United States Environmental Protection Agency
Prevention, Pesticides And Toxic Substances (7508W)
EPA 738-R-96-021
October 1996

Reregistration Eligibility Decision (RED)

Tridecenyl Acetates

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 tridecenyl acetates which includes the active ingredients (E)-4-tridecen-1-yl acetate and (Z)-4-tridecen-1-yl acetate. The enclosed Reregistration Eligibility Decision (RED) contains the Agency's evaluation of the data base of these chemicals, 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. It may also include requirements for additional data (generic) on the active ingredients to confirm the risk assessments.

Please note that this RED was finalized and signed prior to August 3, 1996. On that date, the Food Quality Protection Act of 1996 ("FQPA") became effective, amending portions of both the pesticide law (FIFRA) and the food and drug law (FFDCA). This RED does not address any issues raised by FQPA, and any tolerance-related statements in the RED did not take into account any changes in tolerance assessment procedures required under FQPA. To the extent that FQPA requires reassessments of any existing tolerances for the tridecenyl acetates, the Agency will reassess those tolerances in the future pursuant to the new requirements of FQPA.

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 is due 90 days from the receipt of this letter. The second set of required responses is 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 about our decision or the requirements set forth in this document, please contact the reregistration representative for the Biopesticides and Pollution Prevention Division, Anne R. Leslie, 703-308-8727.

Sincerely yours,

Janet Andersen, Acting Director
Biopesticides and Pollution
Prevention Division (7501W)

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, a DCI letter will be enclosed listing such requirements. If **both generic and product specific data** are required, a combined Generic and Product Specific DCI letter will be enclosed describing such data. However, if you are an end-use product registrant only and have been granted a generic data exemption (GDE) by EPA, you are being sent only the **product specific** response forms (2 forms) with the RED. Registrants responsible for generic data are being sent response forms for both generic and product specific data requirements (4 forms). **You must submit the appropriate response forms (following the instructions provided) within 90 days of the receipt of this RED/DCI letter; 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 time extensions for product specific data should be submitted in the 90-day response. Requests for data waivers must be submitted as part of the 90-day response. 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, but are not required to, 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-BPPD)**
Office of Pesticide Programs (7504C)
EPA, 401 M St. S.W.
Washington, D.C. 20460-0001

By express:

Document Processing Desk **(RED-BPPD)**
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

TRIDECENYL ACETATES

LIST D

CASE 4116

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDE PROGRAMS
BIOPESTICIDE AND POLLUTION PREVENTION DIVISION

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TRIDECENYL ACETATES REREGISTRATION ELIGIBILITY DECISION TEAM

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GLOSSARY OF TERMS AND ABBREVIATIONS

ADI	Acceptable Daily Intake. A now defunct term for reference dose (RfD).
AE	Acid Equivalent
a.i.	Active Ingredient
ARC	Anticipated Residue Contribution
CAS	Chemical Abstracts Service
CI	Cation
CNS	Central Nervous System
CSF	Confidential Statement of Formula
DFR	Dislodgeable Foliar Residue
DRES	Dietary Risk Evaluation System
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
FAO/WHO	Food and Agriculture Organization/World Health Organization
FDA	Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FFDCA	Federal Food, Drug, and Cosmetic Act
FOB	Functional Observation Battery
GLC	Gas Liquid Chromatography
GM	Geometric Mean
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.
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
LOD	Limit of Detection
LOEL	Lowest Observed Effect Level
MATC	Maximum Acceptable Toxicant Concentration
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.
µg/g	Micrograms Per Gram
mg/L	Milligrams Per Liter
MOE	Margin of Exposure
MP	Manufacturing-Use Product
MPI	Maximum Permissible Intake
MRID	Master Record Identification (number). EPA's system of recording and tracking studies submitted.
N/A	Not Applicable

GLOSSARY OF TERMS AND ABBREVIATIONS

NOEC	No effect concentration
NPDES	National Pollutant Discharge Elimination System
NOEL	No Observed Effect Level
NOAEL	No Observed Adverse Effect Level
OP	Organophosphate
OPP	Office of Pesticide Programs
PADI	Provisional Acceptable Daily Intake
PAG	Pesticide Assessment Guideline
PAM	Pesticide Analytical Method
PHED	Pesticide Handler's Exposure Data
PHI	Preharvest Interval
ppb	Parts Per Billion
PPE	Personal Protective Equipment
ppm	Parts Per Million
PRN	Pesticide Registration Notice
Q^*_1	The Carcinogenic Potential of a Compound, Quantified by the EPA's Cancer Risk Model
RBC	Red Blood Cell
RED	Reregistration Eligibility Decision
REI	Restricted Entry Interval
RfD	Reference Dose
RS	Registration Standard
RUP	Restricted Use Pesticide
SLN	Special Local Need (Registrations Under Section 24 © of FIFRA)
TC	Toxic Concentration. The concentration at which a substance produces a toxic effect.
TD	Toxic Dose. The dose at which a substance produces a toxic effect.
TEP	Typical End-Use Product
TGAI	Technical Grade Active Ingredient
TLC	Thin Layer Chromatography
TMRC	Theoretical Maximum Residue Contribution
torr	A unit of pressure needed to support a column of mercury 1 mm high under standard conditions.
ug/L	Micrograms per liter
WP	Wettable Powder
WPS	Worker Protection Standard

EXECUTIVE SUMMARY

The U. S. Environmental Protection Agency has completed its reregistration eligibility decision of the pesticide tridecenyl acetates, which pertain to the active ingredients (Z)-4-tridecen-1-yl acetate and (E)-4-tridecen-1-yl acetate. This decision includes a comprehensive reassessment of the required data for the use patterns of currently registered products. Tridecenyl acetates are sex attractant pheromones used in tomato fields to disrupt the mating behavior of tomato pinworms. These pheromones, which mimic those released by the female moths, attract the male moths to impregnated fibers, dispensers, or sprayable beads rather than female moths, thereby reducing the likelihood of successful matings. This, in turn, can reduce fertile egg laying and subsequent larval infestations. The Agency has concluded that all uses as described in this document, will not cause unreasonable risks to humans or the environment and therefore, all products are eligible for reregistration. The Agency is not requiring any additional studies.

Before reregistering the products containing tridecenyl acetates, 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. 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. Those products which contain other active ingredients will be eligible for reregistration only when the other active ingredients are determined to be eligible for reregistration.

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 U.S. Environmental Protection Agency (referred to as "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 tridecenyl acetates. The document consists of six sections. Section I is the introduction. Section II describes tridecenyl acetate, 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 tridecenyl acetate. Section V discusses the reregistration requirements for tridecenyl acetate. 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 ingredients are covered by this Reregistration Eligibility Decision:

- **Common Name:** Tridecenyl acetates
- **Chemical Names:** (E)-4-tridecen-1-yl acetate
  (Z)-4-tridecen-1-yl acetate
- **Chemical Family:** Lepidopteran pheromone
- **CAS Registry Numbers:** 65954-19-0 and 72269-48-8
- **OPP Chemical Codes:** 12901 and 12902
- **Empirical Formula:** $C_{15}H_{28}O_2$
- **Trade and Other Names:**

  Bedoukian: TPW Technical Pheromone

  Consep: CheckMate TPW Technical Pheromone
  CheckMate TPW
  SPR1 Tomato Pinworm Sprayable Bead Pheromone

  biosys: NoMate TPW MEC
  Technical Lycopersilure
  NoMate TPW Spiral
  NoMate TPW Fiber
  Technical Pheromone E/2-4-TDA
  Agrisense Decoy TPW Clips

  3M: MEC Tomato Pinworm Pheromone

- **Basic Manufacturers:**

  Consep, Inc.
  213 Southwest Columbia St., PO Box 6059
  Bend, OR 97702-1018

Bedoukian
21 Finance Drive
Danbury, CT 06810

biosys
10150 Old Columbia Rd.
Columbia, MD 21046.

3M Animal Care Products
3M Center, Bldg. 270-2N-03
St. Paul, MN 55144-1000

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 tomato pinworm technical pheromone (E)-4-Tridecen-1-yl acetate and (Z)-4-Tridecen-1-yl acetate can be found in Appendix A.

Type of Pesticide: Tridecenyl acetate is a biochemical insect pheromone.

Use Sites: Terrestrial food/feed crops: tomato plants

Target Pests: Tomato pinworm (TPW) (*Keiferia lycopersicello*).

Formulation Types Registered:

The technical grade active ingredients consist of two isomers:(E)-4-tridecen-1-yl acetate and (Z)-4-tridecen-1-yl acetate. There are three types of formulations registered as end-use products. One formulation, the TGAI and inert ingredients are inside of a solid polymeric matrix known as a dispenser. A second formulation consists of the TGAI encapsulated in beads, and a third formulation consists of the TGAI embedded into polymeric fibers.

Method and Rates of Application:

The end-use dispenser products are applied at rates of 200 dispensers per acre; end-use sprayable bead products are applied at rates of 8 to 25 grams of product per acre; and the end-use fiber products are applied at rates of 54 grams per acre. The actual application rates of the active ingredient (tridecenyl acetates) in all of these formulations does not exceed 150 grams/acre/season.

Equipment - Spray equipment is necessary for sprayable bead and fiber formulations. No equipment is necessary for solid matrix dispensers.

Timing - Two weeks after transplant of tomatoes, or if monitoring traps capture 2-5 tomato pinworms per day.

Use Practice Limitations: None

C. Estimated Usage of Pesticide

According to Agency's database on biochemicals, in 1993, an insignificant amount of tridecenyl acetate pheromone was applied to less than 5% of the national acreage of tomatoes, mainly on those grown in California.

D. Regulatory History

Pesticide products containing tridecenyl acetates were initially registered in the United States in 1982. Currently, there are eleven products registered to four companies. These products employ the sex-attractant pheromone of the tomato pinworm and are applied to fields of tomatoes to disrupt the mating behavior.

This reregistration case contains two active ingredients, which are currently used in registered products. The two registered ingredients are: (E)-4-tridecen-1-yl acetate (chemical number 12901), and (Z)-4-tridecen-1-yl acetate (chemical number 12902).

All of the tridecenyl acetate formulations are contained, embedded, encapsulated or impregnated in a solid polymeric matrix or shell.

During Phase 3 of the reregistration process, the toxicology and ecological data bases for tridecenyl acetates were evaluated and determined to adequately satisfy the data requirements for biochemical control agents.

A number of actions have been taken by the Agency to provide regulatory relief for pheromones. In February of 1993, the Agency published in the Federal Register, a final rule exempting inert materials in polymeric matrix dispensers from the requirements of a tolerance (58 FR 64493).

In March of 1994, the Agency published in the Federal Register, a final rule exempting from the requirement of a tolerance, residues of arthropod pheromones resulting from the use of these substances in retrievably-sized polymeric matrix

dispensers with an annual application limitation of 150 grams active ingredient per acre for pest control in or on all raw agricultural commodities (59 FR 14757).

The experimental use permit (EUP) limit was raised to 250 acres for pheromones in polymeric matrix dispensers, for testing of non-food use broadcast pheromones and for straight-chained lepidopteran pheromones (sprayables). These actions were completed in 1994 and published in the Federal Register (59 FR 3681, 59 FR 34182 and 60 FR 168).

Tolerance exemptions for straight-chained lepidopteran pheromones (sprayables) and for inert polymers in sprayable formulations (beads) were published in the Federal Register [8/31/95 (60 FR 45060) and 2/21/96 (61 FR 6550)].

This Reregistration Eligibility Decision reflects a reassessment of all data which have been submitted in response to the reregistration process.

III. SCIENCE ASSESSMENT

A. Product Chemistry Assessment

All product chemistry data requirements are satisfied for the technical active ingredient containing 93.00%(E)-4-tridecen-1-yl acetate and 2.96% (Z)-4-tridecen-1-yl acetate. These data will support a Reregistration Eligibility Decision (RED).

1. Product Identity and Mode of Action

The technical grade active ingredient for this biochemical pesticide, consists of (E)-4-tridecen-1-yl acetate and (Z)-4-tridecen-1-yl acetate. Tridecenyl acetate is a sex attractant pheromone produced by female tomato pinworms (*Keiferia lycopersicella*) to attract males for mating. This pheromone may be chemically synthesized and used as a biochemical insecticide in polymeric dispensers, fibers, and beads. When the synthetic pheromone is released it attracts adult TPW males. Since the male TPW moths cannot distinguish the artificially released pheromone from that released by a female TPW moth, mating is disrupted and propagation is greatly reduced. Thus eliciting a non-toxic mode of pesticidal action.

2. Tolerance Exemption and Food/Non-Food Use

Tridecenyl acetates are pheromone sex attractants and are not applied directly to crop(s), but rather impregnated onto polymeric dispensers, fibers, and beads which are ultimately applied within or on tomato fields. These compounds belong to the class of lepidopteran pheromones which are

exempted from the requirement of a tolerance when used at application rates of less than 150 grams of active ingredient per acre per season in or on all raw agricultural commodities (FR 8/30/95 40 CFR §180.1153). Additionally, an exemption from the requirement of a tolerance has been established for the tomato pinworm pheromone insecticides (E)-4-tridecen-1-yl acetate and (Z)-4-tridecen-1-yl acetate, when applied to tomato plants (preharvest) from a tape dispenser and by chopped fibers (40 CFR §180.1064).

3. Physical and Chemical Property Assessment

The structural formulas of (E)-4-tridecen-1-yl acetate and (Z)-4-tridecen-1-yl acetate are:

$CH_3(CH_2)_7CH=CH(CH2)_3CO_2CH_3$

Empirical formulation:	$C_{15}H_{28}O_2$
Molecular Weight:	240.38
CAS Registry Nos.:	72269-48-8 and 65954-19-0 (for E and Z respectively)

Table I: The Generic Physical and Chemical Data Requirements for Tridecenyl Acetates TGAI:

Guideline No. 151B-17	Properties	MRID No.
Color	Colorless to faint yellow	41647902
Physical State	Oily liquid	41647902
Odor	Mild, fruity	41647902
Melting point	N/A	
Boiling point	(Z): 120^0 C; 1.03 mmHg (E): 120^0 C; 0.99 mmHg	41647902
Density, specific gravity	0.876	41647902
Solubility	Insoluble in water; soluble in hexane and ethanol	41647902
Vapor pressure	$<1.8 \times 10^{-2}$ at 25^0 C and 1.00 mmHg	41647902
Dissociation constant	N/A	
Octanol/water partition coefficient	0.929	41647902
pH	N/A	
Stability	Stable in heat and light	41647902

B. Human Health Assessment

1. Toxicology Assessment

Adequate mammalian toxicology data are available on (E,Z)-4-tridecen-1-yl acetates and will support a RED for the active pesticidal ingredients.

a. Acute Toxicity

All acute toxicology studies have been submitted and adequately satisfy the requirements as set forth in 40 CFR 158.690 for food/feed use. The following toxicology studies have been submitted to support the reregistration of the active ingredient:

Table II: Acute Mammalian Toxicity Requirements for Tridecenyl Acetates

Guideline	Results	Toxicity Category	MRID No.
152B-10 Acute oral tox.(rat)	LD 50 > 5g/kg	IV	41928001, 42193803, 41594005,
152B-11 Acute dermal tox.(rabbit)	LD 50 > 5g/kg	IV	42193804, 41594006
152B-12 Acute inhalation (rat)	LD 50 > 2.5 mg/L	IV	41928005, 41594007
152B-12 Acute intratracheal (rat)	LC 50 > 450mg/animal (5 mg/L)	IV	41594007
152B-13 Primary eye irritation (rabbit)	None to Slight Irritation*	III	41928004, 42193805, 41594008
152B-14 Primary dermal irritation (rabbit)	Slight Erythema	IV	41928003, 42193806, 41594009
152B-15 Dermal sensitization	Not a sensitizer**	N/A	41928006, 42192903

* Slight iritis and conjunctival irritation.
** Based on the Buehler Method.

b. Mutagenicity

The following mutagenicity studies support the reregistration of the active ingredient:

Table III: Mutagenicity Requirements for Tridecenyl Acetates

Guideline 152B-17	Results	MRID No.
Ames Assay	Not mutagenic*	41928007
Unscheduled DNA Synthesis	Negative	41928008
Chromosomal Aberration (CHO Cells)	Negative	41928009

* The test substance was non-toxic and negative for mutagenicity to any of the five *Salmonella typhimurium* tester strains with or with metabolic activation.

c. Subchronic Assessment

Data from subchronic toxicology studies evaluating compounds (*i.e.*, six to sixteen carbon unbranched alcohols, acetates and aldehydes) similar in structure to the lepidopteran pheromones are available in the public literature (Daughtrey *et al*. 1990. Subchronic toxicity evaluation of tridecyl acetate in rats. *Fundam. Appl. Toxicol*. 14: 104-112). The results indicate that there were no significant signs of toxicity in rats other than those expected with longer term exposure to high doses of a hydrocarbon. The findings were indicative of an overall low degree of systemic toxicity following subchronic oral administration of tridecenyl acetate at doses up to 1 g/kg body weight. It should be noted that no significant acute toxicity effects were associated with the primary alcohols, acetates or aldehydes evaluated. Based on the results from the submitted acute mammalian toxicity studies which demonstrate low, if any, toxicity and because adequate data exist in the public domain, no additional data and/or information will be required.

2. Exposure Assessment

a. Dietary Exposure

An exemption from the requirements of a tolerance has been established for residues of arthropod pheromones when used in retrievable-sized polymeric matrix dispensers in or on the raw agricultural commodities when applied to growing crops at a rate not to exceed 150 g/a.i./acre/year in accordance with good agricultural practices (See 40 CFR 180.1124). The exemption was extended to broadcast applications for lepidopteran pheromones on August 31, 1995 (60 FR 45060). The Agency was unable to make a no-unreasonable-adverse effects finding for other arthropod pheromone pesticides for use on food crops. However, based on the data and/or information submitted to support the registration of straight-chained lepidopteran

pheromones, the Agency concluded that the potential for such residues is not a dietary hazard. This conclusion was based on the lack of Sec. 6(a)(2) incident reports and the low acute mammalian toxicity observed in the lepidopteran pheromones registered to date, the known metabolism of long-chain fatty acids, low application rates, low exposure subsequent to application due to volatilization (MRID 43509702), and the results of the field residue studies (MRID 43509701). This compound is not applied directly to the tomato plants nor is it taken up or metabolized by tomato plants, but rather it is incorporated into dispensers or as a microencapsulated material. Therefore, dietary exposure to this compound is expected to be minimal. Consequently, the Agency has determined that, when used in accordance with good agricultural practices, a food tolerance for the defined subset of lepidopteran pheromones, which includes (E,Z)-4-tridecen-1-yl acetates, is not necessary to protect the public health. Therefore, the Agency established an exemption from the requirement of a tolerance for this group of active pesticidal ingredients when used at less than 150 g/a.i./acre/year (40 CFR 180.1153).

b. Occupational and Residential Exposure

Based on the application methods (*i.e.*, encapsulated and fiber formulations), the potential for dermal, eye, and inhalation exposures to the pesticide for pesticide handlers exists. Because of the lack of mammalian toxicity, as demonstrated in the acute and subchronic toxicity studies, worker exposure data to the active ingredient are not required.

3. Human Risk Assessment

Although the potential for dermal and inhalation exposures to the pesticide for pesticide handlers exists, the potential is addressed by appropriate labeling. Eye irritation remains an area of concern for the final products and should be addressed with the appropriate precautionary label statements. There are no subchronic or chronic risks expected for exposure to the TGAI. Moreover, the Agency has not received any 6(a)(2) reports or incidences of poisoning (for the E and Z isomers of tridecenyl acetates).

The potential risks to humans from both nondietary and dietary routes are considered negligible for those pheromones, given the lack of adverse effects presented by existing mammalian toxicology data. Lack of adverse effects is demonstrated in the submitted acute mammalian toxicology studies, low application rates, even lower exposure subsequent to application due to

volatilization, the results of the field residue studies, and known metabolism of long-chain fatty acids. Therefore, no additional information and/or toxicology data are required. In the event that the technology for manufacturing and/or synthesizing the compound and/or use pattern changes such as to increase toxicity from manufacturing impurities or the likelihood of exposure, the Agency may reevaluate the need for additional toxicology testing on the technical grade material.

C. Environmental Assessment

There are no outstanding environmental effects data requirements. Sufficient data have been provided for an environmental fate and effects assessment.

1. Ecological Toxicity Data

All of the ecological effects data requirements for tridecenyl acetates have been adequately fulfilled. A review of all available ecological toxicity data indicate that tridecenyl acetates are not likely to cause adverse effects in non-target avian, fish and aquatic invertebrate species.

Table IV: Ecological Toxicity - Tier I Guideline Requirements for Tridecenyl Acetates

Guideline No.	Study	Results	MRID
154B-6	Avian acute oral - bobwhite quail	LD_{50} > 2250 mg/kg. Tridecenyl acetate is practically non-toxic to bobwhite quail. Test material 99.0%.	41928010
		LD_{50} > 2000 mg/kg. Tridecenyl acetate is practically non-toxic to bobwhite quail. Test material 95.78%.	42193807
154B-7	Avian subacute dietary-bobwhite quail	LC_{50} > 5620 ppm. Tridecenyl acetate is practically non-toxic to bobwhite quail. Test material 99.0%.	41928011
		LC_{50} > 5620 ppm. Tridecenyl acetate is practically non-toxic to bobwhite quail. Test material 95.78%.	42193808

Guideline No.	Study	Results	MRID
154B-8	Fish toxicity - rainbow trout	LC_{50} >100 mg/L. Tridecenyl acetate is practically non-toxic to coldwater fish. Test material 99.0%.	41928012
		LC_{50} >120 mg/L. Tridecenyl acetate is practically non-toxic to coldwater fish. Test material 95.78%.	42193809
154B-9	Invertebrate toxicity - *Daphnia magna*	LC_{50} =1.6 mg/L. Tridecenyl acetate is moderately toxic to *Daphnia magna* . Test material 99.0%.	41928013
		The LC_{50} of tridecenyl acetate isnot determined. Test material 95.78%.	42192810
154B-10	Nontarget plants	Waived because tridecenyl acetate is a sex attractant pheromone specific to the tomato pinworm.	
154B-11	Nontarget insects	Waived because tridecenyl acetate is a sex attractant pheromone specific to the tomato pinworm.	

The toxicity data, listed in the chart above, suggests that tridecenyl acetates are practically non-toxic to avian and freshwater fish species and moderately toxic to freshwater invertebrates. In the Agency's review of the fish studies, it was noted that these data were collected in a static test with an oily residue present in all test solutions and no verification of actual concentrations of tridecenyl acetates in the water; thus raising concerns that the true toxicity of the test material could be determined. However, based on this pesticide's non-toxic mode of action (a sex attractant pheromone impregnated in fibers, dispensers, and sprayable beads), its low acute mammalian toxicity, and its limited use pattern (*i.e.* only in tomato fields), additional data are not required.

2. Environmental Fate

Environmental fate Tier II studies for biochemicals are not imposed unless adverse effects are observed in Tier I Environmental Expression testing with wildlife, fish and aquatic invertebrates. The Agency will not impose any environmental fate requirements for reregistration of the currently registered products containing tridecenyl acetates.

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 tridecenyl acetates 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 tridecenyl acetates. Appendix B identifies the generic data requirements that the Agency reviewed as part of its determination of reregistration eligibility of tridecenyl acetates, 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 tridecenyl acetates and to determine that tridecenyl acetates can be used without resulting in unreasonable adverse effects to humans and the environment. The Agency, therefore, finds that all products containing tridecenyl acetates as the active ingredients 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, published scientific literature, etc. and the data identified in Appendix B. Although the Agency has found that all uses of tridecenyl acetates 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 tridecenyl acetates, 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 two active ingredients, the Agency has sufficient information on the health effects of tridecenyl acetates and on their potential for causing adverse effects in fish, wildlife, and the environment. The Agency has determined that tridecenyl acetate 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 tridecenyl acetates for all uses are eligible for reregistration.

2. Eligible and Ineligible Uses

The Agency has determined that all currently registered uses of tridecenyl acetates are eligible for reregistration.

B. Regulatory Position

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

1. Tolerance Reassessment

Tridecenyl acetates, as straight chain lepidopteran pheromones, are exempt from the requirement of a tolerance [Federal Register citation: 40 CFR §180.1043 and 40 CFR §180.1153.]

2. Endangered Species Statement

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 restrictions to protect endangered and threatened species at the county level. Consultations with the Fish and Wildlife Service may be necessary to assess risks to newly listed species or from proposed new uses. In the future, the Agency plans to publish a description of the Endangered Species Program in the Federal Register and have available voluntary county-specific bulletins. Because the Agency is taking this approach for protecting endangered and threatened species, it is not imposing label modifications at this time through the RED. Rather, any requirements for product use modifications will occur in the future under the Endangered Species Protection Program.

3. Labeling Rationale

<u>Precautionary Labeling:</u>

The Agency has reexamined the toxicological data base for tridecenyl acetates and concluded that the current precautionary labeling (*i.e.*, Signal Word and Statement of Practical Treatment) adequately mitigate the risks associated with the use of these pheromones. Due to the Primary Eye irritation response (Toxicity Category III), the Agency will require the appropriate Signal Word (Caution) and Precautionary Statements (Causes slight eye

irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling).

Worker Protection Standard:

According to Pesticide Regulation (PR) Notice 93-7, "Labeling Revisions Required by the Worker Protection Standard (WPS)", WPS does not apply to attractants used in insect dispensers. However the microencapsulated products are within the scope of the WPS and must bear all of the labeling requirements stipulated in PR Notices 93-7 and 93-11.

Environmental Hazard Statement:

To mitigate potential risks to fish and aquatic invertebrates the Agency is requiring all microencapsulated products containing tridecenyl acetates to bear a Precautionary Environmental Hazard Statement which prohibits direct application to surface water. It is the opinion of the Agency that label restrictions to prohibit direct application to bodies of water will effectively mitigate risks to fish and aquatic invertebrates. Refer to Section V.

V. ACTIONS REQUIRED OF REGISTRANTS

This section specifies the data requirements and responses necessary for the reregistration of both manufacturing-use and end-use products.

A. Manufacturing-Use Products

1. Additional Generic Data Requirements

The generic data base supporting the reregistration of tridecenyl acetates for the above eligible uses has been reviewed and determined to be substantially complete.

2. Labeling Requirements for Manufacturing-Use Products

There are currently three manufacturing-use products registered. These are the 3M Company's MEC Tomato Pinworm Pheromone Concentrate (10350-34), Bedoukian's TPW Technical Pheromone (52991-3) and Consep's Checkmate TPW Technical Pheromone (56336-7). To be in compliance with FIFRA, manufacturing use product labeling must comply with all current EPA regulations, PR Notices and applicable policies. The MP labeling must bear the following statement under Directions for Use:

"Only for formulation into a pheromone for the following use: as an attractant in a mating disrupter."

An MP registrant may, at his/her discretion, add one of the following statements to an MP label under "Directions for Use" to permit the reformulation of the product for a specific use or all additional uses supported by a formulator or user group:

(a) "This product may be used to formulate products for specific use(s) not listed on the MP label if the formulator, user group, or grower has complied with U.S. EPA submission requirements regarding support of such use(s)."

(b) "This product may be used to formulate products for any additional use(s) not listed on the MP label if the formulator, user group, or grower has complied with U.S. EPA submission requirements regarding support of such use(s)."

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. Registrants must review previous data submissions to ensure that they meet current EPA acceptance criteria 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:

Worker Protection Standard:

The labeling of all microencapsulated end-use products containing tridecenyl acetate must comply with EPA's current regulations and requirements as specified in 40 CFR 156.10 and other applicable notices.

Environmental Hazard:

The following Environmental Hazard Statement must appear on the labeling of all products containing tridecenyl acetates:

"Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the high-water mark. Do not contaminate water when disposing of equipment wash water or rinsate."

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. Persons other than the registrant may generally distribute or sell such products for 50 months from the date of the issuance of this 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 tridecenyl acetate products bearing old labels/labeling for 26 months from the date of issuance of this RED. Persons other than the registrant may distribute or sell such products for 50 months from the date of the issuance of this RED. Registrants and persons other than registrants remain obligated to meet pre-existing Agency imposed label changes and existing stocks requirements applicable to products they sell or distribute.

VI. APPENDICES

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121901[(Z)-4- Tridecen-1-yl acetate]

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 Tex.	Max. # Apps @ Max. Rate Max. Dose /crop cycle	/year	Max. Dose [(AI unless noted otherwise)/A] /crop cycle	/year	Min. Interv (days)	Re-Entry Intv.	Geographic Limitations Allowed	Disallowed	Use Limitations Codes
USES ELIGIBLE FOR REREGISTRATION													
FOOD/FEED USES													
AGRICULTURAL CROPS/SOILS (UNSPECIFIED)				Use Group: TERRESTRIAL FOOD+FEED CROP									
Spray, Foliar, Aircraft	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
Spray, Foliar, Sprayer	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
TOMATO				Use Group: TERRESTRIAL FOOD+FEED CROP									
Pheromone communication disruptant, Foliar, Aircraft	MCAP	NA	.001005 lb A	*	NS	NS	NS	NS	28	NS			C46, C93
Pheromone communication disruptant, Foliar, By hand	IMPR	NA	UC	*	NS	1/1 yr	NS	NS	NS	NS			CAC
	IMPR	NA	UC	*	NS	4/1 yr	NS	NS	NS	NS			CAC
	IMPR	NA	.00036 lb A	*	NS	NS	NS	NS	28	NS			H03
	IMPR	NA	1.905E-05 lb A	*	NS	NS	NS	NS	70	NS			
Pheromone communication disruptant, Foliar, Sprayer	MCAP	NA	.001005 lb A	*	NS	NS	NS	NS	28	NS			C46, C93
Spray, Foliar, Aircraft	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
Spray, Foliar, Sprayer	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121901[(Z)-4- Tridecen-1-yl acetate]

LEGEND

Sort: Uses Eligible or Ineligible for Re-registration, Food/Feed or Non-Food/Non-Feed Uses, Alpha Site Name, Use Group Name, Alpha Application Type/Timing/Equipment Description, Formulation, Maximum Application Rate Unit/Area Quantity, Minimum Application Rate

HEADER ABBREVIATIONS

Min. Appl. Rate (AI unless noted otherwise)	: Minimum dose for a single application to a single site. System calculated. Microbial claims only.
Max. Appl. Rate (AI unless noted otherwise)	: Maximum dose for a single application to a single site. System calculated.
Soil Tex. Max. Dose	: Maximum dose for a single application to a single site as related to soil texture (Herbicide claims only).
Max. # Apps @ Max. Rate	: Maximum number of Applications at Maximum Dosage Rate. Example: "4 applications per year" is expressed as "4/1 yr"; "4 applications per 3 years" is expressed as "4/3 yr"
Max. Dose [(AI unless noted otherwise)/A]	: Maximum dose applied to a site over a single crop cycle or year. System calculated.
Min. Interv (days)	: Minimum Interval between Applications (days)
Re-Entry Intv.	: Reentry Intervals
PRD Report Date	: LUIS contains all products that were active or suspended (and that were available from OPP Document Center) as of this date. Some products registered after this date may have data included in this report, but LUIS does not guarantee that all products registered after this date have data that has been captured.

SOIL TEXTURE FOR MAX APP. RATE

*	: Non-specific
C	: Coarse
M	: Medium
F	: Fine
O	: Others

FORMULATION CODES

IMPR	: IMPREGNATED MATERIAL
MCAP	: MICROENCAPSULATED

ABBREVIATIONS

AN	: As Needed
NA	: Not Applicable
NS	: Not Specified (on label)
UC	: Unconverted due to lack of data (on label), or with one of following units: bag, bait, bait block, bait pack, bait station, bait station(s), block, briquet, briquets, bursts, cake, can, canister, capsule, cartridges, coil, collar, container, dispenser, drop, eartag, grains, lure, pack, packet, packets, pad, part, parts, pellets, piece, pieces, pill, pumps, sec, sec burst, sheet, spike, stake, stick, strip, tab, tablet, tablets, tag, tape, towelette, tray, unit, --

APPLICATION RATE

DCNC	: Dosage Can Not be Calculated
No Calc	: No Calculation can be made
W	: PPM calculated by weight
V	: PPM Calculated by volume
U	: Unknown whether PPM is given by weight or by volume
cwt	: Hundred Weight
nnE-xx	: nn times (10 power -xx); for instance, "1.234E-04" is equivalent to ".0001234"

USE LIMITATIONS CODES

C46 : Do not apply through any type of irrigation system.

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121901[(Z)-4- Tridecen-1-yl acetate]

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USE LIMITATIONS CODES (Cont.)
C93 : Do not apply directly to water.
CAC : Keep out of lakes, streams, and ponds.
CAU : Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.
H03 : Preharvest interval not located on the label.
* NUMBER IN PARENTHESES REPRESENTS THE NUMBER OF TIME UNITS (HOURS,DAYS, ETC.) DESCRIBED IN THE LIMITATION.

REENTRY INTERVAL ABBREVIATIONS
h : hour(s)

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121902[(E)-4-Tridecen-l-yl acetate]

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 Tex.	Max. # Apps @ Max. Rate Max. /crop cycle	/year	Max. Dose [(AI unless noted otherwise)/A] /crop cycle	/year	Min. Interv (days)	Re-Entry Intv.	Geographic Limitations Allowed	Disallowed	Use Limitations Codes
USES ELIGIBLE FOR REREGISTRATION													
FOOD/FEED USES													
AGRICULTURAL CROPS/SOILS (UNSPECIFIED)				Use Group: TERRESTRIAL FOOD+FEED CROP									
Spray, Foliar, Aircraft	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
Spray, Foliar, Sprayer	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
TOMATO				Use Group: TERRESTRIAL FOOD+FEED CROP									
Pheromone communication disruptant, Foliar, Aircraft	MCAP	NA	.0325 lb A	*	NS	NS	NS	NS	28	NS			C46, C93
Pheromone communication disruptant, Foliar, By hand	IMPR	NA	UC	*	NS	1/1 yr	NS	NS	NS	NS			CAC
	IMPR	NA	UC	*	NS	4/1 yr	NS	NS	NS	NS			CAC
	IMPR	NA	.00852 lb A	*	NS	NS	NS	NS	28	NS			H03
	IMPR	NA	6.011E-04 lb A	*	NS	NS	NS	NS	70	NS			
Pheromone communication disruptant, Foliar, Sprayer	MCAP	NA	.0325 lb A	*	NS	NS	NS	NS	28	NS			C46, C93
Spray, Foliar, Aircraft	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU
Spray, Foliar, Sprayer	IMPR	NA	.05512 lb A	*	NS	NS	NS	.33 lb	AN	4 h			CAU

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121902[(E)-4-Tridecen-l-yl acetate]

LEGEND

Sort: Uses Eligible or Ineligible for Re-registration, Food/Feed or Non-Food/Non-Feed Uses, Alpha Site Name, Use Group Name, Alpha Application Type/Timing/Equipment Description, Formulation, Maximum Application Rate Unit/Area Quantity, Minimum Application Rate

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Max. # Apps @ Max. Rate	: Maximum number of Applications at Maximum Dosage Rate. Example: "4 applications per year" is expressed as "4/1 yr"; "4 applications per 3 years" is expressed as "4/3 yr"
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*	: Non-specific
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APPLICATION RATE

DCNC	: Dosage Can Not be Calculated
No Calc	: No Calculation can be made
W	: PPM calculated by weight
V	: PPM Calculated by volume
U	: Unknown whether PPM is given by weight or by volume
cwt	: Hundred Weight
nnE-xx	: nn times (10 power -xx); for instance, "1.234E-04" is equivalent to ".0001234"

USE LIMITATIONS CODES

C46 : Do not apply through any type of irrigation system.

APPENDIX A REPORT

Case 4116[Tridecenyl acetates] Chemical 121902[(E)-4-Tridecen-l-yl acetate]

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USE LIMITATIONS CODES (Cont.)
C93 : Do not apply directly to water.
CAC : Keep out of lakes, streams, and ponds.
CAU : Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.
H03 : Preharvest interval not located on the label.
* NUMBER IN PARENTHESES REPRESENTS THE NUMBER OF TIME UNITS (HOURS,DAYS, ETC.) DESCRIBED IN THE LIMITATION.

REENTRY INTERVAL ABBREVIATIONS
h : hour(s)

GUIDE TO APPENDIX B

Appendix B contains listings of data requirements which support the reregistration for active ingredients within the case tridecenyl acetates covered by this Reregistration Eligibility Decision Document. It contains generic data requirements that apply to tridecenyl acetates 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 Tridecenyl Acetates

REQUIREMENT		USE PATTERN	CITATION(S)
PRODUCT CHEMISTRY			
151B-17	**Color**	ALL	41647902
151B-17	**Physical State**	ALL	41647902
151B-17	**Odor**	ALL	41647902
151B-17	**Melting Point**	ALL	N/A
151B-17	**Boiling Point**	ALL	41647902
151B-17	**Density**	ALL	41647902
151B-17	**Solubility**	ALL	41647902
151B-17	**Vapor Pressure**	ALL	41647902
151B-17	**Dissociation Constant**	ALL	N/A
151B-17	**Octanol/Water Partition**	ALL	41647902
151B-17	**pH**	ALL	N/A
151B-17	**Stability**	ALL	41647902
ECOLOGICAL EFFECTS			
154B-6	**Acute Avian Oral - Quail**	ALL	41928010, 42193807
154B-7	**Avian Subacute Dietary- Quail**	ALL	41928011, 42193808
154B-8	**Fish Toxicity Rainbow Trout**	ALL	41928012, 42193809
154B-9	**Invertebrate Toxicity**	ALL	41928013, 42192810
154B-10	**Nontarget Plants**	ALL	**WAIVED**
154B-11	**Nontarget Insects**	ALL	**WAIVED**

Data Supporting Guideline Requirements for the Reregistration of Tridecenyl Acetates

REQUIREMENT		USE PATTERN	CITATION(S)
TOXICOLOGY			
152B-10	**Acute Oral Toxicity - Rat**	ALL	41928001, 42193803, 41594005
152B-11	**Acute Dermal Toxicity - Rabbit**	ALL	42193804, 41594006
152B-12	**Acute Inhalation Toxicity - Rat**	ALL	41928005, 41594007
152B-12	**Acute Intratracheal Toxicity - Rat**	ALL	41594007
152B-13	**Primary Eye Irritation - Rabbit**	ALL	41928004, 42193805, 41594008
152B-14	**Primary Dermal Irritation - Rabbit**	ALL	41928003, 42193806, 41594009
152B-15	**Dermal Sensitization - Guinea Pig**	ALL	41928006, 42192903
152B-17	**Ames Assay**	ALL	41928007
152B-17	**Unscheduled DNA Synthesis**	ALL	41928008
152B-17	**Chromosomal Abberration (CHO Cells)**	ALL	41928009

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.

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The following is a list of available documents for tridecenyl acetates that my further assist you in responding to this Reregistration Eligibility Decision document. These documents may be obtained by the following methods:

Electronic
File format: Portable Document Format (.PDF) Requires Adobe® Acrobat or compatible reader. Electronic copies can be downloaded from the Pesticide Special Review and Reregistration Information System at 703-308-7224. They also are available on the Internet on EPA's gopher server, GOPHER.EPA.GOV, or using ftp on FTP.EPA.GOV, or using WWW (World Wide Web) on WWW.EPA.GOV., or contact Anne R. Leslie at (703)-308-8727.

1. PR Notice 86-5.

2. PR Notice 91-2 (pertains to the Label Ingredient Statement).

3. A full copy of this RED document.

4. A copy of the fact sheet for tridecenyl acetates.

The following documents are part of the Administrative Record for tridecenyl acetates and may included in the EPA's Office of Pesticide Programs Public Docket. Copies of these documents are not available electronically, but may be obtained by contacting the person listed on the Chemical Status Sheet.

1. Health and Environmental Effects Science Chapters.

2. Detailed Label Usage Information System (LUIS) Report.

The following Agency reference documents are not available electronically, but may be obtained by contacting the person listed on the Chemical Status Sheet of this RED document.

1. The Label Review Manual.

2. EPA Acceptance Criteria