "reasonable and prudent alternatives" and "measures" indicated in the March 1993 U.S. Fish and Wildlife Service Biological Opinion.

c. It is required that sodium cyanide registrants continue to supply nontarget kill data (and all other adverse data) as a monitoring component for the reregistration of sodium cyanide used in the M-44 device. The current methods and report format of the annual report are sufficient. In addition, a report that includes the number of wild canids that are killed while attempting to control other species and the occurrence of more than one kill at a single station should be provided. This kill information will be used to judge the relative magnitude of nontarget mortalities.

4. Value of Additional Information

Monitoring information, described above, will be used to judge the relative magnitude of nontarget mortalities.

5. Labeling Rationale

Endangered species jeopardy determinations have been identified above. The retention of the current 26 use restrictions provides assurance that sodium cyanide will continue to be used in a safe manner with negligible exposure and risk to humans, endangered species, and the environment, as well as reduce risks to nontarget species. The required endangered species label restrictions will strengthen our risk reduction measures for this chemical.

V. ACTIONS REQUIRED BY REGISTRANTS

This section specifies the data requirements and responses necessary for the reregistration of both manufacturing-use and end-use products. In addition to the requirements listed below, registrants are required to supply nontarget kill data (and all other adverse data) as a monitoring component for the reregistration of sodium cyanide used in the M-44 device. The current methods and report format of the annual report are sufficient. In addition, a report that includes the number of wild canids that are killed while attempting to control other species and the occurrence of more than one kill at a single station should be provided.

A. Manufacturing-Use Products

1. Additional Generic Data Requirements

The generic data base supporting the reregistration of sodium cyanide for the above eligible uses has been reviewed and determined to be substantially complete. No additional generic data requirements are being levied at this time.

B. End-Use Products

1. Additional Product-Specific Data Requirements

Section 4(g)(2)(B) of FIFRA calls for the Agency to obtain any needed product-specific data regarding the pesticide after a determination of eligibility has been made. The product specific data requirements are listed in Appendix F, the Product Specific Data Call-In Notice. These data requirements include product chemistry and efficacy, although the Agency does not expect that new efficacy data will need to be generated.

Registrants must review previous data submissions to ensure that they meet current EPA acceptance criteria (Appendix F; Attachment 5) and if not, commit to

conduct new studies. If a registrant believes that previously submitted data meet current testing standards, then study MRID numbers should be cited according to the instructions in the Requirement Status and Registrants Response Form provided for each product.

2. Labeling Requirements for End-Use Products

The labels and labeling of all products must comply with EPA's current regulations and requirements as specified in 40 CFR §156.10 and described in the Pesticide Reregistration Handbook. As stated in Section IV, the Agency has determined that labeling must be changed. Sodium cyanide as used in the M-44 device, poses a high acute risk for terrestrial vertebrates, including nontarget and endangered birds and mammals. The following label restriction statements must be added to all end-use products:

a. "This pesticide is TOXIC TO WILDLIFE. Keep out of lakes, ponds, or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

b. "Restricted Use Pesticide - Inhalation Hazard to Humans" with a footnote which states "M-44 sodium cyanide capsules may only be used by certified applicators who have taken the required additional training."

or

"Restricted Use Pesticide - Due to Extremely High Acute Toxicity and the need for highly specialized applicator training."

c. All products must maintain the 26 use restrictions as described in Section 2.B. of this document.

d. "Use of this product is prohibited in areas where such use might jeopardize the continued existence of endangered species. Contact the local office of the U.S. Fish and Wildlife Service to determine the locations of habitats occupied by any endangered species listed below which occur in or near the intended area of product use.

<u>Florida Panther</u>

Do not use this product within 20 miles of the boundary of any Federal or State lands (e.g., National Wildlife Refuges, National Parks, National Preserves, State Parks, State Preserves, State

Wildlife Management Areas, etc.) and Indian Reservations that provide suitable Florida panther habitat south of Charlotte, Glades, and Martin Counties, Florida.

or

The use of this product is prohibited in Florida.

Jaguarundi and Ocelot

Do not use this product within three miles of occupied habitat of the jaguarundi and ocelot in Cameron, Hidalgo, Kleberg, Jim Wells, Kenedy, Starr, Willacy, and Zapata Counties, Texas.

Louisiana Black Bear

Do not use this product within the geographical range of the Louisiana black bear near the Mississippi River in Mississippi and in the Atchafalaya and Tensas River basins in Louisiana.

or

The use of this product is prohibited in Mississippi and Louisiana.

San Joaquin Kit Fox

Do not use this product within the range of the San Joaquin kit fox in Alameda, Contra Costa, Fresno, Kern, Kings, Merced, Monterey, San Benito, San Joaquin, Santa Barbara, Santa Clara, Stanislaus, or Tulare Counties, California.

California Condor

Do not use this product in habitat occupied by the California condor in Ventura, Kern, Santa Barbara, Los Angeles, and San Luis Obispo Counties, California."

These statements are consistent with the Biological Opinion of March, 1993 for sodium cyanide. For those M-44 capsule registrations which are currently limited to states other than Florida, California, Texas, Mississippi, or Louisiana, no additional specific text would be needed for these labels.

The addition of these statements is consistent with the Agency's responsibility and authority under the ESA to ensure that any federally listed threatened or endangered species will be protected to the fullest extent possible. The retention of the current 26 use restrictions provides assurance that sodium cyanide will continue to be used in a manner with negligible exposure and risk to humans, endangered species, and the environment, as well as reduced risks to nontarget species.

C. Existing Stocks

Registrants may generally distribute and sell products bearing old labels/labeling for 26 months from the date of the issuance of this Reregistration Eligibility Decision (RED). However, existing stocks time frames will be established case-by-case, depending on the number of products involved, the number of label changes, and other factors. Refer to "Existing Stocks of Pesticide Products; Statement of Policy"; Federal Register, Volume 56, No. 123, June 26, 1991.

The Agency has determined that registrants may distribute and sell sodium cyanide products bearing old labels/labeling, i.e., labels absent the modifications specified in this RED document, except as noted below, for 26 months from the date of issuance of this RED. Registrants and persons other than registrants remain obligated to meet preexisting Agency imposed label changes and existing stocks requirements applicable to your products. These preexisting requirements can include label changes and existing stock provisions for effluent discharges or worker protection standards.

VI. APPENDICES

APPENDIX A. Table of Use Patterns Subject to Reregistration

SITE Application Type, Application Timing, Application Equipment) Surface Type (Antimicrobial only) & Efficacy Influencing Factor (Antimicrobial only)	Form(s)	Min. Appl. Rate (AI unless noted otherwise)	Max. Appl. Rate (AI unless noted otherwise)	Soil Text (Max Dse)	Max. Apps @ Max Rate	Maximum Dose /crop cycle or /year	Min. Interv (days)	Restr. Entry Interv [day(s)]	Geographic Limitations Allowed	Disallowed	Use Limitations Codes
USES ELIGIBLE FOR REREGISTRATION											
FOOD/FEED USES											
PASTURES				Use Group: TERRESTRIAL FEED CROP							
Bait application., When needed., Ejector device.	P/T	NA	.01957 lb 100 A	*	NS	NS	NS	NS			C20
RANGELAND				Use Group: TERRESTRIAL FEED CROP							
Bait application., When needed., Ejector device.	P/T	NA	.02349 lb 1 sq. mile	*	NS	NS	NS	NS			C20
NON-FOOD/NON-FEED											
PASTURES IN PARTIALLY WOODED AREAS				Use Group: TERRESTRIAL FEED CROP							
Bait application., When needed., Ejector device.	P/T	NA	UC	*	NS	NS	NS	NS			C20

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APPENDIX B. Table of the Generic Data Requirements and Studies Used to Make the Reregistration Decision

GUIDE TO APPENDIX B

Appendix B contains listings of data requirements which support the reregistration for active ingredients within the case sodium cyanide covered by this Reregistration Eligibility Decision Document. It contains generic data requirements that apply to sodium cyanide in all products, including data requirements for which a "typical formulation" is the test substance.

The data table is organized in the following format:

1. Data Requirement (Column 1). The data requirements are listed in the order in which they appear in 40 CFR Part 158. the reference numbers accompanying each test refer to the test protocols set in the Pesticide Assessment Guidelines, which are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 (703) 487-4650.

2. Use Pattern (Column 2). This column indicates the use patterns for which the data requirements apply. The following letter designations are used for the given use patterns:

A	Terrestrial food
B	Terrestrial feed
C	Terrestrial non-food
D	Aquatic food
E	Aquatic non-food outdoor
F	Aquatic non-food industrial
G	Aquatic non-food residential
H	Greenhouse food
I	Greenhouse non-food
J	Forestry
K	Residential
L	Indoor food
M	Indoor non-food
N	Indoor medical
O	Indoor residential

3. Bibliographic citation (Column 3). If the Agency has acceptable data in its files, this column lists the identifying number of each study. This normally is the Master Record Identification (MRID) number, but may be a "GS" number if no MRID number has been assigned. Refer to the Bibliography appendix for a complete citation of the study.

APPENDIX B

Data Supporting Guideline Requirements for the Reregistration of Sodium Cyanide

REQUIREMENT		USE PATTERN	CITATION(S)
PRODUCT CHEMISTRY			
61-1	**Chemical Identity**	BJ	41285601, 42223401, 42227601
61-2A	**Start. Mat. & Mnfg. Process**	BJ	41285602, 42610901
61-2B	**Formation of Impurities**	BJ	42610902
62-1	**Preliminary Analysis**	BJ	42610903
62-2	**Certification of limits**	BJ	41285603, 42223402, 42227602
62-3	**Analytical Method**	BJ	42610904
63-2	**Color**	BJ	41394501, 41285604
63-3	**Physical State**	BJ	41285605
63-4	**Odor**	BJ	41285602, 42610905
63-5	**Melting Point**	BJ	41285602, 42610906
63-7	**Density**	BJ	41285606
63-8	**Solubility**	BJ	41285602, 42610907
63-9	**Vapor Pressure**	BJ	41285602, 42610908
63-10	**Dissociation Constant**	BJ	42610909
63-12	**pH**	BJ	42610910
63-13	**Stability**	BJ	41285602, 42610911
63-16	**Explodability**	BJ	42610912

Data Supporting Guideline Requirements for the Reregistration of Sodium Cyanide

REQUIREMENT		USE PATTERN	CITATION(S)
ECOLOGICAL EFFECTS			
71-5A	**Simulated Field Study**	BJ	Waived
71-5B	**Actual Field Study**	BJ	Waived
72-1C	**Fish Toxicity - Rainbow Trout**	BJ	EPA Biol. Rpt. of Anal.
TOXICOLOGY			
81-1	**Acute Oral Toxicity - Rat**	BJ	42610801
81-2	**Acute Dermal Toxicity - Rabbit/Rat**	BJ	41731201
81-3	**Acute Inhalation Toxicity - Rat**	BJ	Waived
81-4	**Primary Eye Irritation - Rabbit**	BJ	Waived
81-5	**Primary Dermal Irritation - Rabbit**	BJ	42610802
83-1A	**Chronic Toxicity - Rat**	BJ	00129738
ENVIRONMENTAL FATE			
160-5	**Chemical Identity**	BJ	41285607, 42610913
162-1	**Aerobic Soil Metabolism**	BJ	00118813

APPENDIX C. Citations Considered to be Part of the Data Base Supporting the Reregistration of Sodium Cyanide

GUIDE TO APPENDIX C

1. CONTENTS OF BIBLIOGRAPHY. This bibliography contains citations of all studies considered relevant by EPA in arriving at the positions and conclusions stated elsewhere in the Reregistration Eligibility Document. 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. Selections from other sources including the published literature, in those instances where they have been considered, are included.

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 also attempted 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 numerically by Master Record Identifier, or "MRID number". This number is unique to the citation, and should be used whenever a specific reference is required. It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted studies (see paragraph 4(d)(4) below for further explanation). In a few cases, entries added to the bibliography late in the review may be preceded by a nine character temporary identifier. These entries are listed after all MRID entries. This temporary identifying number is also to be used whenever specific reference is needed.

4. FORM OF ENTRY. In addition to the Master Record Identifier (MRID), each entry consists of a citation containing standard elements followed, in the case of material submitted to EPA, by a description of the earliest known submission. Bibliographic conventions used reflect the standard of the American National Standards Institute (ANSI), expanded to provide for certain special needs.

   a. Author. Whenever the author could confidently be identified, 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 the author. When no author or laboratory could be identified, the Agency has shown the first submitter as the author.

   b. Document date. The date of the study is taken directly from the document. When the date is followed by a question mark, the bibliographer has deduced the date from the evidence contained in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. In some cases, it has been necessary for the 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. The date of the earliest known submission appears immediately following the word "received."

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

(3) Submitter. The third element is the submitter. When authorship is defaulted to the submitter, this element is omitted.

(4) Volume Identification (Accession Numbers). 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," which stands 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.

BIBLIOGRAPHY

MRID	CITATION
00118813	U.S. Fish and Wildlife Service (1975). Product Performance: Sodium Cyanide. Unpublished study received July 7, 1975.
00129738	Howard, J. and Hanzal, R. (1955) Chronic Toxicity for Rats of Food Treated with Hydrogen Cyanide. J. Agric. Food Chem. 3:325-329.
41285601	Bullard, R. (1989) M-44 Cyanide Capsules: Product Identity and Disclosure of Ingredients. Unpublished study prepared by Denver Wildlife Research Center 15 p.
41285602	Bullard, R. (1989) M-44 Cyanide Capsules: Description of Beginning Materials and Manufacturing Process. Unpublished study prepared by Denver Wildlife Research Center. 22 p.
41285603	Bullard, R. (1989) M-44 Cyanide Capsules: Certification of Ingredient Limits. Unpublished study prepared by Denver Wildlife Research Center. 32 p.
41285604	Bullard, R. (1989) M-44 Cyanide Capsules: Color. Unpublished study prepared by Denver Wildlife Research Center. 4 p.
41285605	Bullard, R. (1989) M-44 Cyanide Capsules: Physical State. Unpublished study prepared by Denver Wildlife Research Center. 4 p.
41285606	Starbuck, B. (1989) M-44 Cyanide Capsules: Density. Unpublished study prepared by Denver Wildlife Research Center. 4 p.
41285607	Bullard, R. (1989) M-44 Cyanide Capsules: Chemical Identity. Unpublished study prepared by Denver Wildlife Research Center. 4 p.
41394501	Bullard, R. (1989) M-44 Cyanide Capsules: Color. Unpublished study prepared by Denver Wildlife Research Center. 4 p.
41731201	Cerven, D. (1990) Acute Dermal Toxicity in Rabbits/LD_{50} in Rabbits: Sodium Cyanide: Lab Project Number: MB 90-16 B. Unpublished study prepared by MB Research Laboratories, Inc. 95 p.

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MRID	CITATION
42223401	Tope, K. (1992) M-44 Cyanide Capsules: Product Identity and Disclosure of Ingredients: Lab Project Number: QA-225. Unpublished study prepared by Denver Wildlife Research Center. 16 p.
42223402	Tope, K. (1992) M-44 Cyanide Capsules: Certificate of Ingredients Limits: Lab Project Number: QA-225. Unpublished study prepared by Denver Wildlife Research Center. 12 p.
42227601	Tope, K. (1992) M-44 Cyanide Capsules: Product Identity and Disclosure of Ingredients: Lab Project Number: QA/229. Unpublished study prepared by Denver Wildlife Research Center. 16 p.
42227602	Tope, K. (1992) M-44 Cyanide Capsules: Certification of Ingredient Limits: Lab Project Number: QA/229. Unpublished study prepared by Denver Wildlife Research Center. 12 p.
42610801	Cerven, D. (1990) Single Dose Oral Toxicity in Rats/LD_{50} in Rats: Sodium Cyanide: Final Report: Lab Project Number: MB 90-16 A. Unpublished study prepared by MB Research Laboratories, Inc. 60 p.
42610802	Cerven, D. (1990) Primary Dermal Irritation in Albino Rabbits: Sodium Cyanide: Final Report: Lab Project Number: MB 90-16 C. Unpublished study prepared by MB Research Laboratories, Inc. 41 p.
42610901	Bullard, R. (1990) Description of Beginning Materials and Manufacturing Process: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 8 p.
42610902	Bullard, R. (1990) Discussion of the Formation of Impurities: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 5 p.
42610903	Bullard, R. (1990) Preliminary Analysis of Product Samples: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610904	Bullard, R. (1990) Analytical Methods to Verify Certified Limits: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 10 p.

BIBLIOGRAPHY

MRID	CITATION
42610905	Bullard, R. (1990) Odor: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610906	Bullard, R. (1990) Melting Point: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610907	Bullard, R. (1990) Solubility: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 5 p.
42610908	Bullard, R. (1990) Vapor Pressure: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 5 p.
42610909	Bullard, R. (1990) Dissociation Constant: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610910	Bullard, R. (1990) pH: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610911	Bullard, R. (1990) Stability: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 5 p.
42610912	Bullard, R. (1990) Explodability: Sodium Cyanide (M-44). Unpublished study prepared by Denver Wildlife Research Center. 4 p.
42610913	Bullard, R. (1990) Product Identity and Disclosure of Ingredients: M-44 Cyanide Capsules. Unpublished study prepared by Denver Wildlife Research Center. 15 p.
--------	Clayton, G.D., and Clayton, F.E., eds. (1982) Patty's Industrial Hygiene and Toxicology, 3rd Revised Ed., Wiley Interscience, NY.
--------	Cotton, F.A. and Wilkinson, G. Advanced Inorganic Chemistry, Fifth Edition, John Wiley and Sons, New York, 1988.
--------	Flynn, C.M., Jr. and McGill, S.L. Cyanide Chemistry- Precious Metals Application. Draft Information Circular, United States Department of the Interior, Bureau of Mines, Reno Research Center, Reno, Nevada.

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MRID	CITATION
--------	Greeme, J.F. (1986) Recommended decision. In the matter of Defenders of Wildlife, et al., FIFRA Docket No. 559, Administrative Law Office, U.S. Environmental Protection Agency, 9pp.
--------	Greenwood, N.N. and Earnshaw, A. Chemistry of the Elements. Pergamon Press, Oxford, United Kingdom, 1984.
--------	Jenks, W.R. "Cyanides (Alkali Metals)". Chapter in Kirk-Othmer Encyclopedia of Chemical Technology, Third Edition, Volume 7, Wiley, New York, 1979.
--------	Ruckelshaus, W.D. (1972) Suspension of registration for certain products containing Sodium Fluoroacetate (1080), Strychnine and Sodium Cyanide. PR Notice 82-2, March 9, Pesticides Regulation Division, U. S. Environmental Protection Agency, 15 pp.
--------	Sax, N.I., and Lewis, R.J. Sr., (1989) Dangerous Properties of Industrial Materials, 7th Edition. Van Nostrand Reinhold, N.Y.
--------	Towill, L.E., Drury, J.S., Whitfield, B.L., Lewis, E.B., Galyan, E.L., and Hammons, A.S. Reviews of the Environmental Fate of Pollutants. V. Cyanide. U.S. Environmental Protection Agency, Health Effects Research Laboratory, Office of Research and Development, Cincinnati, OH; EPA 600/1-78/027; NTIS PB 28-9920; 1978.
--------	U.S. Environmental Protection Agency, Biological Report of Analysis, Sample No. 136703, Durham's Sodium Cyanide Balls, EPA Reg. No. 430-01, May 9, 1977.
--------	Train, R.E. (1975) Sodium cyanide applications to register for use in the M-44 device to control predators. Federal Register, 40:189, 44726-44739.

APPENDIX D. List of Available Related Documents

The following is a list of available documents related to sodium cyanide. It's purpose is to provide a path to more detailed information if it is needed. These accompanying documents are part of the Administrative Record for sodium cyanide and are included in the EPA's Office of Pesticide Programs Public Docket.

1. Health and Environmental Effects Science Chapters

2. Detailed Label Usage Information System (LUIS) Report

3. Sodium Cyanide RED Fact Sheet

4. PR Notice 86-5 (included in this appendix)

5. PR Notice 91-2 (included in this appendix) pertains to the Label Ingredient Statement

6. U.S. Fish and Wildlife Service Biological Opinion, March 1993, Section on Sodium Cyanide, pages II-73 through II-78. (included in Appendix G)

APPENDIX E. PR Notices 86-5 and 91-2

PR Notice 86-5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

July 29, 1986

OFFICE OF
PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

PR NOTICE 86-5

NOTICE TO PRODUCERS, FORMULATORS, DISTRIBUTORS AND REGISTRANTS

Attention: Persons responsible for Federal registration of pesticides.

Subject: Standard format for data submitted under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and certain provisions of the Federal Food, Drug, and Cosmetic Act (FFDCA).

I. Purpose

To require data to be submitted to the Environmental Protection Agency (EPA) in a standard format. This Notice also provides additional guidance about, and illustrations of, the required formats.

II. Applicability

This PR Notice applies to all data that are submitted to EPA to satisfy data requirements for granting or maintaining pesticide registrations, experimental use permits, tolerances, and related approvals under certain provisions of FIFRA and FFDCA. These data are defined in FIFRA §10(d)(1). This Notice does not apply to commercial, financial, or production information, which are, and must continue to be, submitted differently under separate cover.

III. Effective Date

This notice is effective on November 1, 1986. Data formatted according to this notice may be submitted prior to the effective date. As of the effective date, submitted data packages that do not conform to these requirements may be returned to the submitter for necessary revision.

IV. Background

On September 26, 1984, EPA published proposed regulations in the Federal Register (49 FR 37956) which include Requirements for Data Submission (40 CFR §158.32), and Procedures for Claims of Confidentiality of Data (40 CFR §158.33). These regulations specify the format for data submitted to EPA under Section 3 of FIFRA and Sections 408 and 409 of FFDCA, and procedures which must be followed to make and substantiate claims of confidentiality. No entitlements to data confidentiality are changed, either by the proposed regulation or by this notice.

OPP is making these requirements mandatory through this Notice to gain resource-saving benefits from their use before the entire proposed regulation becomes final. Adequate lead time is

being provided for submitters to comply with the new requirements.

V. Relationship of this Notice to Other OPP Policy and Guidance

While this Notice contains requirements for organizing and formatting submittals of supporting data, it does not address the substance of test reports themselves. "Data reporting" guidance is now under development in OPP, and will specify how the study objectives, protocol, observations, findings, and conclusions are organized and presented within the study report. The data reporting guidance will be compatible with submittal format requirements described in this Notice.

OPP has also promulgated a policy (PR Notice 86-4 dated April 15, 1986) that provides for early screening of certain applications for registration under FIFRA §3. The objective of the screen is to avoid the additional costs and prolonged delays associated with handling significantly incomplete application packages. As of the effective date of this Notice, the screen will include in its criteria for acceptance of application packages the data formatting requirements described herein.

OPP has also established a public docket which imposes deadlines for inserting into the docket documents submitted in connection with Special Reviews and Registration Standards (see 40 CFR §154.15 and §155.32). To meet these deadlines, OPP is requiring an additional copy of any data submitted to the docket. Please refer to Page 10 for more information about this requirement.

For several years, OPP has required that each application for registration or other action include a list of all applicable data requirements and an indication of how each is satisfied--the statement of the method of support for the application. Typically, many requirements are satisfied by reference to data previously submitted--either by the applicant or by another party. That requirement is not altered by this notice, which applies only to data submitted with an application.

VI. Format Requirements

A more detailed discussion of these format requirements follows the index on the next page, and samples of some of the requirements are attached. Except for the language of the two alternative forms of the Statement of Data Confidentiality Claims (shown in Attachment 3) which cannot be altered, these samples are illustrative. As long as the required information is included and clearly identifiable, the form of the samples may be altered to reflect the submitter's preference.

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	D. 1 Study Title Page	7	12

D. 2 Statement of Data Confidentiality Claims (based on FIFRA §10(d)(1)) 8 13
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E. Reference to Previously Submitted Data 9

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G. Special Requirements for Submitting Data to the Docket 10

A. Organization of Submittal Package

A "submittal package" consists of all studies submitted at the same time for review in support of a single regulatory action, along with a transmittal document and other related administrative material (e.g. the method of support statement, EPA Forms 8570-1, 8570-4, 8570-20, etc.) as appropriate.

Data submitters must organize each submittal package as described in this Notice. The transmittal and any other administrative material must be grouped together in the first physical volume. Each study included in the submittal package must then be bound separately.

Submitters sometimes provide additional materials that are intended to clarify, emphasize, or otherwise comment to help Product Managers and reviewers better understand the submittal.

- If such materials relate to one study, they should be included as an appendix to that study.

- If such materials relate to more than one study (as for example a summary of all studies in a discipline) or to the submittal in general, they must be included in the submittal package as a separate study (with title page and statement of confidentiality claims).

B. Transmittal Document

The first item in each submittal package must be a transmittal document. This document identifies the submitter or all joint submitters; the regulatory action in support of which the package is being submitted--i.e., a registration application, petition, experimental use permit (EUP), §3(c)(2)(B) data call-in, §6(a)(2) submittal, or a special review; the transmittal date; and a list of all individual studies included in the package in the order of their appearance, showing (usually by Guideline reference number) the data requirement(s) addressed by each one. The EPA-assigned number for the regulatory action (e.g. the registration, EUP, or tolerance petition number) should be included in the transmittal document as well, if it is known to the submitter. See Attachment 1 for an example of an acceptable transmittal document.

The list of included studies in the transmittal of a data submittal package supporting a registration application should be subdivided by discipline, reflecting the order in which data requirements appear in 40 CFR 158.

The list of included studies in the transmittal of a data submittal package supporting a petition for tolerance or an application for an EUP should be subdivided into sections A, B, C,... of the petition or application, as defined in 40 CFR 180.7 and 158.125, (petitions) or Pesticide Assessment Guidelines, Subdivision I (EUPs) as appropriate.

When a submittal package supports a tolerance petition and an application for a registration or an EUP, list the petition studies first, then the balance of the studies. Within these two groups of studies follow the instructions above.

C. Individual Studies

A study is the report of a single scientific investigation, including all supporting analyses required for logical completeness. A study should be identifiable and distinguishable by a conventional bibliographic citation including author, date, and title. Studies generally correspond in scope to a single Guideline requirement for supporting data, with some exceptions discussed in section C.1. Each study included in a submittal package must be bound as a separate entity. (See comments on binding studies on page 9.)

Each study must be consecutively paginated, beginning from the title page as page 1. The total number of pages in the complete study must be shown on the study title page. In addition (to ensure that inadvertently separated pages can be reassociated with the proper study during handling or review) use either of the following:

- Include the total number of pages in the complete study on each page (i.e., 1 of 250, 2 of 250, ...250 of 250).

- Include a company name or mark and study number on each page of the study, e g , Company Name-1986-23. Never reuse a study number for marking the pages of subsequent studies.

When a single study is extremely long, binding it in multiple volumes is permissible so long as the entire study is paginated in a single series, and each volume is plainly identified by the study title and its position in the multi-volume sequence.

C.1 Special Considerations for Identifying Studies

Some studies raise special problems in study identification, because they address Guidelines of broader than normal scope or for other reasons.

a. Safety Studies. Several Guidelines require testing for safety in more than one species. In these cases each species tested should be reported as a separate study, and bound separately.

Extensive supplemental reports of pathology reviews, feed analyses, historical control data, and the like are often associated with safety studies. Whenever possible these should be submitted with primary reports of the study, and bound with the primary study as appendices. When such supplemental reports are submitted independently of the primary report, take care to fully identify the primary report to which they pertain.

Batteries of acute toxicity tests, performed on the same end use product and covered by a single title page, may be bound together and reported as a single study.

b. Product Chemistry Studies. All product chemistry data within a submittal package submitted in support of an end-use product produced from registered manufacturing-use products should be bound as a single study under a single title page.

Product chemistry data submitted in support of a technical product, other manufacturing-use product, an experimental use permit, an import tolerance petition, or an end-use product produced from unregistered source ingredients, should be bound as a single study for each Guideline series (61, 62, and 63) for conventional pesticides, or for the equivalent subject range for biorational pesticides. The first of the three studies in a complete product chemistry submittal for a biochemical pesticide

would cover Guidelines 151-10, 151-11, and 151-12; the second would cover Guidelines 151-13, 151-15, and 151-16; the third would cover Guideline 151-17. The first study for a microbial pesticide would cover Guidelines 151-20, 151-21, and 151-22; the second would cover Guidelines 151-23 and 151-25; the third would cover Guideline 151-26.

Note particularly that product chemistry studies are likely to contain Confidential Business Information as defined in FIFRA §10(d)(1)(A), (B), or (C), and if so must be handled as described in section D.3. of this notice.

c. Residue Chemistry Studies. Guidelines 171-4, 153-3, and 153-4 are extremely broad in scope; studies addressing residue chemistry requirements must thus be defined at a level below that of the Guideline code. The general principle, however, of limiting a study to the report of a single investigation still applies fully. Data should be treated as a single study and bound separately for each analytical method, each report of the nature of the residue in a single crop or animal species, and for each report of the magnitude of residues resulting from treatment of a single crop or from processing a single crop. When more than one commodity is derived from a single crop (such as beet tops and beet roots) residue data on all such commodities should be reported as a single study. When multiple field trials are associated with a single crop, all such trials should be reported as a single study.

D. Organization of Each Study Volume

Each complete study must include all applicable elements in the list below, in the order indicated. (Also see Page 17.) Several of these elements are further explained in the following paragraphs. Entries in the column headed "example" cite the page number of this notice where the element is illustrated.

Element	When Required	Example
Study Title Page	Always	Page 12
Statement of Data Confidentiality Claims	One of the two alternative forms of this statement is always required	Page 13
Certification of Good Laboratory Practice	If study reports laboratory work subject to GLP requirements	Page 16
Flagging statements	For certain toxicology studies (When flagging requirements are finalized.)	
Body of Study	Always - with an English language translation if required.	
Study Appendices	At submitter's option	
Cover Sheet to Confidential Attachment	If CBI is claimed under FIFRA §10(d)(1)(A), (B), or (C)	
CBI Attachment	If CBI is claimed under FIFRA §10(d)(1)(A), (B), or (C)	Page 15
Supplemental Statement of Data Confidentiality Claims	Only if confidentiality is claimed on a basis other than FIFRA §10(d)(1)(A), (B), or (C)	Page 14

D.1. Title Page

A title page is always required for each submitted study, published or unpublished. The title page must always be freely releasable to requestors; **DO NOT INCLUDE CBI ON THE TITLE PAGE**. An example of an acceptable title page is on page 12 of this notice. The following information must appear on the title page:

a. Study title. The study title should be as descriptive as possible It must clearly identify the substance(s) tested and correspond to the name of the data requirement as it appears in the Guidelines.

b. Data requirement addressed. Include on the title page the Guideline number(s) of the specific requirement(s) addressed by the study.

c. Author(s). Cite only individuals with primary intellectual responsibility for the content of the study. Identify them plainly as authors, to distinguish them from the performing laboratory, study sponsor, or other names that may also appear on the title page.

d. Study Date. The title page must include a single date for the study. If parts of the study were performed at different times, use only the date of the latest element in the study.

e. Performing Laboratory Identification. If the study reports work done by one or more laboratories, include on the title page the name and address of the performing laboratory or laboratories, and the laboratory's internal project number(s) for the work. Clearly distinguish the laboratory's project identifier from any other reference numbers provided by the study sponsor or submitter.

f. Supplemental Submissions. If the study is a commentary on or supplement to another previously submitted study, or if it responds to EPA questions raised with respect to an earlier study, include on the title page elements a. through d. for the previously submitted study, along with the EPA Master Record Identifier (MRID) or Accession number of the earlier study if you know these numbers. (Supplements submitted in the same submittal package as the primary study should be appended to and bound with the primary study. Do not include supplements to more than one study under a single title page).

g. Facts of Publication. If the study is a reprint of a published document, identity on the title page all relevant facts of publication, such as the journal title, volume, issue, inclusive page numbers, and publication date.

D.2. Statements of Data Confidentiality Claims Under FIFRA §10(d)(1).

Each submitted study must be accompanied by one of the two alternative forms of the statement of Data Confidentiality Claims specified in the proposed regulation in §158.33 (b) and (c) (See Attachment 3). These statements apply only to claims of data confidentiality based on FIFRA §10(d)(1)(A), (B), or (C). Use the appropriate alternative form of the statement either to assert a claim of §10(d)(1) data confidentiality (§158.33(b)) or to waive such a claim (§158.33(c)). In either case, the statement must be signed and dated, and must include the typed name and title of the official who signs it. Do not make CBI claims with respect to analytical methods associated with petitions for tolerances or emergency exemptions (see NOTE Pg 13).

D.3. Confidential Attachment

If the claim is made that a study includes confidential business information as defined by the criteria of FIFRA §10(D)(1)(A), (B), or (C) (as described in D.2. above) all such information must be excised from the body of the study and confined to a separate study-specific Confidential Attachment. Each passage of CBI so isolated must be identified by a reference number cited within the body of the study at the point from which the passage was excised (See Attachment 5).

The Confidential Attachment to a study must be identified by a cover sheet fully identifying the parent study, and must be clearly marked "Confidential Attachment." An appropriately annotated photocopy of the parent study title page may be used as this cover sheet. Paginate the Confidential Attachment separately from the body of the study, beginning with page 1 of X on the title page. Each passage confined to the Confidential Attachment must be associated with a specific cross reference to the page(s) in the main body of the study on which it is cited, and with a reference to the applicable passage(s) of FIFRA §10(d)(1) on which the confidentiality claim is based.

D.4. Supplemental Statement of Data Confidentiality Claims (See Attachment 4)

If you wish to make a claim of confidentiality for any portion of a submitted study other than described by FIFRA §10(d)(1)(A), (B), or (C), the following provisions apply:

- The specific information to which the claim applies must be clearly marked in the body of the study as subject to a claim of confidentiality.

- A Supplemental Statement of Data Confidentiality Claims must be submitted, identifying each passage claimed confidential and describing in detail the basis for the claim. A list of the points to address in such a statement is included in Attachment 4 on Pg 14.

- The Supplemental Statement of Data Confidentiality Claims must be signed and dated and must include the typed name and title of the official who signed it.

D.5. Good Laboratory Practice Compliance Statement

This statement is required if the study contains laboratory work subject to GLP requirements specified in 40 CFR 160. Samples of these statements are shown in Attachment 6.

E. Reference to Previously Submitted Data

DO NOT RESUBMIT A STUDY THAT HAS PREVIOUSLY BEEN SUBMITTED FOR ANOTHER PURPOSE unless EPA specifically requests it. A copy of the title page plus the MRID number (if known) is sufficient to allow us to retrieve the study immediately for review. This prevents duplicate entries in the Agency files, and saves you the cost of sending more copies of the study. References to previously submitted studies should not be included in the transmittal document, but should be incorporated into the statement of the method of support for the application.

F. Physical Format Requirements

All elements in the data submittal package must be on uniform 8 1/2 by 11 inch white paper, printed on one side only in black ink, with high contrast and good resolution. Bindings for individual studies must be secure, but easily removable to permit disassembly for microfilming. Check with EPA for special instructions before submitting data in any medium other than paper, such as film or magnetic media.

Please be particularly attentive to the following points:

- Do not include frayed or torn pages.
- Do not include carbon copies, or copies in other than black ink.
- Make sure that photocopies are clear, complete, and fully readable.
- Do not include oversize computer printouts or fold-out pages.
- Do not bind any documents with glue or binding tapes.
- Make sure that all pages of each study, including any attachments or appendices, are present and in correct sequence.

Number of Copies Required - All submittal packages except those associated with a Registration Standard or Special Review (See Part G below) must be provided ln three complete, identical copies. (The proposed regulations specified two copies; three are now being required to expedite and reduce the cost of processing data into the OPP Pesticide Document Management System and getting it into review.)

G. Special Requirements for Submitting Data to the Docket

Data submittal packages associated with a Registration Standard or Special Review must be provided in four copies, from one of which all material claimed as CBI has been excised. This fourth copy will become part of the public docket for the RS or SR case. If no claims of confidentiality are made for the study, the fourth copy should be identical to the other three. When portions of a study submitted in support of an RS or SR are claimed as CBI, the first three copies will include the CBI material as provided in section D of this notice. The following special preparation is required for the fourth copy.

- Remove the "Supplemental Statement of Data Confidentiality Claims".
- Remove the "Confidential Attachment".
- Excise from the body of the study any information you claim as confidential, even if it does not fall within the scope of FIFRA §10(d)(1)(A), (B), or (C). Do not close up or paraphrase text remaining after this excision.
- Mark the fourth copy plainly on both its cover and its title page with the phrase "Public Docket Material - contains no information claimed as confidential".

V. For Further Information

For further information contact John Carley, Chief, Information Services Branch, Program Management and Support Division, (703) 305-5240.

/S/

James W. Akerman
Acting Director,
Registration Divison

Attachment 1. Sample Transmittal Document
Attachment 2. Sample Title Page for a Newly Submitted Study
Attachment 3. Statements of Data Confidentiality Claims
Attachment 4. Supplemental Statement of Data Confidentiality Claims
Attachment 5. Samples of Confidential Attachments
Attachment 6. Sample Good Laboratory Practice Statements
Attachment 7. Format Diagrams for Submittal Packages and Studies

ATTACHMENT 1

ELEMENTS TO BE INCLUDED IN THE TRANSMITTAL DOCUMENT*

1. Name and address of submitter (or all joint submitters**)

†Smith Chemical Corporation 1234 West Smith Street Cincinnati, OH 98765	-and-	Jones Chemical Company 5678 Wilson Blvd Covington, KY 56789

†Smith Chemical Corp will act as sole agent for all submitters.

2. Regulatory action in support of which this package is submitted

Use the EPA identification number (e.g. 359-EUP-67) if you know it. Otherwise describe the type of request (e.g. experimental use permit, data call-in - of xx-xx-xx date).

3. Transmittal date

4. List of submitted studies

Vol 1. Administrative materials - forms, previous correspondence with Project Managers, and so forth.

Vol 2. Title of first study in the submittal (Guideline No.)

Vol n Title of nth study in the submittal (Guideline No.)

* Applicants commonly provide this information in a transmittal letter. This remains an acceptable practice so long as all four elements are included.

* Indicate which of the joint submitters is empowered to act on behalf of all joint submitters in any matter concerning data compensation or subsequent use or release of the data.

Company Official: _____ _____
Name Signature

Company Name _____

Company Contact: _____ _____
Name Phone

ATTACHMENT 2

SAMPLE STUDY TITLE PAGE FOR A NEWLY SUBMITTED STUDY

Study Title

(Chemical name) - Magnitude of Residue on Corn

Data Requirement

Guideline 171-4

Author

John C. Davis

Study Completed On

January 5, 1979

Performing Laboratory

ABC Agricultural Laboratories
940 West Bay Drive
Wilmington, CA 39897

Laboratory Project ID

ABC 47-79

Page 1 of X
(X is the total number of pages in the study)

ATTACHMENT 3

STATEMENTS OF DATA CONFIDENTIALITY CLAIMS

1. No claim of confidentiality under FIFRA §10(d)(1)(A),(B), or (C).

STATEMENT OF NO DATA CONFIDENTIALITY CLAIMS

No claim of confidentiality is made for any information contained in this study on the basis of its falling within the scope of FIFRA 6§10(d)(1)(A), (B), or (C).

Company _____

Company Agent: _____ Typed Name _____ Date:_____

_____ Title _____ _____ Signature _____

2. Claim of confidentiality under FIFRA §10(d)(1)(A), (B), or (C).

Information claimed confidential on the basis of its falling within the scope of FIFRA §10(d)(1)(A), (B), or (C) has been removed to a confidential appendix, and is cited by cross-reference number in the body of the study.

Company: _____

Company Agent: _____ Typed Name _____ Date:_____

_____ Title _____ _____ Signature _____

STATEMENT OF DATA CONFIDENTIALITY CLAIMS

NOTE: Applicants for permanent or temporary tolerances should note that it is OPP policy that no permanent tolerance, temporary tolerance, or request for an emergency exemption incorporating an analytical method, can be approved unless the applicant waives all claims of confidentiality for the analytical method. These analytical methods are published in the FDA Pesticide Analytical Methods Manual, and therefore cannot be claimed as confidential. OPP implements this policy by returning submitted analytical methods, for which confidentiality claims have been made, to the submitter, to obtain the confidentiality waiver before they can be processed.

ATTACHMENT 4

SUPPLEMENTAL STATEMENT OF DATA CONFIDENTIALITY CLAIMS

For any portion of a submitted study that is not described by FIFRA §10(d)(1)(A), (B), or (C), but for which you claim confidential treatment on another basis, the following information must be included within a Supplemental Statement of Data Confidentiality Claims:

- Identify specifically by page and line number(s) each portion of the study for which you claim confidentiality.
- Cite the reasons why the cited passage qualifies for confidential treatment.
- Indicate the length of time--until a specific date or event, or permanently--for which the information should be treated as confidential.
- Identify the measures taken to guard against undesired disclosure of this information.
- Describe the extent to which the information has been disclosed, and what precautions have been taken in connection with those disclosures.
- Enclose copies of any pertinent determinations of confidentiality made by EPA, other Federal agencies, of courts concerning this information.
- If you assert that disclosure of this information would be likely to result in substantial harmful effects to you, describe those harmful effects and explain why they should be viewed as substantial.
- If you assert that the information in voluntarily submitted, indicate whether you believe disclosure of this information might tend to lessen the availability to EPA of similar information in the future, and if so, how.

ATTACHMENT 5

EXAMPLES OF SEVERAL CONFIDENTIAL ATTACHMENTS

Example 1. (Confidential word or phrase that has been deleted from the study)

CROSS REFERENCE NUMBER 1 ***This cross reference number is used in the study in place of the following paragraph(s) at the indicated volume and page references.***

DELETED WORDS OR PHRASE: ***Ethylene Glycol***

PAGE	***LINES***	***REASON FOR THE DELETION***	***FIFRA REFERENCE***
6	***14***	***Identity of Inert Ingredient***	***§10(d)(C)***
28	***25***	***"***	***"***

Example 2. (Confidential paragraph(s) that have been deleted from the study)

CROSS REFERENCE NUMBER 5 ***This cross reference number is used in the study in place of the following paragraph(s) at the indicated volume and page references.***

DELETED PARAGRAPH(S):

( )
(Reproduce the deleted paragraph(s) here)
( )

PAGE	***LINES***	***REASON FOR THE DELETION***	***FIFRA REFERENCE***

Example 3. (Confidential pages that have been deleted from the study)

CROSS REFERENCE NUMBER 7 ***This cross reference number is used in the study in place of the following paragraph(s) at the indicated volume and page references.***

DELETED PAGES(S): are attached immediately behind this page

PAGES	***LINES***	***REASON FOR THE DELETION***	***FIFRA REFERENCE***
35-41.		***Description of product manufacturing process***	***§10(d)(1)(A)***

ATTACHMENT 6.

SAMPLE GOOD LABORATORY PRACTICE STATEMENTS

Example 1.

```
This study meets the requirements for 40 CFR Part 160

      Submitter _____________________________________________

      Sponsor   _____________________________________________

      Study Director ________________________________________
```

Example 2.

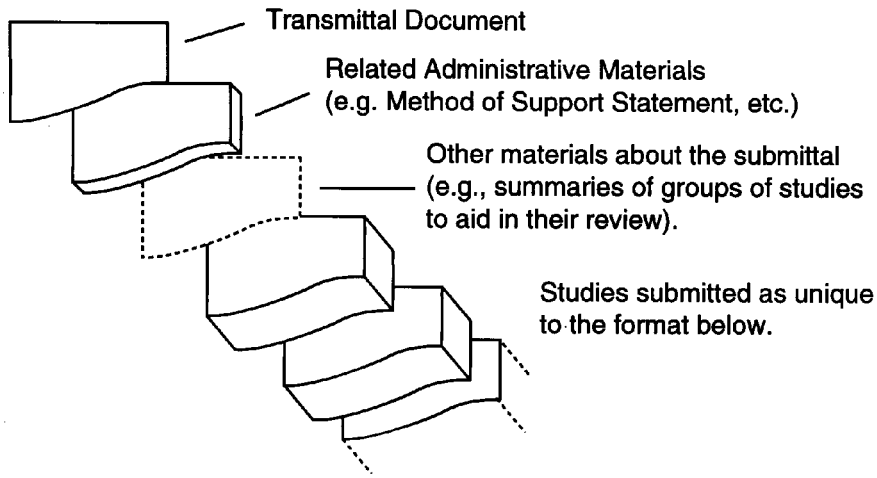
```
This study does not meet the requirements of 40 CFR Part 160, and
differs in the following ways:

1._____________________________________________

2._____________________________________________

3._____________________________________________

      Submitter_____________________________________

      Sponsor_______________________________________

      Study Director________________________________
```

Example 3.

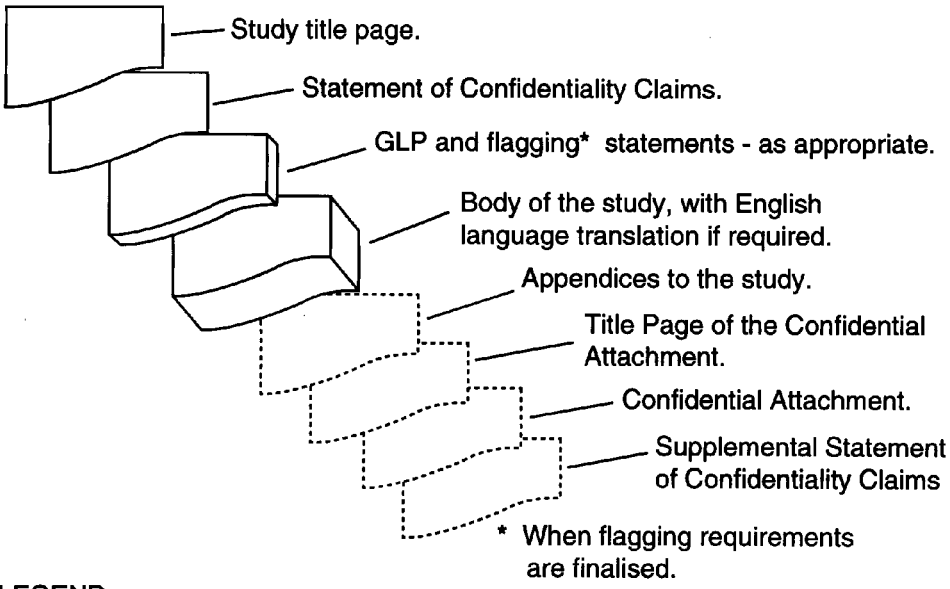
```
The submitter of this study was neither the sponsor of this study nor
conducted it, and does not know whether it has been conducted in
accordance with 40 CFR Part 160.

      Submitter_____________________________________________
```

ATTACHMENT 7.

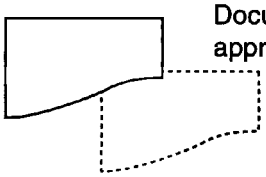
FORMAT OF THE SUBMITTAL PACKAGE



FORMAT OF SUBMITTED STUDIES



LEGEND



Documents which must be submitted as appropriate to meet established requirements.

Documents submitted at submitter's option.

PR Notice 91-2

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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

PR NOTICE 91-2

NOTICE TO MANUFACTURERS, PRODUCERS, FORMULATORS, AND REGISTRANTS OF PESTICIDES

ATTENTION: Persons Responsible for Federal Registration of Pesticide Products.

SUBJECT: Accuracy of Stated Percentages for Ingredients Statement

I. PURPOSE:

The purpose of this notice is to clarify the Office of Pesticide Program's policy with respect to the statement of percentages in a pesticide's label's ingredient statement. Specifically, the amount (percent by weight) of ingredient(s) specified in the ingredient statement on the label must be stated as the nominal concentration of such ingredient(s), as that term is defined in 40 CFR 158.153(i). Accordingly, the Agency has established the nominal concentration as the only acceptable label claim for the amount of active ingredient in the product.

II. BACKGROUND

For some time the Agency has accepted two different methods of identifying on the label what percentage is claimed for the ingredient(s) contained in a pesticide. Some applicants claimed a percentage which represented a level between the upper and the lower certified limits. This was referred to as the nominal concentration. Other applicants claimed the lower limit as the percentage of the ingredient(s) that would be expected to be present in their product at the end of the product's shelf-life. Unfortunately, this led to a great deal of confusion among the regulated industry, the regulators, and the consumers as to exactly how much of a given ingredient was in a given product. The Agency has established the nominal concentration as the only acceptable label claim for the amount of active ingredient in the product.

Current regulations require that the percentage listed in the active ingredient statement be as precise as possible reflecting good manufacturing practices 40 CFR 156.10(g)(5). The certified limits required for each active ingredient are intended to encompass any such "good manufacturing practice" variations 40 CFR 158.175(c)(3).

The upper and lower certified limits, which must be proposed in connection with a product's registration, represent the amounts of an ingredient that may legally be present 40 CFR 158.175. The lower certified limit is used as the enforceable lower limit for the product composition according to FIFRA section 12(a)(1)(C), while the nominal concentration appearing on the label would be the routinely achieved concentration used for calculation of dosages and dilutions.

The nominal concentration would in fact state the greatest degree of accuracy that is warranted with respect to actual product composition because the nominal concentration would be the amount of active ingredient typically found in the product.

It is important for registrants to note that certified limits for active ingredients are not considered to be trade secret information under FIFRA section l0(b). In this respect the certified limits will be routinely provided by EPA to States for enforcement purposes, since the nominal concentration appearing on the label may not represent the enforceable composition for purposes of section 12(a)(1)(C).

III. REQUIREMENTS

As described below under Unit V. " **COMPLIANCE SCHEDULE,"** all currently registered products as well as all applications for new registration must comply with this Notice by specifying the nominal concentration expressed as a percentage by weight as the label claim in the ingredient(s) statement and equivalence statements if applicable (e.g., elemental arsenic, metallic zinc, salt of an acid). In addition, the requirement for performing sample analyses of five or more representative samples must be fulfilled. Copies of the raw analytical data must be submitted with the nominal ingredient label claim. Further information about the analysis requirement may be found in the 40 CFR 158.170. All products are required to provide certified limits for each active, inert ingredient, impurities of toxicological significance(i.e., upper limit(s) only) and on a case by case basis as specified by EPA. These limits are to be **set based on representative sampling** and chemical analysis(i.e., quality control) of the product.

The format of the ingredient statement must conform to 40 CFR 156-Labeling Requirements For Pesticides and Devices.

After July 1, 1997, all pesticide ingredient StatementS must be changed to nominal concentration.

IV. PRODUCTS THAT REQUIRE EFFICACY DATA

All pesticides are required to be efficacious. Therefore, the certified lower limits may not be lower then the minimum level to achieve efficacy. This is extremely important for products which are intended to control pests which threaten the public health, e.g., certain antimicrobial and rodenticide products. Refer to 40 CFR 153.640.

In those cases where efficacy limits have been established, the Agency will not accept certified lower limits which are below that level for the shelf life of the product.

V. COMPLIANCE SCHEDULE

As described earlier, the purpose of this Notice is to make the registration process more uniform and more manageable for both the agency and the regulated community. It is the Agency's intention to implement the requirements of this notice as smoothly as possible so as not to disrupt or delay the Agency's high priority programs, i.e., reregistration, new chemical, or fast track (FIFRA section 3(c)(3)(B). Therefore, applicants/registrants are expected to comply with the requirements of this Notice as follows:

(1) Beginning July 1, 1991, all new product registrations submitted to the Agency are to comply with the requirements of this Notice.

(2) Registrants having products subject to reregistration under FIFRA section 4(a) are to comply with the requirements of this Notice when specific products are called in by the Agency under Phase V of the Reregistration Program.

(3) All other products/applications that are not subject to (1) and (2) above will have until July 1, 1997, to comply with this Notice. Such applications should note "Conversion to Nominal Concentrations on the application form. These types Or amendments will not be handled as "Fast Track" applications but will be handled as routine requests.

VI. FOR FURTHER INFORMATION

Contact Tyrone Aiken for information or questions concerning this notice on (703) 308-7031.

Anne E. Lindsay

Anne E. Lindsay, Director
Registration Division (H-7505

APPENDIX F. Product Specific Data Call-In

DATA CALL-IN NOTICE

CERTIFIED MAIL

Dear Sir or Madam:

This Notice requires you and other registrants of pesticide products containing the active ingredient identified in Attachment 1 of this Notice, the Data Call-In Chemical Status Sheet, to submit certain product specific data as noted herein to the U.S. Environmental Protection Agency (EPA, the Agency). These data are necessary to maintain the continued registration of your product(s) containing this active ingredient. Within 90 days after you receive this Notice you must respond as set forth in Section III below. Your response must state:

1. How you will comply with the requirements set forth in this Notice and its Attachments A through G; or

2. Why you believe you are exempt from the requirements listed in this Notice and in Attachment 3, Requirements Status and Registrant's Response Form, (see section III-B); or

3. Why you believe EPA should not require your submission of product specific data in the manner specified by this Notice (see section III-D).

If you do not respond to this Notice, or if you do not satisfy EPA that you will comply with its requirements or should be exempt or excused from doing so, then the registration of your product(s) subject to this Notice will be subject to suspension. We have provided a list of all of your products subject to this Notice in Attachment 2, Data Call-In Response Form, as well as a list of all registrants who were sent this Notice (Attachment 6).

The authority for this Notice is section 3(c)(2)(B) of the Federal Insecticide, Fungicide and Rodenticide Act as amended (FIFRA), 7 U.S.C. section 136a(c)(2)(B). Collection of this information is authorized under the Paperwork Reduction Act by OMB Approval No. 2070-0107 (expiration date 12-31-92).

This Notice is divided into six sections and seven Attachments. The Notice itself contains information and instructions applicable to all Data Call-In Notices. The Attachments contain specific chemical information and instructions. The six sections of the Notice are:

Section I - Why You Are Receiving This Notice
Section II - Data Required By This Notice
Section III - Compliance With Requirements Of This Notice
Section IV - Consequences Of Failure To Comply With This Notice
Section V - Registrants' Obligation To Report Possible Unreasonable Adverse Effects
Section VI - Inquiries And Responses To This Notice

The Attachments to this Notice are:

1 - Data Call-In Chemical Status Sheet
2 - Product-Specific Data Call-In Response Form
3 - Requirements Status and Registrant's Response Form
4 - EPA Grouping of End-Use Products for Meeting Acute Toxicology Data Requirements for Reregistration
5 - EPA Acceptance Criteria
6 - List of Registrants Receiving This Notice
7 - Cost Share and Data Compensation Forms, and Product Specific Data Report Form

SECTION I. WHY YOU ARE RECEIVING THIS NOTICE

The Agency has reviewed existing data for this active ingredient and reevaluated the data needed to support continued registration of the subject active ingredient. The Agency has concluded that the only additional data necessary are product specific data. No additional generic data requirements are being imposed. You have been sent this Notice because you have product(s) containing the subject active ingredient.

SECTION II. DATA REQUIRED BY THIS NOTICE

II-A. DATA REQUIRED

The product specific data required by this Notice are specified in Attachment 3, Requirements Status and Registrant's Response Form. Depending on the results of the studies required in this Notice, additional testing may be required.

II-B. SCHEDULE FOR SUBMISSION OF DATA

You are required to submit the data or otherwise satisfy the data requirements specified in Attachment 3, Requirements Status and Registrant's Response Form, within the time frames provided.

II-C. TESTING PROTOCOL

All studies required under this Notice must be conducted in accordance with test standards outlined in the Pesticide Assessment Guidelines for those studies for which guidelines have been established.

These EPA Guidelines are available from the National Technical Information Service (NTIS), Attn: Order Desk, 5285 Port Royal Road, Springfield, Va 22161 (tel: 703-487-4650).

Protocols approved by the Organization for Economic Cooperation and Development (OECD) are also acceptable if the OECD-recommended test standards conform to those specified in the Pesticide Data Requirements regulation (40 CFR § 158.70). When using the OECD protocols, they should be modified as appropriate so that the data generated by the study will satisfy the requirements of 40 CFR § 158. Normally, the Agency will not extend deadlines for complying with data requirements when the studies were not conducted in accordance with acceptable standards. The OECD protocols are available from OECD, 1750 Pennsylvania Avenue N.W., Washington, D.C. 20006.

All new studies and proposed protocols submitted in response to this Data Call-In Notice must be in accordance with Good Laboratory Practices [40 CFR Part 160.3(a)(6)].

II-D. REGISTRANTS RECEIVING PREVIOUS SECTION 3(c)(2)(B) NOTICES ISSUED BY THE AGENCY

Unless otherwise noted herein, this Data Call-In does not in any way supersede or change the requirements of any previous Data Call-In(s), or any other agreements entered into with the Agency pertaining to such prior Notice. Registrants must comply with the requirements of all Notices to avoid issuance of a Notice of Intent to Suspend their affected products.

SECTION III. COMPLIANCE WITH REQUIREMENTS OF THIS NOTICE

III-A. SCHEDULE FOR RESPONDING TO THE AGENCY

The appropriate responses initially required by this Notice for product specific data must be submitted to the Agency within 90 days after your receipt of this Notice. Failure to adequately respond to this Notice within 90 days of your receipt will be a basis for issuing a Notice of Intent to Suspend (NOIS) affecting your products. This and other bases for issuance of NOIS due to failure to comply with this Notice are presented in Section IV-A and IV-B.

III-B. OPTIONS FOR RESPONDING TO THE AGENCY

The options for responding to this Notice for product specific data are: (a) voluntary cancellation, (b) agree to satisfy the product specific data requirements imposed by this notice or (c) request a data waiver(s).

A discussion of how to respond if you chose the Voluntary Cancellation option is presented below. A discussion of the various options available for satisfying the product specific data requirements of this Notice is contained in Section III-C. A discussion of options relating to requests for data waivers is contained in Section III-D.

There are two forms that accompany this Notice of which, depending upon your response, one or both must be used in your response to the Agency. These forms are the Data-Call-In Response Form, and the Requirements Status and Registrant's Response Form, Attachment 2 and Attachment 3. The Data Call-In Response Form must be submitted as part of every response to this Notice. In addition, one copy of the Requirements Status and Registrant's Response Form must be submitted for each product listed on the Data Call-In Response Form unless the voluntary cancellation option is selected or unless the product is identical to another (refer to the instructions for completing the Data Call-In Response Form in Attachment 2). Please note that the company's authorized representative is required to sign the first page of the Data Call-In Response Form and Requirements Status and Registrant's Response Form (if this form is required) and initial any subsequent pages. The forms contain separate detailed instructions on the response options. Do not alter the printed material. If you have questions or need assistance in preparing your response, call or write the contact person(s) identified in Attachment 1.

1. Voluntary Cancellation - You may avoid the requirements of this Notice by requesting voluntary cancellation of your product(s) containing the active ingredient that is the subject of this Notice. If you wish to voluntarily cancel your product, you must submit a completed Data Call-In Response Form, indicating your election of this option. Voluntary cancellation is item number 5 on the Data Call-In Response Form. If you choose this option, this is the only form that you are required to complete.

If you chose to voluntarily cancel your product, further sale and distribution of your product after the effective date of cancellation must be in accordance with the Existing Stocks provisions of this Notice which are contained in Section IV-C.

2. Satisfying the Product Specific Data Requirements of this Notice There are various options available to satisfy the product specific data requirements of this Notice. These options are discussed in Section III-C of this Notice and comprise options 1 through 6 on the Requirements Status and Registrant's Response Form and item numbers 7a and 7b on the Data Call-In Response Form. Deletion of a use(s) and the low volume/minor use option are not valid options for fulfilling product specific data requirements.

3. Request for Product Specific Data Waivers. Waivers for product specific data are discussed in Section III-D of this Notice and are covered by option 7 on the Requirements Status and Registrant's Response Form. If you choose one of these options, you must submit both forms as well as any other information/data pertaining to the option chosen to address the data requirement.

III-C SATISFYING THE DATA REQUIREMENTS OF THIS NOTICE

If you acknowledge on the Data Call-In Response Form that you agree to satisfy the product specific data requirements (i.e. you select item number 7a or 7b), then you must select one of the six options on the Requirements Status and Registrant's Response Form related to data production for each data requirement. Your option selection should be entered under item number 9, "Registrant Response." The six options related to data production are the first six options discussed under item 9 in the instructions for completing the Requirements Status and Registrant's Response Form. These six options are listed immediately below with information in parentheses to guide registrants to additional instructions provided in this Section. The options are:

(1) I will generate and submit data within the specified time frame (Developing Data)
(2) I have entered into an agreement with one or more registrants to develop data jointly (Cost Sharing)
(3) I have made offers to cost-share (Offers to Cost Share)
(4) I am submitting an existing study that has not been submitted previously to the Agency by anyone (Submitting an Existing Study)
(5) I am submitting or citing data to upgrade a study classified by EPA as partially acceptable and upgradeable (Upgrading a Study)
(6) I am citing an existing study that EPA has classified as acceptable or an existing study that has been submitted but not reviewed by the Agency (Citing an Existing Study)

Option 1, Developing Data -- If you choose to develop the required data it must be in conformance with Agency deadlines and with other Agency requirements as referenced herein and in the attachments. All data generated and submitted must comply with the Good Laboratory Practice (GLP) rule (40 CFR Part 160), be conducted according to the Pesticide Assessment Guidelines (PAG), and be in conformance with the requirements of PR Notice 86-5.

The time frames in the Requirements Status and Registrant's Response Form are the time frames that the Agency is allowing for the submission of completed study reports. The noted deadlines run from the date of the receipt of this Notice by the registrant. If the data are not submitted by the deadline, each registrant is subject to receipt of a Notice of Intent to Suspend the affected registration(s).

If you cannot submit the data/reports to the Agency in the time required by this Notice and intend to seek additional time to meet the requirements(s), you must submit a request to the Agency which includes: (1) a detailed description of the expected difficulty and (2) a proposed schedule including alternative dates for meeting such requirements on a step-by-step basis. You must explain any technical or laboratory difficulties and provide documentation from the laboratory performing the testing. While EPA is considering your request, the original deadline remains. The Agency will respond to your request in writing. If EPA does not grant your request, the original deadline remains. Normally, extensions can be requested only in cases of extraordinary testing problems beyond the expectation or control of the registrant. Extensions will not be given in submitting the 90-day responses. Extensions will not be considered if the request for extension is not made in a timely fashion; in no event shall an extension request be considered if it is submitted at or after the lapse of the subject deadline.

Option 2, Agreement to Share in Cost to Develop Data -- Registrants may only choose this option for acute toxicity data and certain efficacy data and only if EPA has indicated in the attached data tables that your product and at least one other product are similar for purposes of depending on the same data. If this is the case, data may be generated for just one of the

products in the group. The registration number of the product for which data will be submitted must be noted in the agreement to cost share by the registrant selecting this option. If you choose to enter into an agreement to share in the cost of producing the required data but will not be submitting the data yourself, you must provide the name of the registrant who will be submitting the data. You must also provide EPA with documentary evidence that an agreement has been formed. Such evidence may be your letter offering to join in an agreement and the other registrant's acceptance of your offer, or a written statement by the parties that an agreement exists. The agreement to produce the data need not specify all of the terms of the final arrangement between the parties or the mechanism to resolve the terms. Section 3(c)(2)(B) provides that if the parties cannot resolve the terms of the agreement they may resolve their differences through binding arbitration.

Option 3, Offer to Share in the Cost of Data Development -- This option only applies to acute toxicity and certain efficacy data as described in option 2 above. If you have made an offer to pay in an attempt to enter into an agreement or amend an existing agreement to meet the requirements of this Notice and have been unsuccessful, you may request EPA (by selecting this option) to exercise its discretion not to suspend your registration(s), although you do not comply with the data submission requirements of this Notice. EPA has determined that as a general policy, absent other relevant considerations, it will not suspend the registration of a product of a registrant who has in good faith sought and continues to seek to enter into a joint data development/cost sharing program, but the other registrant(s) developing the data has refused to accept your offer. To qualify for this option, you must submit documentation to the Agency proving that you have made an offer to another registrant (who has an obligation to submit data) to share in the burden of developing that data. You must also submit to the Agency a completed EPA Form 8570-32, Certification of Offer to Cost Share in the Development of Data, Attachment 7. In addition, you must demonstrate that the other registrant to whom the offer was made has not accepted your offer to enter into a cost sharing agreement by including a copy of your offer and proof of the other registrant's receipt of that offer (such as a certified mail receipt). Your offer must, in addition to anything else, offer to share in the burden of producing the data upon terms to be agreed or failing agreement to be bound by binding arbitration as provided by FIFRA section 3(c)(2)(B)(iii) and must not qualify this offer. The other registrant must also inform EPA of its election of an option to develop and submit the data required by this Notice by submitting a Data Call-In Response Form and a Requirements Status and Registrant's Response Form committing to develop and submit the data required by this Notice.

In order for you to avoid suspension under this option, you may not withdraw your offer to share in the burdens of developing the data. In addition, the other registrant must fulfill its commitment to develop and submit the data as required by this Notice. If the other registrant fails to develop the data or for some other reason is subject to suspension, your registration as well as that of the other registrant will normally be subject to initiation of suspension proceedings, unless you commit to submit, and do submit the required data in the specified time frame. In such cases, the Agency generally will not grant a time extension for submitting the data.

Option 4, Submitting an Existing Study -- If you choose to submit an existing study in response to this Notice, you must determine that the study satisfies the requirements imposed by this Notice. You may only submit a study that has not been previously submitted to the Agency or previously cited by anyone. Existing studies are studies which predate issuance of this Notice. Do not use this option if you are submitting data to upgrade a study. (See Option 5).

You should be aware that if the Agency determines that the study is not acceptable, the Agency will require you to comply with this Notice, normally without an extension of the required date of submission. The Agency may determine at any time that a study is not valid and needs to be repeated.

To meet the requirements of the DCI Notice for submitting an existing study, all of the following three criteria must be clearly met:

a. You must certify at the time that the existing study is submitted that the raw data and specimens from the study are available for audit and review and you must identify where they are available. This must be done in accordance with the requirements of the Good Laboratory Practice (GLP) regulation, 40 CFR Part 160. As stated in 40 CFR 160.3(j) " 'raw data' means any laboratory worksheets, records, memoranda, notes, or exact copies thereof, that are the result of original observations and activities of a study and are necessary for the reconstruction and evaluation of the report of that study. In the event that exact transcripts of raw data have been prepared (e.g., tapes which have been transcribed verbatim, dated, and verified accurate by signature), the exact copy or exact transcript may be substituted for the original source as raw data. 'Raw data' may include photographs, microfilm or microfiche copies, computer printouts, magnetic media, including dictated observations, and recorded data from automated instruments." The term "specimens", according to 40 CFR 160.3(k), means "any material derived from a test system for examination or analysis."

b. Health and safety studies completed after May 1984 must also contain all GLP-required quality assurance and quality control information, pursuant to the requirements of 40 CFR Part 160. Registrants must also certify at the time of submitting the existing study that such GLP information is available for post-May 1984 studies by including an appropriate statement on or attached to the study signed by an authorized official or representative of the registrant.

c. You must certify that each study fulfills the acceptance criteria for the Guideline relevant to the study provided in the FIFRA Accelerated Reregistration Phase 3 Technical Guidance and that the study has been conducted according to the Pesticide Assessment Guidelines (PAG) or meets the purpose of the PAG (both available from NTIS). A study not conducted according to the PAG may be submitted to the Agency for consideration if the registrant believes that the study clearly meets the purpose of the PAG. The registrant is referred to 40 CFR 158.70 which states the Agency's policy regarding acceptable protocols. If you wish to submit the study, you must, in addition to certifying that the purposes of the PAG are met by the study, clearly articulate the rationale why you believe the study meets the purpose of the PAG, including copies of any supporting information or data. It has been the Agency's experience that studies completed prior to January 1970 rarely satisfied the purpose of the PAG and that necessary raw data are usually not available for such studies.

If you submit an existing study, you must certify that the study meets all requirements of the criteria outlined above.

If you know of a study pertaining to any requirement in this Notice which does not meet the criteria outlined above but does contain factual information regarding unreasonable adverse effects, you must notify the Agency of such a study. If such study is in the Agency's files, you need only cite it along with the notification. If not in the Agency's files, you must submit a summary and copies as required by PR Notice 86-5.

Option 5, Upgrading a Study -- If a study has been classified as partially acceptable and upgradeable, you may submit data to upgrade that study. The Agency will review the data submitted and determine if the requirement is satisfied. If the Agency decides the requirement is not satisfied, you may still be required to submit new data normally without any time extension. Deficient, but upgradeable studies will normally be classified as supplemental. However, it is important to note that not all studies classified as supplemental are upgradeable. If you have questions regarding the classification of a study or whether a study may be upgraded, call or write the contact person listed in Attachment 1. If you submit data to upgrade an existing study you must satisfy or supply information to correct all deficiencies in the study identified by EPA. You must provide a clearly articulated rationale of how the deficiencies have been remedied or corrected and why the study should be rated as acceptable to EPA. Your submission must also

specify the MRID number(s) of the study which you are attempting to upgrade and must be in conformance with PR Notice 86-5.

Do not submit additional data for the purpose of upgrading a study classified as unacceptable and determined by the Agency as not capable of being upgraded.

This option should also be used to cite data that has been previously submitted to upgrade a study, but has not yet been reviewed by the Agency. You must provide the MRID number of the data submission as well as the MRID number of the study being upgraded.

The criteria for submitting an existing study, as specified in Option 4 above, apply to all data submissions intended to upgrade studies. Additionally your submission of data intended to upgrade studies must be accompanied by a certification that you comply with each of those criteria as well as a certification regarding protocol compliance with Agency requirements.

Option 6, Citing Existing Studies -- If you choose to cite a study that has been previously submitted to EPA, that study must have been previously classified by EPA as acceptable or it must be a study which has not yet been reviewed by the Agency. Acceptable toxicology studies generally will have been classified as "core-guideline" or "core minimum." For all other disciplines the classification would be "acceptable." With respect to any studies for which you wish to select this option you must provide the MRID number of the study you are citing and, if the study has been reviewed by the Agency, you must provide the Agency's classification of the study.

If you are citing a study of which you are not the original data submitter, you must submit a completed copy of EPA Form 8570-31, Certification with Respect to Data Compensation Requirements.

Registrants who select one of the above 6 options must meet all of the requirements described in the instructions for completing the Data Call-In Response Form and the Requirements Status and Registrant's Response Form, as appropriate.

III-D REQUESTS FOR DATA WAIVERS

If you request a waiver for product specific data because you believe it is inappropriate, you must attach a complete justification for the request, including technical reasons, data and references to relevant EPA regulations, guidelines or policies. (Note: any supplemental data must be submitted in the format required by PR Notice 86-5). This will be the only opportunity to state the reasons or provide information in support of your request. If the Agency approves your waiver request, you will not be required to supply the data pursuant to section 3(c)(2)(B) of FIFRA. If the Agency denies your waiver request, you must choose an option for meeting the data requirements of this Notice within 30 days of the receipt of the Agency's decision. You must indicate and submit the option chosen on the Requirements Status and Registrant's Response Form. Product specific data requirements for product chemistry, acute toxicity and efficacy (where appropriate) are required for all products and the Agency would grant a waiver only under extraordinary circumstances. You should also be aware that submitting a waiver request will not automatically extend the due date for the study in question. Waiver requests submitted
without adequate supporting rationale will be denied and the original due date will remain in force.

IV. CONSEQUENCES OF FAILURE TO COMPLY WITH THIS NOTICE

IV-A NOTICE OF INTENT TO SUSPEND

The Agency may issue a Notice of Intent to Suspend products subject to this Notice due to failure by a registrant to comply with the requirements of this Data Call-In Notice, pursuant to FIFRA section 3(c)(2)(B). Events which may be the basis for issuance of a Notice of Intent to Suspend include, but are not limited to, the following:

1. Failure to respond as required by this Notice within 90 days of your receipt of this Notice.

2. Failure to submit on the required schedule an acceptable proposed or final protocol when such is required to be submitted to the Agency for review.

3. Failure to submit on the required schedule an adequate progress report on a study as required by this Notice.

4. Failure to submit on the required schedule acceptable data as required by this Notice.

5. Failure to take a required action or submit adequate information pertaining to any option chosen to address the data requirements (e.g., any required action or information pertaining to submission or citation of existing studies or offers, arrangements, or arbitration on the sharing of costs or the formation of Task Forces, failure to comply with the terms of an agreement or arbitration concerning joint data development or failure to comply with any terms of a data waiver).

6. Failure to submit supportable certifications as to the conditions of submitted studies, as required by Section III-C of this Notice.

7. Withdrawal of an offer to share in the cost of developing required data.

8. Failure of the registrant to whom you have tendered an offer to share in the cost of developing data and provided proof of the registrant's receipt of such offer or failure of a registrant on whom you rely for a generic data exemption either to:

   a. inform EPA of intent to develop and submit the data required by this Notice on a Data Call-In Response Form and a Requirements Status and Registrant's Response Form;

   b. fulfill the commitment to develop and submit the data as required by this Notice; or

   c. otherwise take appropriate steps to meet the requirements stated in this Notice, unless you commit to submit and do submit the required data in the specified time frame.

9. Failure to take any required or appropriate steps, not mentioned above, at any time following the issuance of this Notice.

IV-B. BASIS FOR DETERMINATION THAT SUBMITTED STUDY IS UNACCEPTABLE

The Agency may determine that a study (even if submitted within the required time) is unacceptable and constitutes a basis for issuance of a Notice of Intent to Suspend. The grounds for suspension include, but are not limited to, failure to meet any of the following:

1. EPA requirements specified in the Data Call-In Notice or other documents incorporated by reference (including, as applicable, EPA Pesticide Assessment Guidelines, Data Reporting Guidelines, and GeneTox Health Effects Test Guidelines) regarding the design, conduct, and reporting of required studies. Such requirements include, but are not limited to, those relating to test material, test procedures, selection of species, number of animals, sex and distribution of animals, dose and effect levels to be tested or attained, duration of test, and, as applicable, Good Laboratory Practices.

2. EPA requirements regarding the submission of protocols, including the incorporation of any changes required by the Agency following review.

3. EPA requirements regarding the reporting of data, including the manner of reporting, the completeness of results, and the adequacy of any required supporting (or raw) data, including, but not limited to, requirements referenced or included in this Notice or contained in PR 86-5. All studies must be submitted in the form of a final report; a preliminary report will not be considered to fulfill the submission requirement.

IV-C EXISTING STOCKS OF SUSPENDED OR CANCELLED PRODUCTS

EPA has statutory authority to permit continued sale, distribution and use of existing stocks of a pesticide product which has been suspended or cancelled if doing so would be consistent with the purposes of the Act.

The Agency has determined that such disposition by registrants of existing stocks for a suspended registration when a section 3(c)(2)(B) data request is outstanding would generally not be consistent with the Act's purposes. Accordingly, the Agency anticipates granting registrants permission to sell, distribute, or use existing stocks of suspended product(s) only in exceptional circumstances. If you believe such disposition of existing stocks of your product(s) which may be suspended for failure to comply with this Notice should be permitted, you have the burden of clearly demonstrating to EPA that granting such permission would be consistent with the Act. You must also explain why an "existing stocks" provision is necessary, including a statement of the quantity of existing stocks and your estimate of the time required for their sale, distribution, and use. Unless you meet this burden the Agency will not consider any request pertaining to the continued sale, distribution, or use of your existing stocks after suspension.

If you request a voluntary cancellation of your product(s) as a response to this Notice and your product is in full compliance with all Agency requirements, you will have, under most circumstances, one year from the date your 90 day response to this Notice is due, to sell, distribute, or use existing stocks. Normally, the Agency will allow persons other than the registrant such as independent distributors, retailers and end users to sell, distribute or use such existing stocks until the stocks are exhausted. Any sale, distribution or use of stocks of voluntarily cancelled products containing an active ingredient for which the Agency has particular risk concerns will be determined on case-by-case basis.

Requests for voluntary cancellation received after the 90 day response period required by this Notice will not result in the Agency granting any additional time to sell, distribute, or use existing stocks beyond a year from the date the 90 day response was due unless you demonstrate to the Agency that you are in full compliance with all Agency requirements, including the requirements of this Notice. For example, if you decide to voluntarily cancel your registration six months before a 3 year study is scheduled to be submitted, all progress reports and other information necessary to establish that you have been conducting the study in an acceptable and good faith manner must have been submitted to the Agency, before EPA will consider granting an existing stocks provision.

SECTION V. REGISTRANTS' OBLIGATION TO REPORT POSSIBLE UNREASONABLE ADVERSE EFFECTS

Registrants are reminded that FIFRA section 6(a)(2) states that if at any time after a pesticide is registered a registrant has additional factual information regarding unreasonable adverse effects on the environment by the pesticide, the registrant shall submit the information to the Agency. Registrants must notify the Agency of any factual information they have, from whatever source, including but not limited to interim or preliminary results of studies, regarding unreasonable adverse effects on man or the environment. This requirement continues as long as the products are registered by the Agency.

SECTION VI. INQUIRIES AND RESPONSES TO THIS NOTICE

If you have any questions regarding the requirements and procedures established by this Notice, call the contact person(s) listed in Attachment 1, the Data Call-In Chemical Status Sheet.

All responses to this Notice (other than voluntary cancellation requests and generic data exemption claims) must include a completed Data Call-In Response Form and a completed Requirements Status and Registrant's Response Form (Attachment 2 and Attachment 3 for product specific data) and any other documents required by this Notice, and should be submitted to the contact person(s) identified in Attachment 1. If the voluntary cancellation or generic data exemption option is chosen, only the Data Call-In Response Form need be submitted.

The Office of Compliance Monitoring (OCM) of the Office of Pesticides and Toxic Substances (OPTS), EPA, will be monitoring the data being generated in response to this Notice.

Sincerely yours,

Louis P. True, Jr., Acting Director
Special Review and
Reregistration Division

Attachments

1 - Data Call-In Chemical Status Sheet
2 - Product-Specific Data Call-In Response Form
3 - Requirements Status and Registrant's Response Form
4 - EPA Grouping of End-Use Products for Meeting Acute Toxicology Data Requirements for Reregistration
5 - EPA Acceptance Criteria
6 - List of Registrants Receiving This Notice
7 - Cost Share and Data Compensation Forms, and Product Specific Data Report Form

Attachment 1. Chemical Status Sheet

SODIUM CYANIDE DATA CALL-IN CHEMICAL STATUS SHEET

INTRODUCTION

You have been sent this Product Specific Data Call-In Notice because you have product(s) containing sodium cyanide.

This Product Specific Data Call-In Chemical Status Sheet, contains an overview of data required by this notice, and point of contact for inquiries pertaining to the reregistration of sodium cyanide. This attachment is to be used in conjunction with (1) the Product Specific Data Call-In Notice, (2) the Product Specific Data Call-In Response Form (Attachment 2), (3) the Requirements Status and Registrant's Form (Attachment 3), (4) EPA's Grouping of End-Use Products for Meeting Acute Toxicology Data Requirement (Attachment 4), (5) the EPA Acceptance Criteria (Attachment 5), (6) a list of registrants receiving this DCI (Attachment 6) and (7) the Cost Share and Data Compensation Forms in replying to this sodium cyanide Product Specific Data Call-In (Attachment 7). Instructions and guidance accompany each form.

DATA REQUIRED BY THIS NOTICE

The additional data requirements needed to complete the database for sodium cyanide are contained in the Requirements Status and Registrant's Response, Attachment 3. The Agency has concluded that additional data on sodium cyanide are needed for specific products. These data are required to be submitted to the Agency within the time frame listed. These data are needed to fully complete the reregistration of all eligible sodium cyanide products.

INQUIRIES AND RESPONSES TO THIS NOTICE

If you have any questions regarding the generic database of sodium cyanide, please contact Kathleen Depukat at (703) 308-8587.

If you have any questions regarding the product specific data requirements and procedures established by this Notice, please contact Franklin Gee at (703) 308-8008 or Emily Mitchel at (703) 308-8583.

All responses to this Notice for the Product Specific data requirements should be submitted to:

Emily Mitchell
Chemical Review Manager Team 81
Product Reregistration Branch
Special Review and Reregistration Branch 7508W
Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

RE: **SODIUM CYANIDE**

Attachment 2. Product Specific Data Call-In Response Forms (Form A inserts) Plus Instructions

INSTRUCTIONS FOR COMPLETING THE **DATA CALL-IN RESPONSE FORM** FOR **PRODUCT SPECIFIC DATA**

Item 1-4. Already completed by EPA.

Item 5. If you wish to **voluntarily cancel** your product, answer "**yes**." If you choose this option, you will not have to provide the data required by the Data Call-In Notice and you will not have to complete any other forms. Further sale and distribution of your product after the effective date of cancellation must be in accordance with the Existing Stocks provision of the Data Call-In Notice (Section IV-C).

Item 6. Not applicable since this form calls in product specific data only. However, if your product is **identical** to another product and you qualify for a **data exemption**, you must respond with "**yes**" to Item 7a (MUP) or 7B (EUP) on this form, provide the **EPA registration numbers of your source(s)**; you would **not** complete the "Requirements Status and Registrant's Response" form. Examples of such products include **repackaged** products and **Special Local Needs (Section 24c)** products which are identical to federally registered products.

Item 7a. For each **manufacturing use product** (MUP) for which you wish to maintain registration, you must agree to satisfy the data requirements by responding "**yes**."

Item 7b. For each **end use product** (EUP) for which you wish to maintain registration, you must agree to satisfy the data requirements by responding "**yes**." If you are requesting a **data waiver**, answer "**yes**" here; in addition, on the "Requirements Status and Registrant's Response" form under Item 9, you must respond with **Option 7** (Waiver Request) for each study for which you are requesting a waiver. See Item 6 with regard to identical products and data exemptions.

Items 8-11. Self-explanatory.

NOTE: You may provide **additional information** that does not fit on this form in a signed letter that accompanies this form. For example, you may wish to report that your product has already been transferred to another company or that you have already voluntarily canceled this product. For these cases, please supply all relevant details so that EPA can ensure that its records are correct.

INSTRUCTIONS FOR COMPLETING THE **REQUIREMENTS STATUS AND REGISTRANT'S RESPONSE FORM** FOR **PRODUCT SPECIFIC DATA**

Item 1-3 Completed by EPA. Note the **unique identifier number** assigned by EPA in Item 3. This number **must be used in the transmittal document for any data submissions** in response to this Data Call-In Notice.

Item 4. The guideline reference numbers of studies required to support the product's continued registration are identified. These guidelines, in addition to the requirements specified in the Notice, govern the conduct of the required studies. Note that series 61 and 62 in product chemistry are now listed under 40 CFR 158.155 through 158.180, Subpart C.

Item 5. The study title associated with the guideline reference number is identified.

Item 6. The use pattern(s) of the pesticide associated with the product specific requirements is (are) identified. For most product specific data requirements, all use patterns are covered by the data requirements. In the case of efficacy data, the required studies only pertain to products which have the use sites and/or pests indicated.

Item 7. The substance to be tested is identified by EPA. For product specific data, the product as formulated for sale and distribution is the test substance, except in rare cases.

Item 8. The due date for submission of each study is identified. It is normally based on **8 months after issuance of the Reregistration Eligibility Document** unless EPA determines that a longer time period is necessary.

Item 9. **Enter only one of the following response codes for each data requirement to show how you intend to comply with the data requirements listed in this table.** Fuller descriptions of each option are contained in the Data Call-In Notice.

1. I will generate and submit data by the specified due date (**Developing Data**). By indicating that I have chosen this option, I certify that I will comply with all the requirements pertaining to the conditions for submittal of this study as outlined in the Data Call-In Notice. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements" form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

2. I have entered into an agreement with one or more registrants to develop data jointly (**Cost Sharing**). I am submitting a **copy of this agreement**. I understand that this option is available **only** for acute toxicity or certain efficacy data and **only** if EPA indicates in an attachment to this Notice that my product is similar enough to another product to qualify for this option. I certify that another party in the agreement is committing to submit or provide the required data; if the required study is not submitted on time, my product may be subject to suspension. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements" form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

3. I have made offers to share in the cost to develop data (**Offers to Cost Share**). I understand that this option is available **only** for acute toxicity or certain efficacy data and **only** if EPA indicates in an attachment to this Data Call-In Notice that my product is similar enough to another product to qualify for this option. I am submitting **evidence that I have made an offer** to another registrant (who has an

obligation to submit data) to share in the cost of that data. I am also submitting a completed "**Certification of Offer to Cost Share in the Development Data**" **form**. I am including a copy of my offer and proof of the other registrant's receipt of that offer. I am identifying the party which is committing to submit or provide the required data; if the required study is not submitted on time, my product may be subject to suspension. I understand that other terms under Option 3 in the Data Call-In Notice (Section III-C.1.) apply as well. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements**" **form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

4. By the specified due date, I will submit an existing study that has not been submitted previously to the Agency by anyone (**Submitting an Existing Study**). I certify that this study will meet all the requirements for submittal of existing data outlined in Option 4 in the Data Call-In Notice (Section III-C.1.) and will meet the attached acceptance criteria (for acute toxicity and product chemistry data). I will attach the needed supporting information along with this response. I also certify that I have determined that this study will fill the data requirement for which I have indicated this choice. By the specified due date, I will also submit a completed "**Certification With Respect To Data Compensation Requirements**" **form (EPA Form 8570-29)** to show what data compensation option I have chosen. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements**" **form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

5. By the specified due date, I will submit or cite data to upgrade a study classified by the Agency as partially acceptable and upgradable (**Upgrading a Study**). I will submit **evidence of the Agency's review** indicating that the study may be upgraded and what information is required to do so. I will provide the MRID or Accession number of the study at the due date. I understand that the conditions for this option outlined Option 5 in the Data Call-In Notice (Section III-C.1.) apply. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements**" **form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

6. By the specified due date, I will cite an existing study that the Agency has classified as acceptable or an existing study that has been submitted but not reviewed by the Agency (**Citing an Existing Study**). If I am citing another registrant's study, I understand that this option is available **only** for acute toxicity or certain efficacy data and **only** if the cited study was conducted on my product, an identical product or a product which EPA has "grouped" with one or more other products for purposes of depending on the same data. I may also choose this option if I am citing my own data. In either case, I will provide the **MRID or Accession number(s)** for the cited data on a "Product Specific Data Report" form or in a similar format. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements**" **form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

7. I request a waiver for this study because it is inappropriate for my product (**Waiver Request**). I am attaching a complete justification for this request, including technical reasons, data and references to relevant EPA regulations, guidelines or policies. [Note: any supplemental data must be submitted in the format required by P.R. Notice 86-5]. I understand that this is my **only** opportunity to state the reasons or provide information in support of my request. If the Agency approves

my waiver request, I will **not** be required to supply the data pursuant to Section 3(c)(2)(B) of FIFRA. If the Agency denies my waiver request, I **must choose** a method of meeting the data requirements of this Notice by the due date stated by this Notice. In this case, I must, within **30 days** of my receipt of the Agency's written decision, submit a revised "Requirements Status and Registrant's Response" Form indicating the option chosen. I also understand that the deadline for submission of data as specified by the original data call-in notice will not change. By the specified due date, I will also submit: (1) a completed "**Certification With Respect To Data Compensation Requirements" form (EPA Form 8570-29)** and (2) two completed and signed copies of the **Confidential Statement of Formula (EPA Form 8570-4)**.

Items 10-13. Self-explanatory.

NOTE: You may provide **additional information** that does not fit on this form in a signed letter that accompanies this form. For example, you may wish to report that your product has already been transferred to another company or that you have already voluntarily canceled this product. For these cases, please supply all relevant details so that EPA can ensure that its records are correct.

Attachment 3. Product Specific Requirement Status and Registrant's Response Forms (Form B inserts) and Instructions

INSTRUCTIONS FOR COMPLETING THE "REQUIREMENTS STATUS AND REGISTRANT'S RESPONSE" FORM FOR PRODUCT SPECIFIC DATA

Item 1-3. Completed by EPA. Note the unique identifier number assigned by EPA in item 3. This number must be used in the transmittal document for any data submissions in response to this Data Call-In Notice.

Item 4. The guidelines reference numbers of studies required to support the product's continued registration are identified. These guidelines, in addition to the requirements specified in the Notice, govern the conduct of the required studies. Note that series 61 and 62 in product chemistry are now listed under 40 CFR 158.155 through 158.180, Subpart c.

Item 5. The study title associated with the guideline reference number is identified.

Item 6. The use patters (s) of the pesticide associated with the product specific requirements is (are) identified. For most product specific data requirements, all use patterns are covered by the data requirements. In the case of efficacy data, the required studies only pertain to products which have the use sites and/ or pests indicated.

Item 7. The substance to be tested is identified by EPA. For product specific data, the product as formulated for sale and distribution is the test substance, except in rare cases.

Item 8. The due date for submission of each study is identified. lt is normally based on 8 months after issuance of the Reregistration Eligibility Documents unless EPA determines that a longer time period is necessary.

Item 9. Enter Only one of the following response codes for each data requirement to show how you intend to comply with the data requirements listed in this table. Fuller descriptions of each option are contained in the Data Call-In Notice.

1. I will generate and submit data by the specified due date (Developing Data). By indicating that I have chosen this option, I certify that I will comply with all the requirements pertaining to the conditions for submittal of this study as outlined in the Data Call-In Notice.

2. I have entered into an agreement with one or more registrants to develop data jointly (Cost Sharing). I am submitting a copy of this agreement. I understand that this option is available on for acute toxicity or certain efficacy data and only if EPA indicates in an attachment to this notice that my product is similar. Enough to another product to qualify for this option. I certify that another party in the agreement is committing to submit or provide the required data; if the required study is not submitted on time, my product my be subject to suspension.

3. I have made offers to share in the cost to develop data (Offers to Cost Share). I understand that this option is available only for acute toxicity or certain efficacy data and only if EPA indicates in an attachment to this Data Call-In Notice that my product is similar enough to another product to qualify for this option. I am submitting evidence that I have made an offer to another registrant (who has an obligation to submit data) to share in the cost of that data. I am also submitting a completed " Certification of offer to Cost Share in the Development Data" form. I am including a copy of my offer and proof of the other registrant's receipt of that offer. I am identifying the party which is committing to submit or provide the require data; if the required study is not submitted on time, my product may be subject to suspension. I understand that other terms under Option 3 in the Data Call-In Notice (Section III-C.1.) apply as well.

4. By the specified due date, I will submit an existing study that has not been submitted previously to the Agency by anyone (submitting an Existing Study). I certify that this study will meet all the requirements for submittal of existing data outlined in option 4 in the Data Call-In Notice (Section III-C.1.) and will meet the attached acceptance criteria (for acute toxicity and product chemistry data). I will attach the needed supporting information along with this response. I also certify that I have determined that this study will fill the data requirement for which I have indicated this choice.

5. By the specified due date, I will submit or cite data to upgrade a study classified by the Agency as partially acceptable and upgrade (upgrading a study). I will submit evidence of the Agency's review indicating that the study may be upgraded and what information is required to do so. I will provide the MRID or Accession number of the study at the due date. I understand that the conditions for this Option outlined Option 5 in the Data Call-In Notice (Section III-C.1.) apply.

6. By the specified due date, I will cite an existing study that the Agency has classified as acceptable or an existing study that has been submitted but not reviewed by the Agency (Citing an Existing Study). If I am citing another registrant's study, I understand that this option is available only for acute toxicity or certain efficacy data and only if the cited study was conducted on my product, an identical product or a product which EPA has "grouped" with one or more other products for purposes of depending on the same data. I may also choose this option if I am citing my own data. In either case, I will provide the MRID or Accession number (s) number (s) for the cited data on a "Product Specific Data Report" form or in a similar format. If I cite another registratrant's data, I will submit a completed "Certification With Respect To Data Compensation Requirements" form.

7. I request a waiver for this study because it is inappropriate for my product (Waiver Request). I am attaching a complete justification for this request, including technical reasons, data and references to relevant EPA regulations, guidelines or policies. [Note: any supplemental data must be submitted in the format required by P.R. Notice 86-5]. I understand that this is my only opportunity to state the reasons or provide information in support of my request. If the Agency approves my waiver request, I will not be require to supply the data pursuant to Section 3(c) (2) (B) of FIFRA. If the Agency denies my waiver request, I must choose a method of meeting the data requirements of this Notice by the due date stated by this Notice. In this case, I must, within 30 days of my receipt of the Agency's written decision, submit a revised "Requirements Status chosen. I also understand that the deadline for submission of data as specified by the original data cal-in notice will not change.

Items 10-13. Self-explanatory.

NOTE: You may provide additional information that does not fit on this form in a signed letter that accompanies this form. For example, you may wish to report that your product has already been transferred to another company or that you have already voluntarily cancelled this product. For these cases, please supply all relevant details so that EPA can ensure that its records are correct.

Attachment 4. EPA Batching of End-Use Products for Meeting Data Requirements for Reregistration

EPA'S BATCHING OF PRODUCTS CONTAINING SODIUM CYANIDE AS THE ACTIVE INGREDIENT FOR MEETING ACUTE TOXICITY DATA REQUIREMENTS FOR REREGISTRATION

In an effort to reduce the time, resources and number of animals needed to fulfill the acute toxicity data requirements for reregistration of products containing the active ingredient sodium cyanide, the Agency has batched products which can be considered similar in terms of acute toxicity. Factors considered in the sorting process include each product's active and inert ingredients (identity, percent composition and biological activity), type of formulation (e.g., emulsifiable concentrate, aerosol, wettable powder, granular, etc.), and labeling (e.g., signal word, use classification, precautionary labeling, etc.). Note that the Agency is not describing batched products as "substantially similar" since some products within a batch may not be considered chemically similar or have identical use patterns.

Using available information, batching has been accomplished by the process described in the preceding paragraph. Notwithstanding the batching process, the Agency reserves the right to require, at any time, acute toxicity data for an individual product should the need arise.

Registrants of products within a batch may choose to cooperatively generate, submit or cite a single battery of six acute toxicological studies to represent all the products within that batch. It is the registrants' option to participate in the process with all other registrants, only some of the other registrants, or only their own products within a batch, or to generate all the required acute toxicological studies for each of their own products. If a registrant chooses to generate the data for a batch, he/she must use one of the products within the batch as the test material. If a registrant chooses to rely upon previously submitted acute toxicity data, he/she may do so provided that the data base is complete and valid by today's standards (see acceptance criteria attached), the formulation tested is considered by EPA to be similar for acute toxicity, and the formulation has not been significantly altered since submission and acceptance of the acute toxicity data. Regardless of whether new data is generated or existing data is referenced, registrants must clearly identify the test material by EPA Registration Number. If more than one confidential statement of formula (CSF) exists for a product, the registrant must indicate the formulation actually tested by identifying the corresponding CSF.

In deciding how to meet the product specific data requirements, registrants must follow the directions given in the Data Call-In Notice and its attachments appended to the RED. The DCI Notice contains two response forms which are to be completed and submitted to the Agency within 90 days of receipt. The first form, "Data Call-In Response," asks whether the registrant will meet the data requirements for each product. The second form, "Requirements Status and Registrant's Response," lists the product specific data required for each product, including the standard six acute toxicity tests. A registrant who wishes to participate in a batch must decide whether he/she will provide the data or depend on someone else to do so. If a registrant supplies the data to support a batch of products, he/she must select one of the following options: Developing Data (Option 1), Submitting an Existing Study (Option 4), Upgrading an Existing Study (Option 5) or Citing an Existing Study (Option 6). If a registrant depends on another's data, he/she must choose among: Cost Sharing (Option 2), Offers to Cost Share (Option 3) or Citing an Existing Study (Option 6). If a registrant does not want to participate in a batch, the choices are Options 1, 4, 5 or 6. However, a registrant should know that choosing not to participate in a batch does not preclude other registrants in the batch from citing his/her studies and offering to cost share (Option 3) those studies.

Table 1 displays the batch for the active ingredient sodium cyanide. All seven products of this RED were batched.

Table 1.

Batch	Registration Number	% Active Ingredient	Form
1	33858-2	sodium cyanide ... 91.06%	powder capsules
	35975-2	sodium cyanide ... 91.06%	powder capsules
	35978-1	sodium cyanide ... 91.06%	powder capsules
	39260-1	sodium cyanide ... 91.06%	powder capsules
	39508-1	sodium cyanide ... 91.06%	powder capsules
	50628-1	sodium cyanide ... 88.78%	powder capsules
	56228-15	sodium cyanide ... 91.06%	powder capsules

Attachment 5. EPA Acceptance Criteria

SUBDIVISION D

Guideline	Study Title
Series 61	Product Identity and Composition
Series 62	Analysis and Certification of Product Ingredients
Series 63	Physical and Chemical Characteristics

61 Product Identity and Composition

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.____ Name of technical material tested (include product name and trade name, if appropriate).

2.____ Name, nominal concentration, and certified limits (upper and lower) for each active ingredient and each intentionally-added inert ingredient.

3.____ Name and upper certified limit for each impurity or each group of impurities present at $\geq$ 0.1% by weight and for certain toxicologically significant impurities (e.g., dioxins, nitrosamines) present at $<$ 0.1%.

4.____ Purpose of each active ingredient and each intentionally-added inert.

5.____ Chemical name from Chemical Abstracts index of Nomenclature and Chemical Abstracts Service (CAS) Registry Number for each active ingredient and, if available, for each intentionally-added inert.

6.____ Molecular, structural, and empirical formulas, molecular weight or weight range, and any company assigned experimental or internal code numbers for each active ingredient.

7.____ Description of each beginning material in the manufacturing process.
- ____ EPA Registration Number if registered;
  for other beginning materials, the following:
- ____ Name and address of manufacturer or supplier.
- ____ Brand name, trade name or commercial designation.
- ____ Technical specifications or data sheets by which manufacturer or supplier describes composition, properties or toxicity.

8.____Description of manufacturing process.
- ____ Statement of whether batch or continuous process.
- ____ Relative amounts of beginning materials and order in which they are added.
- ____ Description of equipment.
- ____ Description of physical conditions (temperature, pressure, humidity) controlled in each step and the parameters that are maintained.
- ____ Statement of whether process involves intended chemical reactions.
- ____ Flow chart with chemical equations for each intended chemical reaction.
- ____ Duration of each step of process.
- ____ Description of purification procedures.
- ____ Description of measures taken to assure quality of final product.

9.____ Discussion of formation of impurities based on established chemical theory addressing (1) each impurity which may be present at $\geq$ 0.1% or was found at $\geq$ 0.1% by product analyses and (2) certain toxicologically significant impurities (see #3).

62 Analysis and Certification of Product Ingredients

ACCEPTANCE CRITERIA

The following criteria apply to the technical grade of the active ingredient being reregistered. Use a table to present the information in items 6, 7, and 8.

Does your study meet the following acceptance criteria?

1.____ Five or more representative samples (batches in case of batch process) analyzed for each active ingredient and all impurities present at $>$ 0.1%.
2.____ Degree of accountability or closure $>$ ca 98%.
3.____ Analyses conducted for certain trace toxic impurities at lower than 0.1% (examples, nitrosamines in the case of products containing dinitroanilines or containing secondary or tertiary amines/alkanolamines plus nitrites; polyhalogenated dibenzodioxins and dibenzofurans). [Note that in the case of nitrosamines both fresh and stored samples must be analyzed.].
4.____ Complete and detailed description of each step in analytical method used to analyze above samples.
5.____ Statement of precision and accuracy of analytical method used to analyze above samples.
6.____ Identities and quantities (including mean and standard deviation) provided for each analyzed ingredient.
7.____ Upper and lower certified limits proposed for each active ingredient and intentionally added inert along with explanation of how the limits were determined.
8.____ Upper certified limit proposed for each impurity present at $>$ 0.1% and for certain toxicologically significant impurities at $<$ 0.1% along with explanation of how limit determined.
9.____ Analytical methods to verify certified limits of each active ingredient and impurities (latter not required if exempt from requirement of tolerance or if generally recognized as safe by FDA) are fully described.
10.____ Analytical methods (as discussed in #9) to verify certified limits validated as to their precision and accuracy.

63 Physical and Chemical Characteristics

ACCEPTANCE CRITERIA

The following criteria apply to the technical grade of the active ingredient being reregistered.

Does your study meet the following acceptance criteria?

63-2 Color
- ____ Verbal description of coloration (or lack of it)
- ____ Any intentional coloration also reported in terms of Munsell color system

63-3 Physical State
- ____ Verbal description of physical state provided using terms such as "solid, granular, volatile liquid"
- ____ Based on visual inspection at about 20-25E C

63-4 Odor
- ____ Verbal description of odor (or lack of it) using terms such as "garlic-like, characteristic of aromatic compounds"
- ____ Observed at room temperature

63-5 Melting Point
- ____ Reported in EC
- ____ Any observed decomposition reported

63-6 Boiling Point
- ____ Reported in EC
- ____ Pressure under which B.P. measured reported
- ____ Any observed decomposition reported

63-7 Density, Bulk Density, Specific Gravity
- ____ Measured at about 20-25E C
- ____ Density of technical grade active ingredient reported in g/ml or the specific gravity of liquids reported with reference to water at 20E C. [Note: Bulk density of registered products may be reported in lbs/ft^3 or lbs/gallon.]

63-8 Solubility
- ____ Determined in distilled water and representative polar and non-polar solvents, including those used in formulations and analytical methods for the pesticide
- ____ Measured at about 20-25E C
- ____ Reported in g/100 ml (other units like ppm acceptable if sparingly soluble)

63-9 Vapor Pressure
- ____ Measured at 25E C (or calculated by extrapolation from measurements made at higher temperature if pressure too low to measure at 25E C)
- ____ Experimental procedure described
- ____ Reported in mm Hg (torr) or other conventional units

63-10 Dissociation Constant
- ____ Experimental method described
- ____ Temperature of measurement specified (preferably about 20-25EC)

63-11 Octanol/water Partition Coefficient
- ____ Measured at about 20-25E C
- ____ Experimentally determined and description of procedure provided (preferred method-45 Fed. Register 77350)
- ____ Data supporting reported value provided

63-12 pH
- ____ Measured at about 20-25E C
- ____ Measured following dilution or dispersion in distilled water

63-13 Stability
- ____ Sensitivity to metal ions and metal determined
- ____ Stability at normal and elevated temperatures
- ____ Sensitivity to sunlight determined

SUBDIVISION F

Guideline	Study Title
81-1	Acute Oral Toxicity in the Rat
81-2	Acute Dermal Toxicity in the Rat, Rabbit or Guinea Pig
81-3	Acute Inhalation Toxicity in the Rat
81-4	Primary Eye Irritation in the Rabbit
81-5	Primary Dermal Irritation Study
81-6	Dermal Sensitization in the Guinea Pig

81-1 Acute Oral Toxicity in the Rat

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.____ Identify material tested (technical, end-use product, etc).
2.____ At least 5 young adult rats/sex/group.
3.____ Dosing, single oral may be administered over 24 hrs.
4.*___ Vehicle control if other than water.
5.____ Doses tested, sufficient to determine a toxicity category or a limit dose (5000 mg/kg).
6.____ Individual observations at least once a day.
7.____ Observation period to last at least 14 days, or until all test animals appear normal whichever is longer.
8.____ Individual daily observations.
9.____ Individual body weights.
10.____ Gross necropsy on all animals.

Criteria marked with an * are supplemental and may not be required for every study.

81-2 Acute Dermal toxicity in the Rat, Rabbit or Guinea Pig

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1._____ Identify material tested (technical, end-use product, etc).
2._____ At least 5 animals/sex/group.
3.*____ Rats 200-300 gm, rabbits 2.0-3.0 kg or guinea pigs 350-450 gm.
4._____ Dosing, single dermal.
5._____ Dosing duration at least 24 hours.
6.*____ Vehicle control, only if toxicity of vehicle is unknown.
7._____ Doses tested, sufficient to determine a toxicity category or a limit dose (2000 mg/kg).
8._____ Application site clipped or shaved at least 24 hours before dosing.
9._____ Application site at least 10% of body surface area.
10._____ Application site covered with a porous nonirritating cover to retain test material and to prevent ingestion.
11._____ Individual observations at least once a day.
12._____ Observation period to last at least 14 days.
13._____ Individual body weights.
14._____ Gross necropsy on all animals.

Criteria marked with an * are supplemental and may not be required for every study.

81-3 Acute Inhalation Toxicity in the Rat

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.____ Identify material tested (technical, end-use product, etc).
2.____ Product is a gas, a solid which may produce a significant vapor hazard based on toxicity and expected use or contains particles of inhalable size for man (aerodynamic diameter 15 µm or less).
3.____ At least 5 young adult rats/sex/group.
4.____ Dosing, at least 4 hours by inhalation.
5.____ Chamber air flow dynamic, at least 10 air changes/hour, at least 19% oxygen content.
6.____ Chamber temperature, 22E C (±2°), relative humidity 40-60%.
7.____ Monitor rate of air flow.
8.____ Monitor actual concentrations of test material in breathing zone.
9.____ Monitor aerodynamic particle size for aerosols.
10.___ Doses tested, sufficient to determine a toxicity category or a limit dose (5 mg/L actual concentration of respirable substance).
11.___ Individual observations at least once a day.
12.___ Observation period to last at least 14 days.
13.___ Individual body weights.
14.___ Gross necropsy on all animals.

81-4 Primary Eye Irritation in the Rabbit

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.____ Identify material tested (technical, end-use product, etc).
2.____ Study not required if material is corrosive, causes severe dermal irritation or has a pH of ≤ 2 or ≥ 11.5.
3.____ 6 adult rabbits.
4.____ Dosing, instillation into the conjunctival sac of one eye per animal.
5.____ Dose, 0.1 ml if a liquid; 0.1 ml or not more than 100 mg if a solid, paste or particulate substance.
6.____ Solid or granular test material ground to a fine dust.
7.____ Eyes not washed for at least 24 hours.
8.____ Eyes examined and graded for irritation before dosing and at 1, 24, 48 and 72 hr, then daily until eyes are normal or 21 days (whichever is shorter).
9.*___ Individual daily observations.

Criteria marked with an * are supplemental and may not be required for every study.

81-5 Primary Dermal Irritation Study

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.____ Identify material tested (technical, end-use product, etc).
2.____ Study not required if material is corrosive or has a pH of ≤ 2 or ≥ 11.5.
3.____ 6 adult animals.
4.____ Dosing, single dermal.
5.____ Dosing duration 4 hours.
6.____ Application site shaved or clipped at least 24 hours prior to dosing.
7.____ Application site approximately 6 cm^2.
8.____ Application site covered with a gauze patch held in place with nonirritating tape.
9.____ Material removed, washed with water, without trauma to application site.
10.___ Application site examined and graded for irritation at 1, 24, 48 and 72 hr, then daily until normal or 14 days (whichever is shorter).
11.*__ Individual daily observations.

Criteria marked with an * are supplemental and may not be required for every study.

81-6 Dermal Sensitization in the Guinea Pig

ACCEPTANCE CRITERIA

Does your study meet the following acceptance criteria?

1.___ Identify material tested (technical, end-use product, etc).
2.___ Study not required if material is corrosive or has a pH of < 2 or > 11.5.
3.___ One of the following methods is utilized:
_____ Freund's complete adjuvant test
_____ Guinea pig maximization test
_____ Split adjuvant technique
_____ Buehler test
_____ Open epicutaneous test
_____ Mauer optimization test
_____ Footpad technique in guinea pig.
4.___ Complete description of test.
5.*__ Reference for test.
6.___ Test followed essentially as described in reference document.
7.___ Positive control included (may provide historical data conducted within the last 6 months).

Criteria marked with an * are supplemental and may not be required for every study.

Attachment 6. List of All Registrants Sent This Data Call-In (insert) Notice

Attachment 7. Cost Share Data Compensation Forms, Confidential Statement of Formula Form and Instructions

Confidential Business Information: Does Not Contain National Security Information (E.O. 12065) Form Approved. OMB No. 2070-0060. Approval Expires 2/28/94

EPA

United States Environmental Protection Agency
Office of Pesticide Programs (TS-767)
Washington, DC 20460

Confidential Statement of Formula

A. ☐ Basic Formulation ☐ Alternate Formulation

B. Page of

See Instructions on Back

1. Name and Address of Applicant/Registrant *(Include ZIP Code)*

2. Name and Address of Producer *(Include ZIP Code)*

3. Product Name

4. Registration No./File Symbol

5. EPA Product Mgr/Team No.

6. Country Where Formulated

7. Pounds/Gal or Bulk Density

8. pH

9. Flash Point/Flame Extension

EPA USE ONLY	10. Components in Formulation *(List as actually introduced into the formulation. Give commonly accepted chemical name, trade name, and CAS number.)*	11. Supplier Name & Address	12. EPA Reg. No.	13. Each Component in Formulation a. Amount	b. % by Weight	14. Certified Limits % by Weight a. Upper Limit	b. Lower Limit	15. Purpose in Formulation

16. Typed Name of Approving Official

17. Total Weight 100%

18. Signature of Approving Official

19. Title

20. Phone No. *(Include Area Code)*

21. Date

EPA Form 8570-4 (Rev. 12-90) **Previous editions are obsolete.** If you can photocopy this, please submit an additional copy. White - EPA File Copy (original) Yellow - Applicant copy

Instructions for Completing the Confidential Statement of Formula

The Confidential Statement of Formula (CSF) Form 8570-4 must be used. Two legible, signed copies of the form are required. Following are basic instructions:

a. All the blocks on the form must be filled in and answered completely.

b. If any block is not applicable, mark it N/A.

c. The CSF must be signed, dated and the telephone number of the responsible party must be provided.

d. All applicable information which is on the product specific data submission must also be reported on the CSF.

e. All weights reported under item 7 must be in pounds per gallon for liquids and pounds per cubic feet for solids.

f. Flashpoint must be in degrees Fahrenheit and flame extension in inches.

g. For all active ingredients, the EPA Registration Numbers for the currently registered source products must be reported under column 12.

h. The Chemical Abstracts Service (CAS) Numbers for all actives and inerts and all common names for the trade names must be reported.

i. For the active ingredients, the percent purity of the source products must be reported under column 10 and must be exactly the same as on the source product's label.

j. All the weights in columns 13.a. and 13.b. must be in pounds, kilograms, or grams. In no case will volumes be accepted. Do not mix English and metric system units (i.e., pounds and kilograms).

k. All the items under column 13.b. must total 100 percent.

1. All items under columns 14.a. and 14.b. for the active ingredients must represent pure active form.

m. The upper and lower certified limits for ail active and inert ingredients must follow the 40 CFR 158.175 instructions. An explanation must be provided if the proposed limits are different than standard certified limits.

n. When new CSFs are submitted and approved, all previously submitted CSFs become obsolete for that specific formulation.

United States Environmental Protection Agency
Washington, DC 20460

CERTIFICATION OF OFFER TO COST SHARE IN THE DEVELOPMENT OF DATA

Form Approved
OMB No. 2070-0106
2070-0057
Approval Expires 3-31-96

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

Please fill in blanks below.

Company Name	Company Number
Product Name	EPA Reg. No.

I Certify that:

My company is willing to develop and submit the data required by EPA under the authority of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), if necessary. However, my company would prefer to enter into an agreement with one or more registrants to develop jointly or share in the cost of developing data.

My firm has offered in writing to enter into such an agreement. That offer was irrevocable and included an offer to be bound by arbitration decision under section 3(c)(2)(B)(iii) of FIFRA 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(s)	Date of Offer

Certification:

I certify that I am duly authorized to represent the company named above, and that the statements that I have made on this form and all attachments therein are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature of Company's Authorized Representative	Date
Name and Title (Please Type or Print)	

EPA Form 8570-32 (5/91) Replaces EPA Form 8580, which is obsolete

EPA	United States Environmental Protection Agency Washington, DC 20460 **CERTIFICATION WITH RESPECT TO DATA COMPENSATION REQUIREMENTS**	Form Approved OMB No. 2070-0107 2070-0057 Approval Expires 3-31-96

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

Please fill in blanks below.

Company Name	Company Number
Product Name	EPA Reg. No.

I Certify that:

1. For each study cited in support of registration or reregistration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that is an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter to cite that study.

2. That for each study cited in support of registration or reregistration under FIFRA that is NOT an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter, or I have notified in writing the company(ies) that submitted data I have cited and have offered to: (a) Pay compensation for those data in accordance with sections 3(c)(1)(D) and 3(c)(2)(D) of FIFRA; and (b) Commence negotiation to determine which data are subject to the compensation requirement of FIFRA and the amount of compensation due, if any. The companies I have notified are: (check one)

   [ ] The companies who have submitted the studies listed on the back of this form or attached sheets, or indicated on the attached "Requirements Status and Registrants' Response Form."

3. That I have previously complied with section 3(c)(1)(D) of FIFRA for the studies I have cited in support of registration or reregistration under FIFRA.

Signature	Date
Name and Title (Please Type or Print)	

GENERAL OFFER TO PAY: I hereby offer and agree to pay compensation to other persons, with regard to the registration or reregistration of my products, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D).

Signature	Date
Name and Title (Please Type or Print)	

EPA Form 8570-31 (4-90)

APPENDIX G. U.S. Fish and Wildlife Service Biological Opinion March, 1993 pages II-73 to II-78

Sodium cyanide

CHEMICAL INFORMATION

TYPE: Canid predacide

FORMULATION: Capsules (888 mg sodium cyanide (NaCN), 89% ai) contained in an M-44 device.

REGISTERED USES: Control of coyotes, red foxes, gray foxes and feral dogs. M-44 use is subject to 26 restrictions designed to protect the applicator, human health, livestock, and non-target wildlife. Registered for use only by the following agencies: U.S. Department of Agriculture's Animal and Plant Health Inspection Service (Hyattsville, MD), Texas Department of Agriculture, (Austin), Montana Department of Livestock (Helena), Wyoming Department of Agriculture (Cheyenne), Navajo Fish and Wildlife Department (Window Rock, AZ), New Mexico Department of Agriculture, (Las Cruces) and the Kansas Department of Wildlife and Parks (Pratt). All other NaCN products for mammalian predator control have been canceled and uses suspended.

BACKGROUND:

Mode of action: Converts to hydrogen cyanide gas which poisons by inactivating an enzyme essential to mammalian cellular respiration leading to central nervous system depression, cardiac arrest, and gross respiratory failure (Ballantyne 1987).

Aquatic toxicity: NaCN is highly soluble in water (480 g/L at 10° C; Eisler 1991) but completely dissociates to give free cyanide which, depending on pH, forms highly toxic hydrogen cyanide (HCN). HCN does not tend to bioaccumulate in aquatic organisms. Likewise, cyanide seldom remains biologically available in soils because it is either complexed by trace metals, metabolized by microorganisms, or lost through volatilization (Eisler 1991). Cyanide is highly to very highly toxic to most aquatic organisms. In general, fish were the most sensitive aquatic organisms tested under controlled conditions (Eisler 1991).

Cyanide acts rapidly in aquatic environments, does not persist for extended periods, and is highly species selective. Organisms usually recover quickly on removal to clean water. The critical sites for cyanide toxicity in freshwater organisms are the gills, egg capsules, and other sites where gaseous exchange and osmoregulatory processes occur (Eisler 1991). The M-44 NaCN capsules may not be used within 200 feet of water and the number of capsules that may be used is limited to a maximum of 20 per square mile. Therefore, cyanide from M-44 capsules should pose negligible hazard to aquatic organisms.

Terrestrial toxicity: NaCN is highly to very highly toxic to birds and mammals. The M-44 NaCN ejector device should be considered to have 100% efficacy. The M-44 is designed to eject a burst of crystalline NaCN into the face of a predator tugging at the bait. On contact with mucus or saliva of the eyes, nose, and mouth, hydrogen cyanide is immediately formed and the gas readily absorbed through the highly permeable membranes of the nose, mouth, lungs, and stomach.

In an avian study of acute oral toxicity, three flesh-eating species (black vulture, American kestrel, and eastern screech-owl; LD_{50}s = 4.0-8.6 mg/kg) were more sensitive to NaCN than three species (Japanese quail, European starling, and domestic chicken; LD_{50}s = 9.4-21 mg/kg) that fed predominantly on plant material (Wiemeyer et al. 1986). It was also noted that the associated dose-response curve was consistently steepest for the flesh-eaters and thereby suggests further increase in hazard to species most likely to trip an M-44 cyanide ejector device.

EPA lists a number of "may affect" mammals such as the San Joaquin kit fox, jaguar, ocelot, gray wolf, and the Mariana crow. However, it is EPA's position that adherence to the 26 conditions effectively eliminates the non-target hazards associated with the use of M-44 cyanide capsules. Conversely, it is clear from Connolly's (1988) list of non-target species that any carrion feeding animal able to activate the trigger of the M-44s cyanide ejector device is at risk. Consistent with its use pattern, no direct or indirect effects are expected with M-44 cyanide capsules with respect to listed plants and/or plant pollinators considered in this consultation.

Wildlife incidents: EPA reported no wildlife poisoning incidents associated with NaCN. However, when the M-44 user is in compliance with the 26 specific restrictions, the likelihood of the general public locating the carcass of a non-target species is small. Many of the Animal Damage Control non-target listings (Connolly 1988) would have constituted "wildlife incidents" if located first by the general public. Also, a dead California condor was exposed to NaCN from an M-44 even through a conclusive diagnosis of death was not made (Wiemeyer et al. 1986).

The U. S. Department of Agriculture's Animal Damage Control program records mortality from M-44 cyanide ejector use. During 1976-1986, M-44s were used in 14 western states, killing 103,255 animals. This total includes 4,868 non-target animals (Connolly 1988). Non-target species reported killed include grizzly bear, black bear, mountain lion, badger, kit and swift fox, bobcat, ringtail cat, feral cat, skunk, opossum, raccoon, Russian boar, feral hog, javelina, beaver, porcupine, nutria, rabbit, vulture, raven, crow, and hawk. It is reasonable to believe birds deaths are underestimated in non-target kill reports because the bird's flight response on activation of an M-44 could easily remove them from the vicinity of the device in a few seconds.

BIOLOGICAL OPINION

CHEMICAL REFERENCE TABLE

(The following table contains only those species for which the Service provided a jeopardy or no jeopardy call. Species not included in this list are either not affected by the chemical or have no chance for exposure. For a complete list of all species considered in this opinion, refer to the master species list on page III-1 of the species profile section.)

Species Name	J/NJ	PAGE
MAMMALS		
Florida panther	J	83
Gray wolf	NJ	85
Grizzly bear	NJ	85
Jaguarundi	J	83
Louisiana black bear	J	84
Ocelot	J	83
San Joaquin kit fox	J	85
BIRDS		
Alala (Hawaiian crow)	NJ	86
California condor	J	85
Mariana crow	NJ	86

RATIONALE FOR JEOPARDY DETERMINATIONS

Florida panther - The panther could be exposed to sodium cyanide when the chemical is used in an M-44 device to control canid predators such as foxes and feral dogs. EPA requires a number of restrictions on the use of the device, which would minimize the opportunity of an endangered species coming in contact with the M-44 device. According to EPA, the M-44 shall not be used in areas where endangered species may be adversely affected. However, the panther requires a large home range, and at times will venture from that range in search of prey. Young panthers will also disperse to establish new home range territory. consequently, there is opportunity for panthers to be exposed to an M-44 device. Although these sodium cyanide devices are designed for canid control, there are documented kills of bobcats and mountain lions. Because of the critically small panther population, any poisoning event could threaten the survival of the species. Therefore, it is the Services' opinion that the use of sodium cyanide is likely to jeopardize the continued existence of the Florida panther.

> Reasonable and Prudent Alternative(s) - If implemented, the following reasonable and prudent alternative would avoid jeopardy to the Florida panther: prohibit the use of the chemical device within 20 miles of the boundary of any Federal and State lands (e.g., National Wildlife Refuge, National Park, National Preserve, State Park, State Preserve, State Wildlife Management Areas, etc.) and Indian Reservations that provide suitable panther habitat south of Charlotte, Glades and Martin Counties, Florida.

Incidental Take - Because individuals of the species may disperse beyond a given home range, the use and toxicity of the pesticide is still a concern. consequently, the Service anticipates that an unquantifiable level of incidental take may occur as a result of the use of the pesticide outside of the prohibited use zone.

Reasonable and Prudent Measure(s) - The following reasonable and prudent measure for minimizing incidental take should be adopted and implemented: prohibit the use of sodium cyanide (M-44s) in the geographic range of the Florida panther until after the user has contacted the local fish and Wildlife Service office and that office has determined that there are no known panthers in the general vicinity of where the M-44's are going to be used.

Jaguarundi and Ocelot - The ocelot and jaguarundi could be exposed to sodium cyanide when the chemical is used in an M-44 device to control canid predators such as foxes, coyote and feral dogs. EPA required a number of restrictions on the device, which would minimize the opportunity of an endangered species coming in contact with the M-44 device. According to EPA, the M-44 shall not be used in areas where endangered species may be adversely affected. However, young ocelots and jaguarundi will disperse in an attempt to establish new territories and could be exposed to an M-44 device. Although these sodium cyanide devices are designed for canid control, there are documented kills of bobcats and mountain lions. Because of the critically small ocelot and jaguarundi populations, any poisoning event could threaten the survival of the species. Therefore, it is the Services' opinion that the use of sodium cyanide is likely to jeopardize the continued existence of the ocelot and jaguarundi.

Reasonable and Prudent Alternative(s) - If implemented, the following reasonable and prudent alternative will avoid jeopardy to the ocelot and jaguarundi: prohibit use within three miles of occupied habitat.

Incidental Take - Despite the implementation of the reasonable and prudent alternative described above, the Service anticipates that an unquantifiable level of incidental take of ocelot and jaguarundi may occur as a result of sodium cyanide use within the range of these species.

Reasonable and Prudent Measure(s) - If implemented, the following reasonable and prudent measures will minimize incidental take: prior of use of sodium cyanide in potential ocelot or jaguarundi habitat, conduct survey to determine if habitat is occupied. If habitat is unoccupied, no further restrictions are applicable. If habitat is occupied, prohibit use within three miles.

Louisiana black bear - The bear could be exposed to sodium cyanide when the chemical is used in an M-44 device to control canid predators such as foxes and feral dogs. EPA required a number of restrictions on the use of the deice, which would minimize the opportunity of an endangered species coming in contact with the M-44 device. According to EPA, the M-44 shall not be used in areas

where endangered species may be adversely affected. However, the bear requires a large home range, and at times will venture from that range in search of additional prey. Young bears will also disperse to establish new home range territory. The registered use of the canid control chemical permits up to 20 M-44 devices per square mile. Consequently, there is opportunity for bears to be exposed to an M-44 device. Although these sodium cyanide devices are designed for canid control, there are documented kills of other mammals including skunks, bobcats and mountain lions. Because of the bear's relatively small population, any poisoning event could threaten the survival of the species. Therefore, it is the Service's opinion that the use of sodium cyanide is likely to jeopardize the continued existence of the Louisiana black bear.

Reasonable and Prudent Alternative(s) - If implemented, the following reasonable and prudent alternative would avoid jeopardy to the Louisiana black bear: prohibit the use of the chemical device within the known occupied habitat of the Louisiana black bear.

Incidental Take - Because individuals of the species may disperse beyond a given home range, the use and toxicity of the pesticide is still a concern. Consequently, the Service anticipates that an unquantifiable level of incidental take may occur as a result of the use of the pesticide outside of the prohibited use zone.

Reasonable and Prudent Measure(s) - The following reasonable and prudent measure for minimizing incidental take should be adopted and implemented: prohibit the use of sodium cyanide (M-44s) in the geographic range of the Louisiana black bear until after the user has contacted the local Fish and Wildlife Service office and that office has determined that there are no known Louisiana black bears in the general vicinity of where the M-44's are going to be used.

San Joaquin kit fox - The primary risk of exposure of San Joaquin kit foxes to sodium cyanide would occur during use of this chemical in M-44 devices to control coyotes and other canids. M-44 devices (consisting of a stake with an attractant and spring loaded capsule containing the active ingredient) are targeted specifically for the control of wide-ranging canid species. They are highly attractive to such species, are highly dangerous when triggered, and are relatively non-selective. Because of these qualities, use of M-44 devices within the San Joaquin kit fox range would pose a significant exposure hazard to kit foxes and could have significant adverse impacts on the species. If permitted, use of M-44 devices likely wold occur throughout the kit fox range because four potential target species (coyotes, red foxes, grey foxes, and feral dogs,) share this area. For these reasons, it is the Service's biological opinion that use of sodium cyanide in M-44 devices within the San Joaquin kit fox range is likely to jeopardize the continued existence of this species.

Reasonable and Prudent Alternative(s) - If implemented, the following reasonable and prudent alternatives would avoid jeopardy to the San Joaquin kit fox: prohibit use of sodium cyanide M-44 devices within the range of the San Joaquin kit fox.

Incidental Take - With implementation of the reasonable and prudent alternatives described above, no incidental take is anticipated and therefore none is authorized.

California Condor - The primary exposure of sodium cyanide from registered uses can occur when a California condor activates the M-44 device by its foraging activities. Limited reintroduction of California condors by the Service has begun in 1991. Therefore, it is the Service's biological opinion that use of sodium cyanide is likely to jeopardize the continued existence of this species.

Reasonable and Prudent Alternative(s) - If implemented, the following reasonable and prudent alternatives would avoid jeopardy to the California condor: the use of sodium cyanide should be prohibited in condor occupied habitat including Ventura, Kern, Santa Barbara, Los Angeles, and San Luis Obispo Counties. Alternative control of canid predators must be considered to avoid the inadvertent poisoning of California condors.

Incidental Take - With implementation of the reasonable and prudent alternative described above, no incidental take is anticipated and therefore none is authorized.

RATIONALE FOR NO JEOPARDY DETERMINATIONS

Gray wolf and Grizzly bear - The registration of sodium cyanide capsules for use in the M-44 device for control of canid predators could result in the morality of a gray wolf or grizzly bear. However, EPA also requires a number of restrictions, some of which should provide protection to the gray wolf and grizzly bear. According to EPA, the M-44 shall not be used in areas where threatened or endangered species may be adversely affected. Based on that restriction, it is the Service's opinion that the registered use of sodium cyanide is not likely to jeopardize the continued existence of the gray wolf or the grizzly bear.

Incidental Take - While applicators are restricted from using the M-44 in areas where a gray wolf or grizzly bear may be adversely affected, these two species have a very wide range and thus could be inadvertently taken in areas not mapped and/or prior to the applicator's knowledge that the species may be in the control area. The Service, therefore, anticipates that an unquantifiable level of incidental take may occur as a result of the use of sodium cyanide.

Reasonable and Prudent Measure(s) - The following reasonable and prudent measures should be adopted: prohibit the application of sodium cyanide (M-44s) in the geographic range of the gray wolf an grizzly bear until after the user has contacted the local Fish and Wildlife Service

office and that office had determined that there are no known wolves or grizzly bears in the general vicinity of where the M-44's are going to be applied.

Alala (Hawaiian crow) and Mariana crow - Both of these corvids are, in part, carrion feeders. M-44 sodium cyanide devices may pose a potential threat due to the possibility that the crows may be attracted to baits associated with capsule deployment. There are few incidents of feral dog predation on livestock in these geographic areas and canid control is typically effected through shooting or trapping. M-44 devices are not expected to be employed in Hawaii or Guam. The alala is currently restricted to the coastal slope of Mona Loa on the island of Hawaii and only 12 birds were estimated to occur in the wild in 1990. the Mariana Crow is currently restricted to forest areas from Ritidian Point to Anao along the northern cliffline, in Northwest Field, and in the Convention weapons Storage Areas of Guam and on the island of Rota. Consequently, it is the Service's biological opinion that use of sodium cyanide as described above within or adjacent to habitat occupied by the alala and Mariana crow is not likely to jeopardize the continued existence of these species.

Incidental take - The Service anticipates that an unquantifiable level of incidental take of the alala and Mariana common crow may occur as a result of sodium cyanide use within the occupied habitat of these species.

Reasonable and Prudent Measure(s) - The following reasonable and measure for minimizing incidental take must be adopted: prohibit the use of sodium cyanide within occupied habitat on Guam, Rota and the island of Hawaii.

APPENDIX H. FACT SHEET

United States Environmental Protection Agency
Office of Prevention, Pesticides And Toxic Substances (H-7508W)
EPA-738-F-94-016
September 1994

R.E.D. FACTS

Sodium Cyanide

Pesticide Reregistration

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered years ago be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers, describing the human health and environmental effects of each pesticide. The Agency imposes any regulatory controls that are needed to effectively manage each pesticide's risks. EPA then reregisters pesticides that can be used without posing unreasonable risks to human health or the environment.

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED for Case 3086, sodium cyanide.

Use Profile

Sodium cyanide is a single dose poison used in the M-44 ejector device on pastures, range and forest land to control coyote, red fox, gray fox and wild dog populations that prey upon (or are likely to prey upon) livestock, poultry or endangered species, or that are vectors of communicable diseases.

The sodium cyanide capsule is loaded into a capsule holder which is screwed onto the ejector mechanism of an M-44 device. The capsule holder is then treated with a scent formulated to attract canids. When an animal tugs at the capsule holder, a spring-driver plunger ejects the sodium cyanide capsule into its mouth. Sodium cyanide causes death by inhibiting enzyme reactions in mammals that prevent oxygen flow to the blood.

A Restricted Use Pesticide, sodium cyanide may be applied only by trained, certified applicators under the direct supervision of a government agency, in accordance with 26 stringent use restrictions detailed in product labeling.

The U.S. Fish and Wildlife Service issued a Biological Opinion in March 1993 that proposed additional restrictions on the use of sodium cyanide to protect endangered species.

Regulatory History

Sodium cyanide was initially registered as a pesticide in 1947 to control ants, certain bacteria, insects and rodents in residential and commercial areas. However, all non-predicidal uses were canceled in 1987 in response to a generic data call-in issued by EPA.

The only currently registered uses of sodium cyanide are for toxicant-filled capsules to be placed in M-44 spring-loaded ejector devices used to kill wild canids. Use is limited to situations where canids prey upon (or are likely to prey upon) livestock, poultry or Federally-designated threatened or endangered species, or where particular canids are carriers of communicable diseases. All currently registered products are Restricted Use Pesticides with specific applicator training and certification requirements, subject to 26 use restrictions.

Prior to 1972, sodium cyanide was used to control predators in a gunpowder-fired unit called the "Humane Coyote Getter." However, this use and all other predator control uses of sodium cyanide were canceled in 1972 due to the incidence of human injuries and the occasional killing of domestic dogs.

The use of sodium cyanide capsules in the M-44 was reinstated in 1975 when it was determined that the M-44 was safer and more selective than the "Humane Coyote Getter." The reinstated uses of sodium cyanide are subject to 26 use restrictions to minimize potential adverse impacts on man and the environment. Among other things, these restrictions require that applicators be appropriately trained and certified for using sodium cyanide capsules in M-44 devices, that applicators carry antidote kits when placing or inspecting M-44 devices, and that M-44 devices not be placed in areas likely to cause adverse impacts on humans and endangered species or other nontarget species.

Human Health Assessment

Toxicity

Sodium cyanide is highly toxic to warm-blooded animals. It has been placed in Toxicity Category I, indicating the greatest degree of acute toxicity, for oral, dermal and inhalation effects. It is highly corrosive to the skin and eyes, and cyanide liquid and possibly vapor, can be absorbed through intact skin. Vapor can be absorbed extremely rapidly through the respiratory tract.

Dietary, Occupational and Residential Exposure

Based on the pesticide's use patterns, the general population will not be exposed to sodium cyanide. There are no applicator/mixer/loader or post-application exposure concerns other than following the label restriction for use by certified personnel only.

Human Risk Assessment

Because of the specific nature of sodium cyanide's registered use pattern, the Agency's primary concern is the potential risk of acute toxicity to non-target animals. Sodium cyanide is not registered for use in residential environments, so risks are not posed to the general population. Risk of acute toxicity to applicators is mitigated by the pesticide's 26 use restrictions and its classification as a Restricted Use Pesticide.

Environmental Assessment

Environmental Fate

The Agency does not anticipate significant environmental exposure to sodium cyanide when it is used as an encapsulated material together with the M-44 ejector device.

Should an accidental spill of sodium cyanide capsules occur in the field, several processes would contribute to their dissipation. Hydrogen cyanide, which is formed by reaction with moisture, will diffuse to the atmosphere and be diluted into the air. Reactions with soil compounds will convert cyanide into carbon dioxide and ammonia or other nitrogen containing compounds. Thus, the environmental impact of the pesticidal use of sodium cyanide is expected to be minimal because of its mode of application as well as its degradation pattern in the environment.

Ecological Effects Risk Assessment

Sodium cyanide works by converting to hydrogen cyanide gas when it comes in contact with moisture, which inhibits an enzyme reaction that is essential to mammalian cellular respiration. This results in central nervous system depression, cardiac arrest and gross respiratory failure.

Any animal that is able to activate the trigger of the cyanide ejector device will get a dose of sodium cyanide in the mouth and will die. Therefore, it is considered a high acute risk pesticide for terrestrial vertebrates, including nontarget and endangered birds.

While the label restrictions were designed to minimize the risk to nontarget species, the M-44 will kill nontarget animals, including some endangered species. Additional restrictions on the use of sodium cyanide have been outlined for species at risk in a March 1993 U.S. Fish and Wildlife Service Biological Opinion and are being imposed through this Reregistration Eligibility Decision.

Based on the available information, secondary poisoning of animals that ingest the body of the target animal is not expected from approved use of sodium cyanide.

Additional Data Required

EPA is requiring product-specific data including product chemistry and efficacy data, revised Confidential Statements of Formula (CSF) and revised product labeling for reregistration of products containing sodium cyanide.

Product Labeling Changes Required

All sodium cyanide end-use products must comply with EPA's current pesticide product labeling requirements. The following statements also must appear on the labels of all end-use products:

"Restricted Use Pesticide" - the 26 use restrictions must be maintained on the labels.

"This pesticide is TOXIC TO WILDLIFE. Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

Additional endangered species labeling consistent with the recommendations of the U.S. Fish and Wildlife' Biological Opinion of March 1993.

Regulatory Conclusion

The use of registered products containing sodium cyanide will not pose unreasonable risks or adverse effects to humans or the environment, provided that these products are used in accordance with the restrictions on product labeling. Therefore, all uses of these products are eligible for reregistration. Sodium cyanide products will be reregistered once the required product-specific data, Confidential Statements of Formula and revised labeling are received and accepted by EPA.

For More Information

EPA is requesting public comments on the Reregistration Eligibility Decision (RED) document for sodium cyanide during a 60-day time period, as announced in a Notice of Availability published in the Federal Register. To obtain a copy of the RED document or to submit written comments, please contact the Pesticide Docket, Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs (OPP), US EPA, Washington, DC 20460, telephone 703-305-5805.

Following the comment period, the sodium cyanide RED document will be available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, telephone 703-487-4650.

For more information about EPA's pesticide reregistration program, the sodium cyanide RED, or reregistration of individual products containing sodium cyanide, please contact the Special Review and Reregistration Division (7508W), OPP, US EPA, Washington, DC 20460, telephone 703-308-8000.

For information about the health effects of pesticides, or for assistance in recognizing and managing pesticide poisoning symptoms, please contact the National Pesticides Telecommunications Network (NPTN). Call toll-free 1-800-858-7378, between 8:00 am and 6:00 pm Central Time, Monday through Friday.