

US EPA ARCHIVE DOCUMENT



United States
Environmental Protection
Agency (7508C)

Prevention, Pesticides
and Toxic Substances

EPA xx-x-xx-xxx
September 2005

Reregistration Eligibility Decision for Napropamide

Case No. 2450

US EPA ARCHIVE DOCUMENT

Reregistration Eligibility Decision

for

Napropamide

Case No. 2450

Approved By:

Debra Edwards, Ph.D.
Director, Special Review and
Reregistration Division

Date

Table of Contents

Napropamide Reregistration Eligibility Decision Team	i
Glossary of Terms and Abbreviations	ii
Executive Summary	iv
I. Introduction	1
II. Chemical Overview	3
A. Regulatory History	3
B. Chemical Identification	3
C. Use Profile	4
D. Estimated Usage of Pesticide	5
III. Summary of Napropamide Risk Assessments	6
A. Human Health Risk Assessment	6
1. Toxicity of Napropamide	6
a. Acute Toxicity Profile	7
b. Developmental & Reproductive Toxicity/FQPA Safety Factor	7
c. Carcinogenicity	7
d. Endocrine Effects	8
e. Toxicological Endpoints.	8
2. Dietary Exposure and Risk from Food	9
a. Exposure Assumptions (Food)	9
b. Exposure Assumptions (Water)	9
c. Population Adjusted Dose	10
d. Chronic Dietary Risk Estimates	10
3. Residential Exposure and Risk	10
a. Residential Exposure and Duration	11
b. Residential Handler	11
c. Residential Handler Risk Estimates	12
d. Residential Post-Application Risk12
e. Post-Application Risk Estimates13
4. Aggregate Exposure and Risk	14
a. Short-Term Aggregate Risk14
b. Chronic Aggregate Risk14

5.	Cumulative Risk	15
6.	Occupational Risk	15
	a. Occupational Toxicity	15
	b. Occupational Handler Exposure	16
	c. Occupational Handler Risk Summary	16
	d. Occupational Handler Risk Estimate	17
	e. Occupational Post-Application Risk	17
7.	Human Incident Data	17
B.	Environmental Risk Assessment	18
1.	Environmental Exposure	18
	a. Environmental Fate and Transport	18
	b. Aquatic Organism Exposure	19
	c. Terrestrial Organism Exposure	20
	d. Non-target Terrestrial Plant Exposure	22
2.	Environmental Effects (Toxicity)	23
	a. Toxicity to Aquatic and Terrestrial Organisms	23
	b. Ecological Risk Estimation (RQs)	24
	a. Risk to Aquatic Organisms	25
	b. Risk to Non-target Terrestrial Organisms	26
	c. Ecological Incidents	28
	d. Endangered Species Concerns	28
	e. Risk Characterization	29
IV.	Risk Management, Reregistration, and Tolerance Reassessment Decision	30
A.	Determination of Reregistration Eligibility	30
B.	Public Comments and Responses	31
C.	Regulatory Position	31
	1. Food Quality Protection Act Findings	31
	a. "Risk Cup" Determination	31
	b. Determination of Safety to the U.S. Population Including Infants and Children	32
	c. Endocrine Disruptor Effects	32
	d. Cumulative Risks	32
D.	Tolerance Reassessment Summary	33
	a. Codex Harmonization	35
E.	Regulatory Rationale	35
	1. Human Health Mitigation	35
	a. Dietary	35
	b. Residential	35
	c. Aggregate	35
	d. Occupational	35

- 2. Environmental Risk Mitigation
.36
- 3. Significant of Napropamide
.38
- 4. Endangered Species Considerations
.38
- F. Other Labeling Requirements
39
 - 1. Spray Drift Management
.39

- V. What Registrants Need to Do 40
 - A. Manufacturing Use Products 40
 - 1. Generic Data Requirements 40
 - 2. Labeling for Manufacturing-Use Products 41
 - B. End-Use Products 41
 - 1. Additional Product-Specific Data Requirements 41
 - 2. Labeling for End-Use Products 41
 - G. Labeling Changes Summary Table
42

- VI. Appendices
 - Appendix A. Food/Feed Use Patterns Subject to Reregistration for Napropamide ..
 - Appendix B. Data Supporting Guideline Requirements for the Reregistration of
Napropamide ..
 - Appendix D. Citations Considered to Be Part of the Data Base Supporting the
Reregistration Decision (Bibliography) ..
 - Appendix E. Generic Data Call-In ..
 - Appendix F. Product Specific Data Call-In ..
 - Appendix G. EPA's Batching of Napropamide Products for Meeting Acute
Toxicity Data Requirements for Reregistration ..
 - Appendix H. List of Registrants Sent this Data Call-In ..
 - Appendix I. List of Available Related Documents and Electronically Available
Forms ..

Napropamide Reregistration Eligibility Decision Team

Office of Pesticide Programs:

Biological and Economic Analysis Assessment

Elisa Rim
Monisha Kaul
Nicole Zinn
Sunil Ratnayake

Environmental Fate and Effects Risk Assessment

Fred Jenkins
Jim Breithaupt
Shannon Borges

Endangered Species

Arty Williams

Health Effects Risk Assessment

Danette Drew
John Liccione
Seyed Tadayon
Susan Stanton

Registration Support

Joanne Miller

Risk Management

Demson Fuller

Tom Brennan

Glossary of Terms and Abbreviations

ai	Active Ingredient
aPAD	Acute Population Adjusted Dose
AR	Anticipated Residue
BCF	Bioconcentration Factor
CCA	Comparative Cholinesterase Assay
CFR	Code of Federal Regulations
cPAD	Chronic Population Adjusted Dose
CSF	Confidential Statement of Formula
CSFII	USDA Continuing Surveys for Food Intake by Individuals
DCI	Data Call-In
DEEM	Dietary Exposure Evaluation Model
DFR	Dislodgeable Foliar Residue
DNT	Developmental Neurotoxicity
DWLOC	Drinking Water Level of Comparison.
EC	Emulsifiable Concentrate Formulation
EC	Engineering Control
EDWC	Estimated Drinking Water Concentration
EEC	Estimated Environmental Concentration
EPA	Environmental Protection Agency
EUP	End-Use Product
FDA	Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FFDCA	Federal Food, Drug, and Cosmetic Act
FQPA	Food Quality Protection Act
FOB	Functional Observation Battery
G	Granular Formulation
GLN	Guideline Number
HAFT	Highest Average Field Trial
IR	Index Reservoir
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.
LOC	Level of Concern
LOD	Limit of Detection
LOAEL	Lowest Observed Adverse Effect Level
MATC	Maximum Acceptable Toxicant Concentration
µg/g	Micrograms Per Gram
µg/L	Micrograms Per Liter
mg/kg/day	Milligram Per Kilogram Per Day
mg/L	Milligrams Per Liter
MOE	Margin of Exposure
MRID	Master Record Identification (number). EPA's system of recording and tracking studies submitted.
MUP	Manufacturing-Use Product
NA	Not Applicable
NAWQA	USGS National Water Quality Assessment
NPDES	National Pollutant Discharge Elimination System
NR	Not Required
NOAEL	No Observed Adverse Effect Level
OPP	EPA Office of Pesticide Programs
OPPTS	EPA Office of Prevention, Pesticides and Toxic Substances
PAD	Population Adjusted Dose
PCA	Percent Crop Area
PDP	USDA Pesticide Data Program
PHED	Pesticide Handler's Exposure Data
PHI	Preharvest Interval
ppb	Parts Per Billion
PPE	Personal Protective Equipment
ppm	Parts Per Million
PRZM/EXAMS	Tier II Surface Water Computer Model
Q ₁ *	The Carcinogenic Potential of a Compound, Quantified by the EPA's Cancer Risk Model
RAC	Raw Agriculture Commodity
RED	Reregistration Eligibility Decision
REI	Restricted Entry Interval
RfD	Reference Dose
RQ	Risk Quotient
SCI-GROW	Tier I Ground Water Computer Model
SAP	Science Advisory Panel
SF	Safety Factor
SLN	Special Local Need (Registrations Under Section 24©) of FIFRA)
TGAI	Technical Grade Active Ingredient
TRR	Total Radioactive Residue
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UF	Uncertainty Factor
UF _{db}	Database Uncertainty Factor
UV	Ultraviolet
WPS	Worker Protection Standard

Executive Summary

The Environmental Protection Agency (EPA) has concluded its reregistration eligibility decision for napropamide and determined that the chemical is eligible for reregistration provided that (1) current data gaps and additional data needs are addressed and (2) the risk mitigation measures outlined in this document are adopted and label amendments are made to implement these measures. EPA has also reassessed the 27 tolerances for napropamide under section 408(q) of FFDCA, as amended by FQPA.

EPA has completed its review of public comments on the revised napropamide risk assessments and is issuing its risk management decision. The revised risk assessments are based on review of the required data supporting the use patterns of currently registered products and additional information received. After considering the risks identified in the revised risk assessment, comments, and mitigation suggestions from interested parties, EPA developed its risk management decision for uses of napropamide that posed potential risks of concern.

Napropamide is an herbicide registered to control broadleaf weeds and annual grasses on numerous food/feed and non-food/feed use sites, including fruits and nuts, vegetables, ornamentals, turf/lawns, forestry sites and tobacco. Napropamide was first registered in 1972. Approximately 368,000 pounds of napropamide active ingredient are applied annually. Sites on which napropamide has the highest percent of crop treated include cranberries (30%), pepper and strawberries (15%), eggplant, tobacco, and tomatoes (10%).

Dietary Risk

Acute dietary risk was not assessed as there were no toxicological endpoints of concern attributable to a single exposure. The chronic dietary risk (food + water) of napropamide is well below the Agency's level of concern for the general U.S. population and all population subgroups. The most highly exposed subgroup was children, 1-2 years old, with the estimated exposure at 1.8% of the cPAD. Therefore, no mitigation is warranted at this time for dietary risks.

Residential Risk

The estimated residential handler risks for all scenarios do not exceed the Agency's level of concern. The MOEs ranged from 19,000 to 190,000. Residential post-application risks were also below EPA's level of concern (the short term total MOE is 265). Therefore, no mitigation is warranted at this time for residential risks.

Aggregate Risk

Short-and long term (chronic) aggregate risks assessments were conducted for napropamide. The short-term assessment considered both dietary (food + water) and residential exposures. The long-term assessment considered dietary exposure only, since the current uses of napropamide are not expected to result in long-term residential exposure.

Short-term aggregate risk is below EPA's level of concern for napropamide. Estimated short-term aggregate risk MOEs for adults and children (toddlers) are 14,340 and 260, respectively. The chronic aggregate risk estimates for the U.S. population and all subgroups are < 2% of the cPAD and, therefore, are also below the Agency's level of concern. Therefore, no risk mitigation is warranted at this time for aggregate risks.

Occupational Risk

The Agency identified several occupational scenarios where exposure might occur. The occupational handler exposures estimated for all scenarios do not exceed the Agency's level of concern (i.e., MOEs > 100). Therefore, no risk mitigation is warranted at this time for occupational risks.

Cumulative Risk

Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to napropamide and any other substances, and napropamide does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has assumed that napropamide does not share a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a

common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism of EPA's website at <http://www.epa.gov/pesticides/cumulative/>.

Ecological Risk

Based on high-end estimated environmental concentrations, chronic levels of concern (LOCs) were exceeded for mammals that feed on all food types the Agency assesses (i.e., short grass, tall grass, broadleaf plants and small insects, fruits/pods/large insects) for all modeled use rates. Risk quotient (RQ) estimates ranged up to 21 (LOC=1). For terrestrial and wetland/riparian plants (monocot and dicot), RQs for seedling emergence in areas adjacent to treated fields exceeded LOCs at all modeled application rates. RQ estimates ranged up to 12. EPA believes the risks can be substantially reduced through the implementation of the following mitigation measures: 1) requiring application rate reductions; and 2) cancelling use on a number of crops.

Endangered Species

Based on EPA's screening level assessment, RQs for napropamide exceed acute levels of concern for direct effects to endangered species of mammals, mollusks, marine/estuarine crustaceans, aquatic vascular plants and terrestrial and semi-aquatic plants (both dicots and monocots). RQs were also exceeded for chronic direct effects to mammals. Further, based on screening level assessments of potential direct effects to these taxa, the potential for indirect effects to all taxa of listed species can not be precluded at this time. These findings are based solely on EPA's screening level assessment and do not constitute "may affect" finding under the Endangered Species Act.

Next Steps

The Agency is issuing this RED document for napropamide as announced in a Notice of Availability published in the *Federal Register*. In the near future, EPA will issue generic DCI for additional data necessary to confirm the conclusions of this RED for the active ingredient napropamide. EPA will also issue a product specific DCI for data necessary to complete product reregistration for products containing napropamide.

I. Introduction

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was amended in 1988 to accelerate the reregistration of products with active ingredients registered prior to November 1, 1984. The amended Act calls for the development and submission of data to support the reregistration of an active ingredient, as well as a review of all submitted data by the U.S. Environmental Protection Agency (referred to as EPA or "the Agency"). Reregistration involves a thorough review of the scientific database underlying a pesticide's registration. The purpose of the Agency's review is to reassess the potential risks 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 or not the pesticide meets the "no unreasonable adverse effects" criteria of FIFRA.

On August 3, 1996, the Food Quality Protection Act of 1996 (FQPA) was signed into law. This Act amends FIFRA and the Federal Food Drug and Cosmetic Act (FFDCA) to require reassessment of all existing tolerances for pesticides in food. FQPA also requires EPA to review all tolerances in effect on August 2, 1996 by August 3, 2006. In reassessing these tolerances, the Agency must consider, among other things, aggregate risks from non-occupational sources of pesticide exposure, whether there is increased susceptibility to infants and children, and the cumulative effects of pesticides with a common mechanism of toxicity. When a safety finding has been made that aggregate risks are not of concern and the Agency concludes that there is a reasonable certainty of no harm from aggregate exposure, the tolerances are considered reassessed. EPA decided that, for those chemicals that have tolerances and are undergoing reregistration, tolerance reassessment will be accomplished through the reregistration process.

As mentioned above, FQPA requires EPA to consider "available information" concerning the cumulative effects of a particular pesticide's residues and "other substances that have a common mechanism of toxicity" when considering whether to establish, modify, or revoke a tolerance. Potential cumulative effects of chemicals with a common mechanism of toxicity are considered because low-level exposures to multiple chemicals causing a common toxic effect by a common mechanism could lead to the same adverse health effect as would a higher level of exposure to any one of these individual chemicals. For information regarding EPA's efforts to determine which chemicals have a common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by the EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism on EPA's website at <http://epa.gov/pesticides/cumulative/>.]

Unlike other pesticides for which EPA has considered cumulative risk based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding for napropamide. The Agency has found no information indicating napropamide shares a common mechanism of toxicity with other substances. Napropamide does not appear to produce a toxic metabolite produced by other substances. Therefore, for the purposes of tolerance reassessment and a decision on reregistration eligibility, EPA has assumed that napropamide does not share a common mechanism of toxicity with other compounds. In the future, if additional information suggests napropamide shares a common mechanism of toxicity with other compounds, additional testing may be required and a cumulative assessment may be necessary.

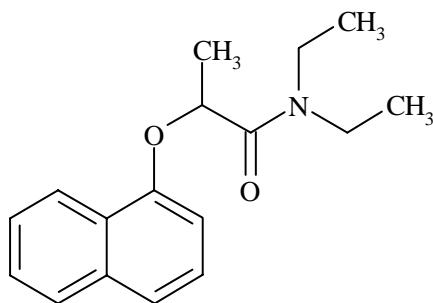
This document presents EPA's revised human health and ecological risk assessments and the reregistration eligibility decision for napropamide. This document consists of six sections and appendices. Section I contains the regulatory framework for reregistration/tolerance reassessment. Section II provides a profile of the use and usage of the chemical. Section III gives an overview of the revised human health and environmental effects risk assessments based on data, public comments, and other information received in response to the preliminary risk assessments. Section IV presents the Agency's reregistration eligibility and risk management decisions. Section V summarizes label changes necessary to implement the risk mitigation measures outlined in Section IV. The appendices in Section VI list related and supporting documents, studies submitted to support EPA's data requirements for reregistration, and generic and product Data Call-Ins (DCIs), and provide information on how to access related documents. The preliminary and revised risk assessments for napropamide are available in the Public Docket, under docket number(s) OPP-2004-0162 and on the Agency's web page, <http://www.epa.gov/edockets>.

II. Chemical Overview

A. Regulatory History

Napropamide has been registered in the United States since 1972 for use as a herbicide. A Data Call-In (DCI) was issued in 1989 requiring the submission of additional data on product and residue chemistry, toxicity, environmental fate, and ecological effects. Subsequent DCIs were issued in 1991, 1994 and 1995 which required additional product chemistry, environmental fate, processing and residue crop field trial studies. This Registration Eligibility Decision (RED) reflects a reassessment of all data which were submitted in response to the DCIs.

B. Chemical Identification



Common Name: Napropamide

Trade Name: Devrinol®.

Chemical Name: N,N-diethyl-2-(1-naphthalenyloxy)propanamide

Chemical Family: Amide

Case Number: 2450

CAS Registry Number: 15299-99-7

OPP Chemical Code: 103001

Molecular weight: 271.4

Empirical Formula: C₁₇H₂₁NO₂

Basic Manufacturers: United Phosphorus Inc.

Table 1: Physicochemical Properties of Napropamide

Parameter	Value
Melting point	68-70 °C
pH	8.9 at 22 °C
Density, bulk density, or specific gravity	0.584 g/mL at 22 °C
Water solubility	74 mg/L at 25 °C
Solvent solubility at 20 °C	Miscible with acetone, chlorobenzene, ethanol, and dichloromethane 4.5 g/100 mL in kerosene 17.7 g/100 mL in n-octanol 55.5 g/100 mL in xylene
Vapor pressure	1.7 x 10 ⁻⁷ torr or 2.3 x 10 ⁻⁵ Pa at 25 °C
Dissociation constant, pK _a	Not applicable; napropamide is neither an acid nor a base.
Octanol/water partition coefficient	2.1 x 10 ³ (log K _{ow} = 3.3)
UV/visible absorption spectrum	Neutral (201.8 nm): A=1.1144, ε = 58560mol ⁻¹ Acidic (215nm): A=1.1198, ε=58844mol ⁻¹ cm ⁻¹ Basic: unstable in alkaline solution

C. Use Profile

The following is information on the currently registered uses, including an overview of use sites and application methods.

Type of Pesticide: Herbicide

Target organism(s): Napropamide is registered to control numerous broadleaf weeds and annual grasses.

Mode of action: Napropamide controls weeds by preventing root cell elongation, thus disrupting the growth process during germination.

Use Sites:

Food uses:

- Berries/small fruit (blackberry, boysenberry, loganberry, raspberry, blueberry, strawberry, cranberry, currant, grape)
- Brassica and leafy vegetables (broccoli, Brussels sprouts, cabbage, cauliflower, asparagus)
- Citrus (grapefruit, lemon, orange, tangerine, tangelo)
- Fruiting vegetables (eggplant, pepper, tomato)

- Nuts (almond, pistachio, pecan, filbert, walnut)
- Pome Fruit (apple, pear)
- Stone Fruit (apricot, cherry, nectarine, peach, plum, prune)
- Tropical Fruit (kiwi, persimmon, avocado, pomegranate)
- Additional Crops (artichoke, fig, mint, olive, rhubarb, sweet potato)

Non-Food, Greenhouse & Residential Uses:

- Tobacco
- Trees/Ornamentals (conifer, shade tree, ornamental tree, ground cover, herbaceous, plants, woody shrubs, vines, lawns, turf, potting soil)

Use Classification: General Use Pesticide

Formulation Types: Napropamide is formulated as dry flowable, granular and liquid formulations.

Application Methods: Aerial application, ground boom, hand-held sprayers, granular application equipment, and chemigation equipment.

Application Rates: Napropamide is applied at rates between 2 and 6 pounds active ingredient per acre (lbs a.i./A) on all crops/sites except cranberries, where applications at up to 15 lbs a.i./A are allowed. Aerial applications are allowed for cranberries only. Applications for all other uses are made using ground equipment, including groundboom and hand-held sprayers, granular application equipment, and chemigation equipment.

Application Timing: Timing ranges across different stages of plant development in both agricultural and ornamental plant settings.

D. Estimated Usage of Pesticide

Table 2 below summarizes the best available estimates for the pesticide usage of napropamide with “screening level” usage data for agricultural crops. This information was retrieved from EPA’s principal pesticide usage databases using current estimates. In addition, this table reflects only the highest usage sites. Based on Agency data, the average total annual domestic usage of napropamide was approximately 368,000 pounds. The predominant usage is in California. The highest usage, by crop, is on cranberries with 30% crop treated.

Table 2: Napropamide Crop Usage Summary

Crop	Lbs. A.I.	% Crop Treated
Cranberries	50,000	30
Strawberries	30,000	15

Crop	Lbs. A.I.	% Crop Treated
Tomatoes	60,000	10
Peppers	20,000	15
Tobacco	40,000	10
Eggplant	<500	10

III. Summary of Napropamide Risk Assessment

The purpose of this summary is to assist the reader by identifying the key features and findings of these risk assessments, and to help the reader better understand the conclusions reached in the assessments. The human health and ecological risk assessment documents and supporting information listed in **Appendix C** were used to reach the safety finding and regulatory decision for napropamide. While the risk assessments and related addenda are not included in this document, they are available from the OPP Public Docket OPP-2004-0162 and may be accessed on the Agency's website at <http://epa.gov/edockets>. Paper copies of these documents may be found in the OPP Public Docket under the above docket number. The OPP public docket is located in Room 119, Crystal Mall II, 1801 South Bell Street, Arlington, VA, and is open Monday through Friday, excluding Federal holidays, from 8:30 a.m. to 4:00 p.m.

A. Human Health Risk Assessment

EPA released its preliminary risk assessments for napropamide for public comment on March, 16, 2005 (Phase 3 of the public participation process). During the public comment period, the registrant (United Phosphorus, Inc.) proposed reducing the maximum application rate for cranberries. United Phosphorus also indicated that the company will not support existing tolerances for cucurbit vegetables and coffee. The changes proposed by the registrant would result in lower estimates of dietary and non-dietary exposure to napropamide. However, because the estimated risks based on the Agency's previous exposure assessments are well below EPA's level of concern, a revised risk assessment reflecting the proposed changes is not warranted and has not been conducted.

1. Toxicity of Napropamide

The available toxicity data on napropamide are adequate to assess the chemical's hazard potential. The most common effect in animal studies (dogs, mice and rats) from long-term oral exposure was a decrease in body weight or body weight gain, with females being more sensitive than males to effects on body weight. Technical napropamide has low acute toxicity (category III/IV) via the oral, dermal and inhalation routes of exposure. It is moderately irritating to the eye (category II) but does not cause skin irritation or dermal sensitization.

Further details on the toxicity of napropamide can be found in the "*Napropamide: Revised HED Chapter of the Reregistration Eligibility Decision (RED)*," dated February 23, 2005 .

a. Acute Toxicity Profile

Table 3 below lists the acute toxicity categories for the different routes of exposure.

Table 3: Acute Toxicity Data for Napropamide

Guideline No.	Study Type	MRID(s)	Results	Toxicity Category
870.11	Acute oral [rat]	40362902	LD ₅₀ = >5000 mg/kg	IV
870.12	Acute dermal [rabbit]	40362902	LD ₅₀ = >2000 mg/kg	III
870.13	Acute inhalation [rat]	42231501	LC ₅₀ = >4.8 mg/L	IV
870.24	Acute eye irritation [rabbit]	40362902	moderate	II
870.25	Acute dermal irritation [rabbit]	40362902	none	IV
870.26	Skin sensitization [guinea pig]	40362903	negative	Nonsensitizing

b. Developmental & Reproductive Toxicity/FQPA Safety Factor

The Federal Food Drug and Cosmetic Act (FFDCA) as amended by the Food Quality Protection Act (FQPA) directs the Agency to use an additional tenfold (10X) safety factor to take into account potential pre- and post-natal toxicity and completeness of the data with respect to exposure and toxicity to infants and children. FFDCA authorizes the Agency to modify the tenfold safety factor only if reliable data demonstrate that the resulting level of exposure would be safe for infants and children.

Napropamide did not cause developmental toxicity in fetuses from either rats or rabbits and did not adversely affect reproductive parameters in rats over three generations. There is no quantitative or qualitative evidence of increased susceptibility of rat or rabbit fetuses after *in utero* and/or postnatal exposure to napropamide in the developmental and reproduction studies. Dose-response relationships are well-characterized and clear NOAELs/LOAELs have been identified for the critical effects. No evidence of neurotoxicity was observed in any study. Based on the weight of evidence, a developmental neurotoxicity (DNT) study is not required for napropamide, and adequate chemical specific data, surrogate data, and modeling outputs are available to assess dietary and residential exposures. EPA has high confidence that results do not under estimate exposure. Therefore, the special FQPA safety factor can be reduced to 1X.

c. Carcinogenicity

No evidence for carcinogenicity was seen in mice or rat studies. Napropamide has been classified a Group "E" carcinogen (no evidence of carcinogenicity). Therefore, a cancer assessment was not conducted.

d. Endocrine Effects

EPA is required under the FFDCA, as amended by FQPA, to develop a screening program to determine whether certain substances (including all pesticide active and other ingredients) “may have an effect in humans that is similar to an effect produced by a naturally occurring estrogen, or other such endocrine effects as the Administrator may designate.” Following recommendations of its Endocrine Disruptor and Testing Advisory Committee (EDSTAC), EPA determined that there was a scientific basis for including, as part of the program, the androgen and thyroid hormone systems, in addition to the estrogen hormone system. EPA also adopted EDSTAC’s recommendation that the Program include evaluations of potential effects in wildlife. For pesticide chemicals, EPA will use FIFRA and, to the extent that effects in wildlife may help determine whether a substance may have an effect in humans, FFDCA authority to require the wildlife evaluations. As the science develops and resources allow, screening of additional hormone systems may be added to the Endocrine Disruptor Screening Program (EDSP).

In the available toxicity studies on napropamide, there was no estrogen, androgen, and/or thyroid mediated toxicity. Future testing with appropriate screening and/or testing protocols could better characterize effects related to endocrine disruption.

e. Toxicological Endpoints for Risk Assessment

The toxicological endpoints used in the human health risk assessment for napropamide are listed in Table 4. The safety factors used to account for interspecies extrapolation, intraspecies variability and the FQPA safety factor are also described in Table 4. No toxicological endpoint was selected for the acute dietary exposure scenario, since an endpoint attributable to a single exposure was not identified from the available database. Therefore, no acute dietary assessment was performed.

Table 4: Summary of the Toxicology Endpoint Selection

Chronic Dietary Endpoint			
Exposure Scenario	Dose & Uncertainty Factors	Endpoint	Study
Chronic Dietary	NOAEL=12 mg/kg/day	Decreased weight gain in females and an increased incidence of liver lesions in males at a LOAEL of 48/55 mg/kg/day (m/f)	Rat Chronic/Oncogenicity Study. MRID Nos. 42189102 & 43068801
	UF = 100x FQPA Safety Factor = 1x	Chronic PAD = 0.12 mg/kg/day	

Exposure Scenario	Dose & Uncertainty Factors	Endpoint	Study
Incidental Oral Short-Term (1-30 days) & Incidental Oral Intermediate (1-6 month)	NOAEL = 30 mg/kg/day	Based on decreased body weight in adult females, adult males, and pups at a LOAEL = 100 mg/kg/day	Reproductive Toxicity - Rat. MRID No. 92125069
	UF = 100x FQPA Safety Factor = 1x	MOE of Concern = 100	
Inhalation Short-Term (1-30 days) & Inhalation Intermediate-Term (1-6 months)	Oral Study NOAEL = 30 mg/kg/day (Inhalation absorption rate=100%)	Based on decreased body weight in adult male, adult female, and pups at a LOAEL = 100 mg/kg/day	Reproductive Toxicity - Rat. MRID No. 92125069
	UF = 100x FQPA Safety Factor = 1x	MOE of Concern = 100	
Cancer (oral, dermal, inhalation)	Classification: No evidence of Carcinogenicity		

2. Dietary Exposure and Risk from Food and Drinking Water

a. Exposure Assumptions (Food)

The chronic dietary exposure and risk analysis for napropamide was conducted using the Lifeline™ Model Version 2.0, which uses food consumption data from the United States Department of Agriculture’s (USDA’s) Continuing Surveys of Food Intakes by Individuals (CSFII) from 1994-1996 and 1998. In this analysis, the chronic dietary exposure and risk estimates resulting from food intake were determined for the general U.S. population and various population subgroups. The chronic analysis assumed 100% crop treated and tolerance-level residues (Tier 1) for all commodities. As such, this is considered an unrefined assessment (Tier 1).

b. Exposure Assumptions (Drinking Water)

The Tier II screening models, Pesticide Root Zone Model and Exposure Analysis Modeling System (PRZM-EXAMS), with the Index Reservoir and Percent Crop Area adjustment (IR-PCA PRZM/EXAMS), were used to estimate napropamide residues in surface water used for drinking water.

Estimated ground water concentrations are based on the Screening Concentration in Ground Water (SCI-GROW) model, which is a Tier 1 assessment that provides a high-end estimate. The SCI-GROW model generates a single Estimated Drinking Water Concentration

(EDWC) value of pesticide concentration in ground water used for drinking water and provides a ground water screening concentration for use in determining potential risk to human health from drinking water contaminated with a pesticide.

Napropamide is persistent but not particularly mobile, and therefore, is not expected to pose a significant risk of ground water contamination. Surface water contamination is possible through run-off from treated fields. Estimated concentration from napropamide in ground water is 4.5 ppb. From the original drinking water assessment (“*Drinking Water Assessment for Napropamide for Terrestrial Uses*”, dated August 17, 2004), the estimated concentration is 0.5 ppb in surface water. The highest estimated chronic drinking water concentration (4.5 ppb) from ground water modeling was used for the dietary analysis.

In a memo, “*Revised Drinking Water Assessment for Napropamide*” dated November 12, 2004, the Agency revised the chronic estimate for surface water (5.1 ppb). The revised chronic surface water estimate of 5.1 ppb is slightly higher than the drinking water estimate used in this assessment (4.5 ppb); however, because of the minimal impact the revised estimate would be expected to have on overall dietary (and aggregate) risk, the Agency determined that a new dietary assessment was not warranted.

c. Population Adjusted Dose

Chronic dietary risk is calculated by using the average consumption values for foods and average residue values on those foods. A risk estimate that is less than 100% of the chronic Population Adjusted Dose (cPAD) (the dose at which an individual could be exposed over the course of a lifetime and no adverse health effects would be expected) is below the Agency’s level of concern. An uncertainty factor of 100x was applied to the chronic dietary assessment for inter- and intraspecies variations, and the FQPA safety factor was reduced to 1x as discussed in the dietary risk section.

d. Chronic Dietary Risk Estimates

The Tier 1 chronic dietary assessment indicates that the combined exposure to napropamide from food and water is well below the Agency’s level of concern, with estimated exposures representing <2% of the cPAD for the U.S. population and all population subgroups, including infants and children. Please note that this is a Tier 1 assessment; and therefore, risks are considered to be upper end estimates.

3. Residential Exposure and Risk

Residential exposure assessment considers all potential non-occupational pesticide exposures, other than exposure due to residues in foods or in drinking water. Exposure may occur during and after application on lawns and turf and ornamental plants. Each route of exposure (oral, dermal, inhalation) is assessed, where appropriate, and risk is expressed as a

Margin of Exposure (MOE), which is the ratio of estimated exposure to an appropriate No Observed Adverse Effect Level (NOAEL) dose. Napropamide products are marketed for homeowner use on residential lawns and landscape ornamental plants. Napropamide containing products are also marketed for use by professional applicators (Lawn Control Operators [LCOs]) on residential turf, golf courses, other turf such as recreational/commercial areas, and on ornamental plantings. Based on these uses, napropamide has been assessed for the residential mixing/loading/applicator (or “handler”) exposure and for children’s post-application exposure that may occur from turf contact and hand-to-mouth transfer.

Further details on residential exposure and risk of napropamide can be found in the “*Napropamide: Revised HED Chapter of the Reregistration Eligibility Decision (RED)*”, dated February 23, 2005 and, “*Napropamide: Revised Occupational and Residential Exposure Assessment and Recommendations for the Reregistration Eligibility Decision Document*” dated February 20, 2005.

a. Residential Exposure & Duration

Short-or intermediate-term dermal exposures or risks were not assessed for napropamide, since an appropriate dermal toxicological endpoint was not identified. EPA assessed short-term inhalation exposure for handlers and short-term incidental oral postapplication exposure for children in treated areas. Since exposure scenarios for napropamide are only considered to be short-term in nature due to the episodic use patterns, EPA does not anticipate long-term exposures. Therefore, no long-term dermal or inhalation exposures or risks were assessed. The toxicological endpoints used for the residential risk assessment are provided in the Table 4.

b. Residential Handler

1. Exposure Scenarios, Data, and Assumptions

There is a potential for exposure in residential settings during the application process for homeowners who use products containing napropamide. Homeowner-use products are available in granular form. Napropamide can be applied by hand or by using shaker cans, push-type spreaders, and belly grinders. A number of standard assumptions, such as adult body weight and area treated per application, are made by the Agency for residential risk assessment. Also, note that residential handlers are addressed somewhat differently than occupational handlers in that homeowners are assumed to complete all elements of an application (mix/load/apply) without use of protective equipment (assessments are based on an assumption that individuals will be wearing short pants, short-sleeved shirts, shoes and socks). This is to ensure that EPA does not underestimate potential risks.

The quantitative exposure/risk assessment developed for residential handlers is based on these scenarios:

- (1) Applying granulars by hand application
- (2) Applying granulars with a shaker can
- (3) Loading/applying granulars with a belly grinder application
- (4) Loading/applying granulars with a push type spreader application

Chemical-specific data to assess the above exposure scenarios were not submitted to the Agency in support of reregistration. Instead, exposure estimates for these scenarios are derived from the Pesticide Handlers Exposure Database (PHED, Version 1.1 August 1998) which is used to assess handler exposures when chemical-specific monitoring data are not available. In addition to PHED data, this risk assessment relies on data from the Outdoor Residential Exposure Task Force (ORETF) and proprietary studies.

The following assumptions were used in the exposure calculations:

- Maximum application rates allowed by labels were used to conduct the risk assessment.
- Residential risk assessments calculations were based on what would reasonably be treated by homeowners such as the size of a lawn, or the size of a garden.

c. Residential Handler Risk Estimates

A Margin of Exposure (MOE) greater than or equal to 100 (10x for interspecies extrapolation and 10x for intraspecies variation) is considered adequately protective for this assessment. As noted above, only handler inhalation risks were assessed since no appropriate dermal endpoint was identified in the toxicity database for napropamide. The estimated risks for all scenarios do not exceed the Agency’s level of concern for inhalation risk assessments. The MOEs ranged from 28,000 to 190,000.

Table 5: Napropamide Short-Term Residential Handler Risk

Exposure Scenario	Crop or Target	Application Rate (lb ai/unit)	Amount Handled Daily	Inhalation Dose (mg/kg/day)	Inhalation MOE
Mixer/Loader/Applicator					
Applying Granulars for Hand application (1)	ornamentals	6	0.023	0.0011	28000
Applying Granulars for Shaker can application (2)	ornamentals	6	0.023	0.0011	28000
Loading/Applying Granulars for Belly Grinder application (3)	turf	3	0.5	0.0016	19000
Loading/Applying Granulars for Push-type spreader application (4)	turf	3	0.5	0.00016	190000

d. Residential Post-application Risk

Different segments of the population, including toddlers and adults, can be exposed to napropamide by various activities in a residential setting. The scenarios chosen in the risk assessment represent these activities, and are considered to represent upper-end estimates of

exposure. For the purpose of this assessment, it was assumed that both children and adults may be exposed following applications of napropamide to treated areas, with toddlers having the greatest potential exposure. An MOE of 100 (or more) is below the Agency's level of concern for this assessment.

The Standard Operating Procedures for Residential Exposure Assessment define several scenarios that apply to uses specified in the current napropamide labels. The Agency used this guidance to define the toddler exposure scenarios included in this post-application exposure assessment.

The quantitative exposure/risk assessment for post-application risk to children is based on these scenarios:

- *Hand-to-mouth transfer from treated turf:* Post-application exposure to children from the "incidental" ingestion of pesticide residues on treated turf from hand-to-mouth transfer (i.e., those residues that end up in the mouth from children touching turf and then putting their hands in their mouth).
- *Object-to-mouth transfer from treated turf:* Post-application exposure to children from incidental ingestion of pesticide residues on treated turf from object-to-mouth transfer (i.e., those residues that end up in the mouth from a child mouthing objects that contact of treated turf).
- *Soil ingestion activity:* Post-application exposure to children from incidental ingestion of soil in a treated area.

Inhalation risks were not assessed for postapplication scenarios because inhalation exposure is considered negligible given the low vapor pressure of napropamide. As noted above, no appropriate dermal endpoint was identified. Therefore, only incidental oral exposures were assessed.

Napropamide may be applied as granular product to turf, and episodic ingestion of these granules by children may occur which would be considered on acute exposure. An episodic granular ingestion assessment for children was not performed since no acute dietary endpoint of concern was identified for napropamide.

e. Post-application Risk Estimates

For napropamide, MOEs greater than or equal to 100 do not exceed the Agency's level of concern. This incorporates the standard uncertainty factors of 10x for interspecies variability and 10x for intraspecies variability. Risks were calculated for incidental oral hand-to-mouth, object to mouth and soil ingestion pathways. The estimated short term total MOE is 265, and risk is, therefore, below EPA's level of concern.

Table 6: Short-Term (Aggregate) Napropamide Residential Scenarios for Post-Application Risk Estimates

Exposure Scenario		Margins of Exposure (MOEs) (UF=100)			
		Dermal	Oral (Non-Dietary)	Total Non-Dietary Risk ^a	
Short-term Exposures					
Toddler	Turf: 6 lb ai/A	Hand to Mouth	N/A	335	265
		Object to Mouth	N/A	1340	
		Incidental Soil Ingestion	N/A	10000	

4. Aggregate Exposure and Risk

The Food Quality Protection Act amendments to the Federal Food, Drug, and Cosmetic Act (FFDCA, Section 408(b)(2)(A)(ii)) require “that there is a reasonable certainty that no harm will result from aggregate exposure to pesticide chemical residue, including all anticipated dietary exposures and other exposures for which there is reliable information.” Aggregate exposure will typically include exposures from food, drinking water, residential uses of a pesticide, and other non-occupational sources of exposure.

A toxicological endpoint of concern attributable to a single dose has not been identified for napropamide. Therefore, an acute aggregate risk assessment has not been conducted. Intermediate term exposure durations are not expected for napropamide use pattern. Therefore, an intermediate aggregate assessment has not been conducted.

a. Short-Term Aggregate Risk

Short-term aggregate exposure takes into account residential exposure plus average exposure levels from residues of napropamide in food and water. The MOE level of concern for short-term aggregate risk is 100. Since the estimated short-term aggregate risk MOE for the most highly sensitive population (children 1 to 2 years old) is 260, short-term aggregate risk is below EPA’s level of concern for napropamide.

Table 7: Napropamide Short-Term Aggregate Risk

Population	Short -Term Scenario					
	NOAEL mg/kg/day	Level of Concern	Max Exposure mg/kg/day	Average Food + Water Exposure mg/kg/day	Residential Exposure mg/kg/day	Aggregate MOE (food and residential)
Children, 1- 2 yrs. old	30	MOE ≤100	0.3	0.00222	0.113	260

b. Chronic Aggregate Risk

The chronic aggregate risk assessment considered exposures from food and water only because there are no residential uses expected to result in chronic exposures for this chemical.

The chronic aggregate risk estimates for the U.S. population and all subgroups are < 2% of the cPAD and, therefore, below the Agency's level of concern.

5. Cumulative Risk

Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to napropamide and any other substances, and napropamide does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has assumed that napropamide does not share a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism of EPA's website at <http://www.epa.gov/pesticides/cumulative/>.

6. Occupational Risk

Workers can be exposed to a pesticide through mixing, loading, and/or applying a pesticide, or re-entering treated sites. Occupational handlers of napropamide include workers in agricultural areas and workers applying napropamide on ornamental plants. Occupational risk for all of these potentially exposed populations is measured by a Margin of Exposure (MOE) which determines how close the occupational exposure comes to a No Observed Adverse Effect Level (NOAEL). In the case of napropamide, risk estimates resulting in MOEs greater than 100 do not exceed the Agency's level of concern.

Occupational risk is assessed for exposure at the time of application (termed "handler" exposure) and exposure following application (termed post-application exposure). Application parameters are generally defined by the physical nature of the formulation (e.g., formula and packaging), the equipment required to deliver the chemical to the use site, and the application rate required to achieve an efficacious dose. Post-application risk is assessed for activities such as scouting, irrigating, pruning, and harvesting and is based primarily on dermal exposure estimates.

For more information on the assumptions and calculations of potential risk of napropamide to workers, see the "*Napropamide: Revised Occupational and Residential Exposure Assessment*" dated February 20, 2005.

a. Occupational Toxicity

No short- or intermediate-term occupational dermal endpoint of concern was identified for napropamide. The short and intermediate-term occupational inhalation endpoint of concern exposure was selected from a reproduction study in rats. A profile of the toxicity and endpoints for napropamide is outlined above in Table 4.

b. Occupational Handler Exposure

Occupational handler risk estimates have been assessed for both short- and intermediate-term exposure durations. Napropamide exposures may occur over a single day or up to two weeks at a time. For many use-patterns intermittent exposures over several weeks also may occur. However, long-term (i.e., > 6 months) handler exposures are not expected.

Occupational handler assessments are conducted using increasing levels of protection. The Agency typically evaluates all exposures with minimal or baseline protection and then considers additional protective measures using a tiered approach (going from minimum to maximum levels of protection) until predicted risks are below EPA's level of concern. In the case of napropamide, MOEs for every occupational exposure scenario are above 100 at baseline PPE (long-sleeved shirt, long pants, socks, and shoes). While the generic assessment for napropamide does not indicate a need for additional PPE, evaluation of end-use product toxicity data may require additional protection. End-use product PPE will be determined on a product-by-product basis.

c. Occupational Handler Risk Summary

The Agency has determined that there are potential exposures to workers who mix, load, apply, and otherwise handle napropamide consistent with the usual napropamide use patterns. Fifteen major occupational handler exposure scenarios were identified as follows:

- (1) mixing/loading dry flowables for groundboom applications;
- (2) mixing/loading dry flowables for chemigation application;
- (3) mixing/loading granulars for tractor-drawn spreaders applications;
- (4) mixing/loading granulars for aerial applications;
- (5) mixing/loading liquids for chemigation application;
- (6) mixing/loading liquids for groundboom application;
- (7) mixing/loading liquids for high-pressure handwand application;
- (8) applying sprays for groundboom application;
- (9) applying sprays for high-pressure handwand application;
- (10) applying granulars with a tractor-drawn spreader;
- (11) applying granulars for aerial application;
- (12) loading/applying granulars for belly-grinder applications;
- (13) loading/applying granulars for push-type spreader application;
- (14) mixing/loading/applying liquid for handgun (lawn) application;
- (15) flagging for granular application.

Occupational Handler Exposure Assumptions and Data

Chemical-specific data to assess the exposure scenarios were not available for napropamide. Analyses were completed using acceptable surrogate exposure data. Several handler assessments were completed using data from the Pesticide Handler Exposure Database (PHED version 1.1). Some handler assessments (i.e., handheld handgun equipment, push-type spreader) were completed using data from the Outdoor Residential Exposure Task Force (ORETF).

The following assumptions and factors were used:

- The average body weight of an adult female handler (i.e., 60 kg) is used to complete the risk assessment.
- Risk are assessed at maximum label rates.
- The occupational workday was 8 hours.
- The daily treatment areas treated are defined for each handler scenario by determining the amount that can be reasonably treated in a single day.

d. Occupational Handler Risk Estimates

Short- and intermediate-term inhalation Margin of Exposure estimates for occupational handler scenarios are greater than 100 at the baseline level of protection (i.e., long-sleeved shirt, long pants, shoes plus socks, no respirator). Short- and intermediate-term inhalation MOEs range from 200 to more than 33,000. Therefore, short- and intermediate-term occupational risks are not of concern.

e. Occupational Post-application Risk

Since no dermal endpoint has been identified for systemic toxicity, and post-application inhalation exposure is expected to be negligible, no occupational post-application exposure and risk assessment is warranted.

7. Human Incident Data

Relatively few incidents of illness have been reported due to napropamide. However, it appears to be irritating to eyes and skin and has been associated with difficulty breathing when used in enclosed spaces. The following data bases have been consulted for the poisoning incident data on the active ingredient napropamide.

The Agency's Incident Data System (IDS) contains reports of incidents from various sources since 1992. These reports represent anecdotal reports or allegations only, unless otherwise stated. Typically no conclusions can be drawn implicating the pesticide as a cause of

the reported health effect. In the case of napropamide, IDS reported 2 incidents. One user accidentally ingested the product and reportedly had symptoms of oral burns, laryngeal swelling, and excess secretions. The other user was exposed working in a greenhouse and had difficulty breathing and pain in the chest. No further information on the disposition of either case was reported.

A total of six exposures were reported to Poison Control Centers for the nine year period 1993-2001. Three of these cases reported minor symptoms, primarily dermal irritation. 20 cases were reported to the California Pesticide Illness Surveillance Program (1998-2002). In nine of these cases, napropamide was determined to be the primary cause of illness. The principle symptoms reported involved irritation of the eyes.

For the National Institute of Occupational Safety and Health, out of the 4,221 reported cases from 1998-2002, just two involved napropamide alone. In a Florida case, the worker splashed napropamide on himself and developed blisters. A Texas case reported a user having difficulty breathing when using napropamide in an enclosed area. Both cases were considered probable with no more than moderate severity.

No recommendations are being made on napropamide incidents, based on the very limited data available for this pesticide.

B. Environmental Risk Assessment

A summary of the Agency's environmental risk assessment for napropamide is presented below. More detailed information associated with the environmental risk from the use of napropamide can be found in the "*EFED Risk Assessment for the Napropamide Reregistration Eligibility Document*, dated August 15, 2005. In a memorandum entitled "*EFED RED Chapter for Napropamide Chronic Risk Recalculation for Mammals*" dated September 21, 2005, the Agency corrected a toxicity endpoint that resulted in lower chronic mammal RQs. However, this change had little impact on the ecological risk conclusion. This RED reflects the changes outlined in the memo. The complete environmental risk assessment and the memo mentioned above may be accessed in the OPP Public Docket OPP-2004-0162 and on the Agency's website at <http://www.epa.gov/pesticides/reregistration/status.htm>.

1. Environmental Exposure

a. Environmental Fate and Transport

The environmental hazard and fate database is sufficient to characterize the environmental risks associated with napropamide use. However, EPA intends to issue a DCI following this RED to require submission of additional data for napropamide to address areas of uncertainty. These data are expected to confirm the conclusions of this environmental risk assessment and the Agency's reregistration eligibility decision.

Based on laboratory studies, it is expected that napropamide will be persistent in the terrestrial environment resulting in the potential for the chemical to reach the aquatic environment by runoff. Additionally, because laboratory metabolism studies demonstrate a half-life of approximately 446 days, there is a potential for napropamide to accumulate in the soil with repeated applications. However, field dissipation studies (where napropamide was soil incorporated in various countries) indicate much faster dissipation rates on the order of 17 to 24 days (US) 46 to 131 days (W. Germany), 15 to 51 days (Canada). Although napropamide can photodegrade in water, this route of degradation is expected to be slowed when soil incorporation occurs at time of application. In addition, any napropamide that reaches surface water will tend to partition to suspended soils and sediment, thereby reducing the amount available to undergo photolysis. Napropamide is not expected to be bioaccumulative. The major terminal degradate in terrestrial environments is carbon dioxide, but photodegradation in aquatic systems creates isomers of the parent compound.

Napropamide is expected to have moderate to low mobility in soil based upon batch equilibrium studies showing adsorption coefficient values between 3 to 15 ml/g. Adsorption of napropamide to soil increases with increasing clay content, organic carbon content, and pH. Napropamide is not expected to volatilize from dry soil surfaces based upon its vapor pressure of 1.7×10^{-7} mm Hg.

Napropamide photodegrades on soil with a half-life of 28 days. The major degradate is carbon dioxide. However, it is important to note that napropamide must be incorporated into the soil within one to 21 days of application in order to be efficacious; therefore, photodegradation on soil may not be a major route of dissipation.

In water, napropamide is expected to adsorb to suspended solids and sediment. Napropamide is stable to hydrolysis at pH 5, 7, and 9, but undergoes rapid direct photolysis in water with a half-life of 6.8 minutes for the parent compound napropamide. Identified degradates were Isomer I and Isomer II (propionamide). The two isomers also degrade rapidly, as the total residue (napropamide plus Isomers I and II) half-life in the photodegradation in water study was only 26 minutes. Because of light attenuation, aqueous photolysis will be an important pathway only in shallow, clear water bodies. Binding to suspended solids and sediment can also diminish the role photolysis plays in the degradation of napropamide. Neither volatilization from water nor bioconcentration are expected to be important fate processes.

b. Aquatic Organism Exposure

For exposure to aquatic fish and invertebrates, EPA considers surface water only, since most aquatic organisms are not found in ground water. Surface water models are used to estimate exposure to freshwater aquatic animals. The modeling results used in risk calculations for napropamide are detailed in the EFED chapter.

Unlike the drinking water assessment described in the human health risk assessment

section of this document, the ecological water resource assessment does not include the Index Reservoir (IR) and Percent-Crop Area (PCA) factor refinements. The IR and PCA factors represent a drinking water reservoir, not the variety of aquatic habitats, such as ponds adjacent to treated fields, relevant to a risk assessment for aquatic animals. Therefore, the EEC values used to assess exposure to aquatic animals are not the same as the values used to assess human dietary exposure from drinking water.

The Agency modeled surface water exposure using the Tier II Surface Water Computer model PRZM-EXAMS. Using PRZM-EXAMS, the Agency modeled a variety of crops where scenarios existed, use data were available, maximum application rates were highest, and geographical distribution of the crops were covered. Because the label does not specifically require soil incorporation at the time of application, EECs in the aquatic environment were determined assuming both soil incorporation and no soil incorporation at the time of application. The modeled surface water scenarios addressed the geographical distribution of specific crops in the US and the associated weather extremes. For example, citrus was modeled both in California and Florida, and apples were modeled in Oregon, North Carolina and Pennsylvania. Berries (e.g. blackberries and raspberries) were modeled in Oregon (Pacific Northwest). Pecans were modeled in Georgia, which created the highest estimates of water concentrations (See Table 8). EPA modeled cranberries based on a model designed to evaluate water concentrations for rice. See the EFED risk assessment for a complete listing of scenarios which were modeled. The resulting estimated environmental concentrations (EECs) from PRZM-EXAMS are presented in the table below

Table 8: Estimated Environmental Concentrations (EECs) of Napropamide in Surface Water

Crop/Scenario	EECs of Napropamide in Surface Water (ppb)		
	Peak	21-day Average	60-day Average
GA Pecan (6 lbs ai/A x1)	209.4	17.8	6.7
GA Pecan (4 lbs ai/A x 2)	156	12.1	4.7
GA Pecan (2 lbs ai/A x 1) Banded	69.7	5.9	1.6
GA Pecan (1 lbs ai/A x 2) Banded	52.3	4.0	1.6

c. Terrestrial Organism Exposure

The Agency assessed exposure to terrestrial organisms by first predicting the amount of napropamide residues found on animal food items and then by determining the amount of pesticide consumed by using information on typical food consumption by various species. Terrestrial wildlife exposure estimates are typically calculated for birds and mammals,

emphasizing a dietary exposure route for uptake of pesticide active ingredients. These exposures are considered as surrogates for terrestrial-phase amphibians as well as reptiles. For exposures to terrestrial organisms, such as birds and mammals, pesticide residues on food items are estimated based on the assumption that organisms are exposed to a single pesticide residue in a given exposure scenario. The application methods for napropamide are ground applications only (ground spray, chemigation, and granular broadcast). Because the label does not require immediate soil incorporation at the time of application (up to 3 weeks), EECs in the terrestrial organisms were determined assuming both soil incorporation and no soil incorporation at the time of application.

Granular Applications

Napropamide is applied to crops in granular form. Birds may be exposed to granular pesticides by ingesting granules when foraging for food or grit. However, an avian risk assessment was not performed for napropamide because the avian toxicity profile showed that napropamide is not toxic to birds. Mammalian species may be exposed by walking on exposed granules or drinking water contaminated by granules. However, EPA does not currently assess chronic risks to mammals from granular applications because the Agency assumes that granular formulations disperse and disintegrate over a short period of time.

Spray Applications and Residues

For napropamide spray applications, estimation of pesticide concentrations in wildlife food items focuses on quantifying possible dietary ingestion of residues on vegetative matter and insects. The residue estimates are based on a nomogram that relates food item residues to pesticide application rate. The estimated environmental concentrations (EECs) are generated from a spreadsheet-based model (T-REX) that calculates the decay of a chemical applied to foliar surfaces for single or multiple applications.

The terrestrial exposure assessment is based on the methods of Hoerger and Kenaga (1972) as modified by Fletcher *et al.* (1994). Terrestrial EECs for liquid formulations were derived for representative major crops using current application rates and intervals between applications where applicable.

The EECs on food items may be compared directly with dietary toxicity data (as is the case for birds - acute and chronic RQ calculations; chronic RQ calculations for mammals) or converted to an oral dose (as is the case for and small mammals). The screening-level risk assessment for napropamide uses upper bound predicted residues as the measure of exposure. The predicted maximum residues of napropamide that may be expected to occur on selected avian or mammalian food items immediately following application are presented in table 9.

Table 9: Upper Bound EECs of Napropamide on Mammalian Food Items

Application rate	Estimated Environmental Concentration (EEC) (ppm)			
	Short grass	Tall grass	Broadleaf plants/small insects	Fruits/pods/large insects
6 lbs ai/A x 1 (broadcast)	1140	660	810	90
6 lbs ai/A x 1 (banded)	480	220	270	30
4 lbs ai/A x 2 (broadcast)	1253	574	705	78
4 lbs ai/A x 1 (broadcast)	960	440	540	60
3 lbs ai/A x 2 (broadcast)	939	431	528	59
2 lbs ai/A x 2 (broadcast)	480	220	270	30
2 lbs ai/A x 1 (banded)	160	73	90	10
1.33 lbs ai/A x 2 (banded) ^a	137	64	78	9
1 lbs ai/A x 1 (broadcast) ^b	240	110	135	15

^a Application interval of 60 days

^b Average napropamide use rate on tobacco

EECs for avian diets are not presented because napropamide is essentially non-toxic to birds.

d. Non-target Terrestrial Plant Exposure

Terrestrial plants in dry and semi-aquatic (wetland) areas may be exposed to pesticides from runoff and/or spray drift. EPA used the TERRPLANT model to estimate napropamide residues in areas adjacent to the treated field (sheet runoff), wetland areas (channelized runoff), and from spray drift.

Screening level TERRPLANT modeling uses the maximum single application rate of the different types of uses (orchards and vineyards at 6 lbs ai/A, vineyards at 6 lbs ai/A, and row crops at 2 and 4 lbs ai/A), as well as the lowest average napropamide use rate of 1 lb ai/A (tobacco). Napropamide products (both granular and liquid) specify incorporation by either wetting in or mechanical means. Consequently, the Agency modeled risk to terrestrial plants assuming incorporation of 2 to 4 inches of depth to bracket potential exposure. These depths are specified in labels as being minimum depths to incorporate applied napropamide. Incorporation to 4-inch depth resulted in slightly lowered EECs as compared to the 2-inch incorporation. Selected results are included in Table 10. For additional estimates, please see the environmental risk assessment.

Table 10: Napropamide Terrestrial Plant EECs for Non-Target Vascular Plants

Crop/ scenario	Form	Application	Adjacent Area Runoff	Wetland Area Runoff	Spray Drift
			ppb		
6 lbs ai./acre	Liquid	Ground Unincorp.	0.18	1.26	0.06
		Ground Incorp. (2 in.)	0.12	0.66	0.06
		Spray Chemigation	0.37	1.2	0.3
	Granular	Ground Unincorp	0.12	1.2	N/A
		Ground Incorp. (2 in.)	0.06	0.6	N/A
		Ground Incorp. (4 in.)	0.03	0.30	N/A
1.33 lbs ai/acre	Liquid	Ground Unincorp	0.04	0.28	0.01
		Ground Incorp. (2 in.)	0.03	0.15	0.01
		Spray Chemigation	0.08	0.23	0.07
	Granular	Ground Unincorp	0.03	0.30	N/A
		Ground Incorp. (2 in.)	0.013	0.13	N/A
		Ground Incorp. (4 in.)	0.007	0.07	N/A

2. Environmental Effects (Toxicity)

a. Toxicity to Aquatic and Terrestrial Organisms

Napropamide is classified as practically non-toxic to avian species on both an acute oral and subacute dietary basis; is practically non-toxic to mammalian species on an acute oral basis; is moderately toxic to freshwater fish; is slightly toxic to freshwater invertebrates; is slightly toxic to estuarine/marine fish; and is moderately toxic to estuarine/marine invertebrates.

Table 11: Summary of Napropamide Acute Aquatic Toxicity Data

Species	Acute Toxicity		Chronic Toxicity	
	LC ₅₀ or EC ₅₀ (mg ai/L)	MRID	LOAEC/NOAEC (mg/L)	MRID
Rainbow Trout <i>Oncorhynchus mykiss</i>	6.4	115313	1.9/1.1	464591-09
Water Flea <i>Daphnia magna</i>	14.3	88064 57805	2.2/1.1	464787-04
Sheepshead Minnow <i>Cyprinodon variegatus</i>	14	416102-06	NO DATA	NO DATA
Eastern Oyster <i>Crassostrea virginica</i>	1.4	416671-01	NO DATA	NO DATA
Mysid Shrimp <i>Americamysis bahia</i>	4.2	416102-07	NO DATA	NO DATA

Table 12: Summary of Napropamide Acute and Chronic Terrestrial Organism Toxicity Data

Species	Acute Toxicity				Chronic Toxicity		
	Oral Toxicity LD ₅₀ (mg ai/kg)	MRID	Subacute Dietary LC ₅₀ (mg ai/kg)	MRID	NOAEC (mg ai/kg)	MRID	Affected Endpoints
Mallard Duck <i>Anas platyrhynchos</i>	>4640	229652	>5620	258393 113820 ¹	1000	79548 and 79555 ¹	NA ²
Laboratory Rat <i>Rattus norvegicus</i>	>5000	230602	NA	NA	30	40362902	growth & reproduction
Honey Bee <i>(Apis mellifera)</i>	>113.5 ug ai/bee	464591- 15	NA	NA	NA	NA	NA

¹ Accession number

² The effect demonstrated on body weight was deemed not related to the toxicant effects of napropamide.

Table 13: Summary of Napropamide Most Sensitive Plant Toxicity Endpoints

Species	Toxicity		
	EC ₂₅ / EC ₀₅	NOAEC (ppm)	Affected Endpoint (MRID)
Green alga <i>Selenastrum capricornutum</i> (TGAI)	3.4 (ppm)	NA	Cell Density (416102-10)
Blue-green alga <i>Anabaema sp.</i> (TGAI)	EC ₅₀ = 3.4 EC ₅₀ = 1.8 (ppm)	5.05	Cell Density (464591-12)
Aquatic Vascular Plant <i>Lemna Minor</i> (TGAI)	EC ₅₀ = 0.35 EC ₅₀ = 0.036 (ppm)	0.071	Biomass (464591-11)
Terrestrial plants	2.1- 0.095 (lbs ai/A)	< 0.017	Percent emergence and dry weight

b. Ecological Risk Estimation (RQs)

The Agency’s ecological risk assessment compares toxicity endpoints from ecological toxicity studies to estimated environmental concentrations (EECs) based on environmental fate characteristics and pesticide use data. To evaluate the potential risk to non-target organisms from the use of napropamide products, the Agency calculates a Risk Quotient (RQ), which is the ratio of the EEC to the most sensitive toxicity endpoint values, such as the median lethal dose (LD₅₀) or the median lethal concentration (LC₅₀). These RQ values are then compared to the Agency’s levels of concern (LOCs), given in Table 14, which indicate whether a pesticide, when used as directed, has the potential to cause adverse effects on non-target organisms. When the RQ exceeds the LOC for a particular category (e.g., endangered species), the Agency presumes a risk of concern to that category. These risks of concern may be addressed by further refinements of the risk assessment or mitigation. Use, toxicity, fate, and exposure are considered when characterizing the risk, as well as the levels of certainty and uncertainty in the assessment. EPA further characterizes ecological risk based on any reported incidents to non-target terrestrial or aquatic organisms in the field (e.g., fish or bird kills).

Table 14: EPA’s Levels of Concern and Associated Risk Presumptions.

If RQ > LOC value given below.....			Then EPA presumes
Terrestrial Organisms	Aquatic Organisms	Plants	Risk Presumption
0.5	0.5	1	Acute Risk - there is potential for acute risk; regulatory action may be warranted in addition to restricted use classification.

If RQ > LOC value given below.....			Then EPA presumes
Terrestrial Organisms	Aquatic Organisms	Plants	Risk Presumption
0.2	0.1	N/A	Acute Restricted Use - there is potential for acute risk, but may be mitigated through restricted use classification.
0.1	0.05	1	Acute Endangered Species - endangered species may be adversely affected; regulatory action may be warranted.
1	1	N/A	Chronic Risk - there is potential for chronic risk; regulatory action may be warranted.

For a more detailed explanation of the ecological risks posed by the use of napropamide, refer to *EFED Risk Assessment for the Napropamide Reregistration Eligibility Document*, dated August 15, 2005.

1. Risk to Aquatic Organisms

Fish and Aquatic Invertebrates

Acute RQ values for estuarine/marine invertebrates were all ≤ 0.16 . The highest RQs were estimated for Florida citrus and Georgia pecan scenarios. No LOCs were exceeded for chronic risks to aquatic organisms based on limited data. EPA has determined that additional chronic toxicity data should be submitted because of the potential environmental persistence of napropamide which may cause chronic exposure to aquatic organisms.

Table 15: Acute Risk Quotients (RQ) for Estuarine/Marine Animals

Crop Scenario	Application	Estuarine/Marine Invertebrates RQ
FL Citrus	4 lbs ai/A x 2 (broadcast)	0.16
GA Pecan	4 lbs ai/A x 2 (broadcast)	0.111
	6 lbs ai/A x 1 (broadcast)	0.15

Aquatic Plants

RQs calculated for algae and non-listed aquatic vascular plants did not exceed EPA's level of concern for any uses of napropamide.

2. Risk to Non-target Terrestrial Organisms

Birds

Toxicity data classify napropamide as practically nontoxic to birds. Therefore, avian environmental dietary exposure to napropamide is not expected to cause significant acute and chronic risks to birds.

Mammals

Acute RQs for mammals were below the Agency’s level of concern. Chronic RQs exceeded LOCs for mammals of all weights assessed. The majority of exceedences occurred for scenarios that evaluate mammals feeding on short grass, tall grass, and broadleaf plants/small insects. However, a few exceedences were estimated for mammals that feed on fruits/pods/large insects when the higher application rates are considered.

Table 16: Mammalian Chronic RQ Values for Napropamide

Application rate	Mammalian Chronic Risk Quotients			
	Short grass	Tall grass	Broadleaf plants/small insects	Fruits/pods/large insects
6 lbs ai/A x 1(broadcast)	9.5 - 21	4.4 - 9.5	5.4 - 12	0.6 - 1.3
6 lbs ai/A x 1(banded)	3.2 - 6.9	1.5 - 3.2	1.8 - 3.9	0.2 - 0.4
4 lbs ai/A x 2 (broadcast)	8.3 - 18	3.8 - 8.3	4.7 - 10	0.5 - 1.1
4 lbs ai/A x 1(broadcast)	6.4 - 14	2.9 - 6.4	3.6 - 7.8	0.4 - 0.9
3 lbs ai/A x 2 (broadcast)	6.2 - 14	2.8 - 6.2	3.5 - 7.6	0.4 - 0.8
2 lbs ai/A x 1(broadcast)	3.2 - 6.9	1.5 - 3.2	1.8 - 3.9	0.2 - 0.4
2 lbs ai/A x 1(banded)	1.1 - 2.3	0.5 - 1.1	0.6 - 1.3	0.07 - 0.1
1.33 lbs ai/A x 2 (banded)	0.9 - 2.0	0.4 - 0.9	0.5 - 1.1	0.06 - 0.1
1 lb ai/A x 1 ³ (broadcast)	1.6 - 3.5	0.7 - 1.6	0.9 - 2.0	0.1 - 0.22

³Lowest average use rate (tobacco)
exceedances indicated in bold

Non-Target Insects

EPA currently does not routinely quantify risks to terrestrial non-target insects; therefore, risk quotients are not calculated for these organisms. Since napropamide is practically non-toxic to honey bees (LD₅₀ > 113.5 ug ai/bee) the potential for napropamide to have adverse effects on pollinators and other beneficial insects is low.

Non-target Terrestrial Plants

Terrestrial plant risks were evaluated by RQ calculation for seedling emergence for non-endangered terrestrial and wetland/riparian plants (monocot and dicot) from sheet and channelized run-off. Vegetative vigor risks were evaluated for non-endangered terrestrial and wetland/riparian plant (monocot and dicot) from spray drift calculations. The Agency's plant LOC of 1.0 was exceeded at all application rates evaluated (6, 4, 2, 1 lb and 1.33 ai/A) with dicots generally showing more sensitivity than monocots. RQs for plants in areas adjacent to treated fields exceeded LOCs at all modeled application rates at different depths of incorporation with RQs ranging up to 12.

For endangered species, wetland plant risks were identified at all application rates and application methods modeled, with one exception (1 lb ai/A liquid application, incorporated to 4 inches). Plant risks were identified under all scenarios for the highest application rates modeled (6 lbs ai/A and 4 lbs ai/A), with the exception of monocots exposed to granular applications incorporated to 4 inches.

For a complete listing of other rates, please refer to *EFED Risk Assessment for the Napropamide Reregistration Eligibility Document*, dated August 15, 2005

3. Ecological Incidents

EPA completed a review of the EIS database for ecological incidents involving napropamide. There were two reported incidents. The first incident involved adverse effects on fish (incident # 1000799-04). Napropamide and chlorpyrifos residues were identified in soil in the vicinity of a fish pond. The report deemed chlorpyrifos as a more probable reason for the incident than napropamide due to chlorpyrifos' high toxicity to fish. Napropamide is only slightly to moderately toxic to fish. The second incident report involved damage to seven acres of planted Douglas fir trees. The report concluded that napropamide was not likely the cause of the damage because it had only been applied once to the area. Oryzalin, which was used in the vicinity of the tree damage, was determined to be the likely cause of the damage; the oryzalin label specifically warns that it could damage Douglas fir trees.

4. Endangered Species Concerns

EPA's ecological risk assessment concludes that RQs did not exceed an acute LOC for direct effects (no effect) from uses of napropamide to the following listed species: insects, birds, terrestrial phase amphibians, reptiles, freshwater fish, aquatic phase amphibians, freshwater crustaceans and marine/estuarine fish. Further, RQs did not exceed a chronic LOC for direct effects (no effect) for: insects, birds, terrestrial phase amphibians, reptiles, freshwater fish, aquatic phase amphibians, and freshwater crustaceans. Based on EPA's screening level assessment and as noted below, RQs for napropamide exceed acute levels of concern for direct effects to endangered species of mammals, mollusks, marine/estuarine crustaceans, aquatic vascular plants and terrestrial and semi-aquatic plants (both dicots and monocots). RQs were also exceeded for

chronic direct effects to mammals. While there are no chronic data on which to assess the potential for chronic effects to mollusks, marine/estuarine fish and marine/estuarine crustaceans, chronic NOAECs could be estimated for marine/estuarine fish and crustaceans using acute to chronic ratios derived using acute and chronic rainbow trout and daphnia toxicity results. These estimates would indicate the potential for 21-day EEC's to exceed LOC's for chronic concerns.

The screening level assessment for napropamide resulted in acute endangered species risks RQs above EPA's level of concern for marine/estuarine mollusks under several scenarios including Florida citrus, Oregon filbert, Pennsylvania apple, North Carolina apple, Georgia pecan, Florida tomato, and Florida pepper. Listed species RQs for aquatic invertebrates exceeded the LOC in only one scenario for marine/estuarine crustaceans (Florida citrus, 4 lbs ai/A applied twice). Also, the LOC is exceeded for endangered vascular aquatic plants under several scenarios. Chronic mammalian RQ values exceeded the LOC on grasses, broadleaf plants, and small insects at all modeled rates. Listed wetland plant risks were identified at all application rates and application methods modeled, with one exception (1 lb ai/A liquid application, incorporated to 4 inches). In addition, listed terrestrial plant risks were identified under all scenarios for the highest application rates modeled (6 lbs ai/A and 4 lbs ai/A), with the exception of monocots exposed to granular applications incorporated to 4 inches. At lower application rates (2, 1.33, and 1 lb ai/A), exceedances occurred for listed terrestrial plants under most scenarios. Additionally, there is a potential for indirect effects on any listed species that is either dependent upon mammals and /or dependent upon terrestrial and semi-aquatic plants, aquatic vascular plants, mollusks, and marine/estuarine crustaceans and occurs within areas where exposure is sufficient to produce adverse effects on these species mammals and/or terrestrial plants.

5. Risk Characterization

The environmental risks for napropamide were based on a screening-level assessment to both terrestrial and aquatic environments from labeled uses of the chemical. The assessment was performed on geographic areas where the highest use rates and expected exposures are likely to occur. Results show some concerns for terrestrial and wetland/riparian plants (which are not unexpected due to the herbicidal nature of the compound), as well as some chronic risks to mammals. This is a screening-level assessment, and therefore, results should be considered conservative in nature. For example, upper-end risk values estimated in the assessment do not take into account some key cultural practices, such as banded applications, which greatly reduce the total amount of napropamide applied per acre. Also, this assessment does not account for the common technique of using plastic tarpaulins to cover the area directly below the crop to keep fruit and vegetables from contacting the soil. These tarpaulins likely reduce the extent of napropamide exposure to mammals following application of both granular and liquid formulations.

Additionally, where data were not available for evaluation, the Agency used conservative assumption values to calculate residue estimates for ecological assessment. Laboratory data indicated napropamide persistence, but field dissipation data from outside the United States,

indicated dissipation of approximately two months or less. Also, no foliar dissipation data were available, so a default half-life of 35 days was used to predict foliar residues for chronic risk calculations.

EPA modeled an application interval of 60 days for all scenarios with multiple applications. The use of 60 days is in accordance with labels for napropamide applied to turf and ornamentals. The Agency also believes that the 60-day interval is appropriate for the other crops with multiple applications.

The Agency recognizes that in many situations pre-emergence herbicides such as napropamide may be banded instead of broadcasted to an entire field. Therefore, EPA modeled potential exposure to plant and animals using both the maximum labeled rate(s) and “typical” banded rates (1.33 lbs ai/A). The 1.33 pound rate came from the 4 pound ai/A rate divided by 3 to account for banding treatment in the field.

The cranberry scenario resulted in exceedances of the Agency’s LOCs from peak estimates for aquatic animals and plants. However, the concentration of napropamide in water degrades within 1 hour. Therefore, flood water released into the surrounding aquatic habitats is not expected to pose a significant risk to aquatic organisms in these environments.

Avian risk assessments were not conducted for napropamide use because acute toxicity studies classified napropamide as practically nontoxic to birds. Furthermore, no chronic avian endpoint of concern was identified from available studies.

IV. Risk Management, Reregistration, and Tolerance Reassessment Decision

A. Determination of Reregistration Eligibility

Section 4(g)(2)(A) of FIFRA calls for the Agency to determine, after submission of relevant data concerning an active ingredient, whether or not products containing the active ingredient are eligible for reregistration. The Agency has previously identified and required the submission of the generic (i.e., active ingredient-specific) data to support reregistration of products containing napropamide as an active ingredient. 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 napropamide.

The Agency has completed its assessment of the dietary, residential, occupational, and ecological risk associated with the use of pesticide products containing the active ingredient napropamide from all sources. Based on a review of these data and on public comments on the Agency’s assessments for the active ingredient napropamide, the Agency has sufficient information on the human health and ecological effects of napropamide to make decisions as part of the tolerance reassessment process under FFDC and reregistration process under FIFRA, as amended by FQPA. The Agency has determined that napropamide containing products are

eligible for reregistration provided that: (i) the risk mitigation measures outlined in this document are adopted; and (ii) label amendments are made to reflect these measures. Label changes are described in Section V. Appendix A summarizes the uses of napropamide that are eligible for reregistration. Appendix B identifies the generic data requirements necessary as part of the Agency's determination of reregistration eligibility of napropamide, and lists the submitted studies that the Agency reviewed and found acceptable. Data gaps are identified as generic data requirements that have not been satisfied with acceptable data.

Based on its evaluation of napropamide, the Agency has determined that napropamide products, unless labeled and used as specified in this document, would present risks inconsistent with FIFRA and FQPA. Accordingly, should a registrant fail to implement any of the risk mitigation measures identified in this document, the Agency may take regulatory action to address the risk concerns from the use of napropamide. If all changes outlined in this document are incorporated into the product labels, then all current risks for napropamide will be adequately reduced for the purposes of this reregistration determination under FIFRA. Once an Endangered Species assessment is completed, further changes to these registrations may be necessary as explained in section IV, number 4 below.

B. Public Comments

Through the Agency's public participation process, EPA worked extensively with stakeholders and the public to reach its regulatory decisions for napropamide. During Phase 3 of the public comment period on the risk assessments, which closed on May 5, 2005, the Agency received comments from the registrant, grower groups and a private citizen. The comments pertained to the importance of particular uses and urged the Agency to consider how it regulated these commodities. For example, the Northern California Mint Growers submitted comments on the importance of napropamide for mint, and Walters Garden, Inc. outlined how it uses napropamide to reduce its need for the fumigant methyl bromide. These comments in their entirety, and the Agency's response, are available in the public docket (OPP-2004-0162) at <http://www.epa.gov/edockets>.

The RED and technical supporting documents for napropamide are available to the public through EPA's electronic public docket and comment system, EPA Dockets, under docket identification (ID) number OPP-2004-0162. The public may access EPA Dockets at <http://www.epa.gov/edockets>. In addition, the napropamide RED document may be downloaded or viewed through the Agency's website at <http://www.epa.gov/pesticides/reregistration/status.htm>.

C. Regulatory Position

1. Food Quality Protection Act Findings

a. "Risk Cup" Determination

As part of the FQPA tolerance reassessment process, EPA assessed the risks associated with this pesticide. EPA has determined that risk from dietary (food and water) exposure to napropamide is within its own “risk cup.” An aggregate assessment was conducted for exposures to napropamide through food, drinking water, and residential uses. The Agency has determined that the human health risks from these combined exposures to napropamide are within acceptable levels. In other words, EPA has concluded that the tolerances for napropamide meet FQPA safety standards.

b. Determination of Safety to U.S. Population (including Infants and Children)

The Agency has determined that the established tolerances for napropamide, with amendments and changes as specified in this document, meet the safety standards under the FQPA amendments to section 408(b)(2)(D) of the FFDCA, and that there is a reasonable certainty no harm will result to the general population or any subgroup from the use of napropamide. In reaching this conclusion, the Agency has considered all available information on the toxicity, use practices and exposure scenarios, and the environmental behavior of napropamide.

c. Endocrine Disruptor Effects

EPA is required under the FFDCA, as amended by FQPA, to develop a screening program to determine whether certain substances (including all pesticide active and other ingredients) “may have an effect in humans that is similar to an effect produced by a naturally occurring estrogen, or other endocrine effects as the Administrator may designate.” Following recommendations of its Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC), EPA determined that there was a scientific basis for including, as part of the program, the androgen and thyroid hormone systems, in addition to the estrogen hormone system. EPA also adopted EDSTAC’s recommendation that EPA include evaluations of potential effects in wildlife. For pesticides, EPA will use FIFRA and, to the extent that effects in wildlife may help determine whether a substance may have an effect in humans, FFDCA authority to require the wildlife evaluations. As the science develops and resources allow, screening of additional hormone systems may be added to the Endocrine Disruptor Screening Program (EDSP).

In the toxicity studies on napropamide, there was no estrogen, androgen, and/or thyroid mediated toxicity. When additional appropriate screening and/or testing protocols being considered under the Agency’s EDSP have been developed, napropamide may be subjected to further screening and/or testing to better characterize effects related to endocrine disruption.

d. Cumulative Risks

Risks summarized in this document are those that result only from the use of napropamide. The Food Quality Protection Act (FQPA) requires that the Agency consider available information concerning the cumulative effects of a particular pesticide’s residues and

other substances that have a common mechanism of toxicity. The reason for consideration of other substances is due to the possibility that low-level exposures to multiple chemical substances that cause a common toxic effect by a common toxic mechanism could lead to the same adverse health effect as would a higher level of exposure to any of the substances individually. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding for napropamide.

D. Tolerance Reassessment Summary

The napropamide tolerances listed under 40 CFR §180.328(a) and (b) are expressed in terms of N,N-diethyl-2-(1-naphthalenyloxy) propionamide. The tolerance expression is adequate. A summary of the tolerance reassessment and recommended modifications in commodity definitions for napropamide is presented in Table 18.

Although additional data are required to confirm the existing tolerance levels in/on the following commodities, the Agency has no dietary, drinking water or residential risk concerns associated with these tolerances and considers them reassessed: blackberry, blueberry, boysenberry, loganberry, raspberry, kiwi fruit, almonds, pecan, filbert, persimmon, and grape.

Napropamide Table 18: Tolerance Reassessment Summary for Napropamide

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	Comment/ [Correct Commodity Definition]
Tolerances Listed Under 40 CFR §180.328(a)			
Almond, hulls	0.1 (N)*	0.1	
Artichoke, globe	0.1	Proposed Revocation	This use is being proposed for cancellation.
Asparagus	0.1	0.1	
Avocado	0.1	Proposed Revocation	This use is being proposed for cancellation by the registrant.
Basil	0.1	0.1	
Marjoram	0.1	0.1	
Rosemary	0.1	0.1	
Savory, summer	0.1	0.1	
Savory, winter	0.1	0.1	
Coffee bean	0.1 (N)	0.1	Although the registrant stated that they do not intend to support this use because there are no U.S. registration for coffee bean, EPA intends to maintain this tolerance for import uses only.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	Comment/ [Correct Commodity Definition]
Fig	0.1 (N)	Proposed Revocation	This use is being proposed for cancellation.
Fruit, citrus	0.1 (N)	Proposed Revocation	[Fruit, citrus, group 10] These uses are being proposed for cancellation.
Fruit, pome	0.1 (N)	Proposed Revocation	These uses are being proposed for cancellation.
Fruit, small	0.1 (N)	TBD**	The established group tolerance on "fruit, small" is based on an obsolete crop grouping. EPA is now recommending that upon submission of additional field trial data, the tolerance for "fruit, small" be revoked concomitant with the establishment of a separate tolerance for Berry group 13, cranberry, grape, and strawberry. [Berry, group 13]
Fruit, stone	0.1 (N)	Proposed Revocation	These uses are being proposed for cancellation.
Kiwifruit	0.1	TBD	Additional residue field trial data are required.
Mint	0.1	0.1	[peppermint, tops and spearmint, tops]
Nut	0.1 (N)	TBD	Additional field trial data are required for almonds, pecans, and filbert. The remaining uses on nuts are being proposed for cancellation.***
Olive	0.1	Proposed Revocation	This use is being proposed for cancellation.
Persimmon	0.1	TBD	Additional data are required.
Pistachio	0.1	Proposed revocation	This use is being proposed for cancellation.
Rhubarb	0.1	0.1	
Sweet potato, roots	0.1	0.1	
Vegetable, brassica, leafy, group 5	0.1	0.1	
Vegetable, cucurbit, group 9	0.1	Revoke	There are presently no registered uses of napropamide on cucurbit vegetables. Unless the basic registrants or other interested parties support these uses and develop supporting data, the established tolerance will be revoked.
Vegetable, fruiting	0.1 (N)	0.1	[Vegetable, fruiting, group 8]
Tolerances to be Established Under CFR §180.328(a)			

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	Comment/ [Correct Commodity Definition]
Berry, group 13	--	TBD	The established group tolerance on “fruit small” is based on an obsolete crop grouping. EPA is now recommending that the tolerance for “fruit, small” be revoked concomitant with the establishment of separate tolerances for cranberry and strawberry, and upon submission of additional field trial data, for Berry group 13 and grape.
Cranberry	--	0.1	
Grape	--	TBD	
Strawberry	--	0.1	
Tolerances Listed Under 40 CFR §180.328(b)			
Pomegranate	0.1	Proposed Revocation	This use is being proposed for cancellation.

* Negligible Residues

** TBD - To be determined following review of the data being required herein.

*** The use on walnut will be cancelled. Uses on almonds, pecan, and filbert will remain.

a. Codex Harmonization

No Codex or Canadian MRLs have been established for residues of napropamide.

E. Regulatory Rationale

The following is a summary of the rationale for the mitigation measures necessary for reregistration eligibility and for managing risks associated with the use of napropamide. Where labeling revisions are warranted, specific language is set forth in the summary table of Section V (Table 20 of this RED document).

1. Human Health Risk Management

a. Dietary (Food and Water) Risk Mitigation

Acute dietary risk was not assessed because there were no toxicological endpoints attributable to a single exposure. Chronic dietary (food and water) exposure and risk from napropamide are below Agency’s level of concern; therefore, no additional mitigation is required.

b. Residential Risk Mitigation

Residential exposures do not pose a risk of concern. Therefore, no additional mitigation measures to address residential risks are required for napropamide.

c. Aggregate Risk Mitigation

Short term and chronic aggregate risks were below the Agency's level of concern. Therefore, no additional mitigation measures are required.

d. Occupational Risk Mitigation

Short- and intermediate-term inhalation risks to occupational handlers scenarios are below the Agency's level of concern (i.e., MOE \geq 100). Therefore, no additional mitigation is needed. EPA did not assess occupational postapplication risks to agricultural workers following treatments to agricultural crops with napropamide, since no dermal endpoint of concern was identified and because post application inhalation exposure is expected to be negligible once sprays and dusts have settled. Therefore, no mitigation measures are required. As a result, the general 12 hour REI, as established by the Worker Protection Standard, applies to all napropamide agricultural use products.

2. Environmental Risk Mitigation

No risks of concern (acute or chronic) are predicted for aquatic organisms; however, chronic toxicity data are limited and will be required as a follow-up to this RED. Napropamide is essentially non-toxic to birds. There were no exceedences for acute risk to mammals. However, the Agency has determined that napropamide may pose risks to mammals and plants. The Agency's screening level risk assessment on napropamide shows chronic risk to mammals feeding on short grass, tall grass, broadleaf plants, small insects, fruits, pods, and large insects. At all modeled application rates, terrestrial and wetland/riparian plants exceed the Agency's level of concern. The following mitigation will reduce ecological risks:

- *Cancellation of the following uses: pistachio, walnut, grapefruit, lemon, nectarine, orange, tangerine, tangelo, apricot, cherry, peach, plum, prune, apple, pear, fig, avocado, pomegranate, artichoke, and olive.*
- *Limitation of the number of applications permitted to once per year for all remaining uses (except ornamentals).*
- *A decrease in the maximum application rate for almonds (8 to 4 lbs per year), pecans (8 to 4 lbs per year), cranberries (15 to 9 lbs per year), grapes (8 to 4 lbs per year), kiwi fruit (8 to 4 lbs per year), persimmons (8 to 4 lbs per year), and turf (6 to 2 lbs per year).*

Table 19 identifies all remaining uses that will be permitted after the mitigation measures are put in place:

Table 19: Napropamide: Remaining Uses and Application Rates

Site	New Maximum Rate (lb ai/A)	No App/year	Max Load/Year (lb ai/A)
Tree Nuts			
<i>Almond</i>	4	1	4
<i>Pecan</i>	4	1	4
Filbert	4	1	4
Brassica Crops			
Broccoli	2	1	2
Brussels sprouts	2	1	2
Cabbage	2	1	2
Cauliflower	2	1	2
Asparagus	2	1	2
Berries			
Blackberry	4	1	4
Blueberry	4	1	4
Boysenberry	4	1	4
Loganberry	4	1	4
Raspberry	4	1	4
Strawberry	4	1	4
<i>Cranberry</i>	9	1	9
Tropical Fruits			
<i>Kiwi Fruit</i>	4	1	4
<i>Persimmon</i>	4	1	4
Fruiting Vegetables			
Eggplant	2	1	2
Pepper	2	1	2
Tomato	2	1	2
Additional Crops			
<i>Grapes</i>	4	1	4

Site	New Maximum Rate (lb ai/A)	No App/year	Max Load/Year (lb ai/A)
Sweet Potato	4	1	4
Tobacco	2	1	2
Basil	4	1	4
Marjoram	4	1	4
Mint	4	1	4
Rosemary	4	1	4
Savory	4	1	4
Ornamentals			
Ornamentals*	6	2	12
<i>Turf</i>	2	1	2

Italicized crops denote changes in use rates

* Includes shade trees/ornamental trees(field and container grown), ground cover, herbaceous plants, woody shrubs, vines, dichondra at seeding

3. Significance of Napropamide Use

Napropamide is an important herbicide with key uses in several agricultural sectors. For ornamentals, it is significantly important in the Pacific Northwest. Although napropamide is only used on 1 percent of ornamentals nationally, in Washington it is used on 97 percent of the nursery-grown rhododendron and azalea crop. It also provides a critical niche for tomatoes and peppers since many alternatives are not labeled for pre-plant incorporated treatments that are needed for these production activities. It provides a niche for eggplant and tobacco to control weeds where other alternatives do not give adequate control. In addition, for a number of crops, napropamide is important to growers as they transition away from methyl bromide.

As already discussed in this RED document, the environmental risks for napropamide were based on a screening-level assessment for both terrestrial and aquatic environments. Results indicate some concerns for acute risks to terrestrial and wetland/riparian plants (which are not unexpected due to the herbicidal nature of the compound), as well as some chronic risks to mammals. In order to address these ecological risks, the Agency will require napropamide registrants to reduce the total napropamide used while still preserving many of the important uses of this chemical. Reduction of use, and subsequent reduction of ecological exposure, will result from a combination of voluntary cancellations, lowering the use rate of several crops and limiting the number of applications per year for most crops (See Table 19 for specifics on the new uses and use rates). As a result of these mitigation measures, the amount of napropamide exposure to

plant, animal, and water resources is lowered therefore, limiting the amount that is released into the environment.

4. Endangered Species Considerations

Based on EPA's screening level assessment, RQs for napropamide exceed acute levels of concern for direct effects to endangered species of mammals, mollusks, marine/estuarine crustaceans, aquatic vascular plants and terrestrial and semi-aquatic plants (both dicots and monocots). RQs were also exceeded for chronic direct effects to mammals. Further, based on screening level assessments of potential direct effects to these taxa, the potential for indirect effects to all taxa of listed species can not be precluded at this time. These findings are based solely on EPA's screening level assessment and do not constitute "may affect" finding under the Endangered Species Act.

The Agency has developed the Endangered Species Protection Program to identify pesticides whose use may cause adverse impacts on endangered and threatened species, and to implement mitigation measures that address these impacts. The Endangered Species Act requires federal agencies to ensure that their actions are not likely to jeopardize listed species or adversely modify designated critical habitat. To analyze the potential of registered pesticide uses to affect any particular species, EPA puts basic toxicity and exposure data developed for reregistration eligibility decisions into context for individual listed species and their locations by evaluating important ecological parameters, pesticide use information, the geographic relationship between specific pesticide uses and species locations and biological requirements and behavioural aspects of the particular species. When conducted, this analysis will consider regulatory changes recommended in this RED that are being implemented at that time. A determination that there is a likelihood of potential impact to a listed species may result in limitations on use of the pesticide, other measures to mitigate any potential impact, or consultations with the Fish and Wildlife Service or National Marine Fisheries Service as necessary. If the Agency determines use of napropamide "may affect" listed species or their designated critical habitat, EPA will employ the provisions in the Services regulations (50 CFR Part 402).

EPA is not requiring specific napropamide label language at the present time relative to threatened and endangered species. If in the future, specific measures are necessary for the protection of listed species, the Agency will implement them through the Endangered Species Protection Program. Until that species specific analysis is completed, the risk mitigation measures being implemented through this RED will reduce the likelihood that endangered and threatened species may be exposed to napropamide at levels of concern.

F. Other Labeling Requirements

In order to be eligible for reregistration, various use and safety information will be included in the labeling of all end-use products containing napropamide. For the specific labeling statements and a list of outstanding data, refer to Section V of this RED document.

1. Spray Drift Management

The Agency has been working closely with stakeholders to develop improved approaches for mitigating risks to human health and the environment from pesticide spray and dust drift. As part of the reregistration process, EPA will continue to work with all interested parties on this important issue.

From its assessment of napropamide, as summarized in this document, the Agency concludes that no additional drift mitigation measures are needed for napropamide. In the future, napropamide product labels may need to be revised to include additional or different drift label statements.

V. What Registrants Need to Do

The Agency has determined that napropamide is eligible for reregistration provided that: (i) additional data are submitted to confirm this decision; (ii) the risk mitigation measures outlined in this document are adopted; and (iii) label amendments are made to reflect these measures. To implement the risk mitigation measures, the registrants will be required to amend their product labeling to incorporate the label statements set forth in the Label Summary Table in Section C below. In the near future, the Agency intends to issue Data Call-In Notices (DCIs) requiring label amendments, product specific data and additional generic (technical grade) data. Generally, registrants will have 90 days from receipt of a DCI to complete and submit response forms or request time extension and/or waiver requests with a full written justification. For product specific data, the registrant will have eight months to submit data and amended labels. For generic data, due dates can vary depending on the specific studies being required. Below are additional generic data and label amendments that the Agency intends to require for napropamide.

A. Manufacturing-Use Products

1. Generic Data Requirements

The generic data base supporting the reregistration of napropamide for the above eligible uses has been reviewed and determined to be substantially complete. However, the data listed below are necessary to confirm the reregistration eligibility decision documented in this RED.

- 860.1340 Residue Analytical Method - Plants.
- 860.1500 Crop Field Trials are required for the following commodities: berries, tree nuts, grape, kiwi fruit, and persimmon.
- 860.1520 Magnitude of Residue in Processed Food/Feed (Coffee and Mint).

- 830.1550 Product Identity and Disclosure of Ingredients (composition and chemical identity)
- 830.1600 Starting Materials & Manufacturing Process (Description of Beginning Materials Used to Produce the Product)
- 830.1620 Description of the Production Process
- 830.1700 Preliminary Analysis
- 830.1750 Certified Limits (Certification of Limits)
- 830.1800 Enforcement Analytical Method (Analytical methods to verify certified limits)
- 830.6313 Stability to Normal and Elevated Temperatures, Metals and Metal Ions (stability)
- 850.1300 Daphnid Chronic Toxicity Test (early life stage in fish)
- 850.1350 Mysid (Shrimp) Chronic Toxicity Test (life cycle in aquatic invertebrates)
- 850.1500 Fish Life Cycle Study
- 850.4400 Aquatic Plant Toxicity Test Using the Following Species: *Lemna gibba*, *Skeletonema costatum*, *Anabaena flos-aquae*, and a freshwater diatom such as *Navicula pelliculosa*.

2. Labeling for Manufacturing-Use Products

To ensure compliance with FIFRA, manufacturing use product (MUP) labeling should be revised to comply with all current EPA regulations, PR Notices, and applicable policies. The MUP labeling should bear the labeling contained in Table 20.

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 the study MRID numbers should be cited according to the instructions in the Requirement Status and Registrants Response Form provided for each product. The Agency intends to issue a separate product-specific data call-in (PDCI), outlining specific data requirements.

2. Labeling for End-Use Products

To be eligible for reregistration, labeling changes are necessary to implement measures outlined in Section IV above. Specific language to incorporate these changes is specified in Table 22. Generally, conditions for the distribution and sale of products bearing old labels/labeling will be established when the label changes are approved. However, specific 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.

D. Labeling Changes Summary Table

In order to be eligible for reregistration, amend all product labels to incorporate the risk mitigation measures outlined in Section IV. The following table (Table 20) describes how language on the labels should be amended.

In order to be eligible for reregistration, amend all product labels to incorporate the risk mitigation measures outlined in Section IV. The following table describes how language on the labels should be amended.

Labeling Changes Summary Table

In order to be eligible for reregistration, amend all product labels to incorporate the risk mitigation measures outlined in Section IV. The following table describes how language on the labels should be amended.

Table 11: Summary of Labeling Changes for Napropamide		
Description	Amended Labeling Language	Placement on Label
Manufacturing Use Products		
One of these statements may be added to a label to allow reformulation of the product for a specific use or all additional uses supported by a formulator or user group	“Only for formulation into a dry flowable, granular, and liquid herbicide for the following use(s) [fill blank only with those uses that are being supported by MP registrant].”	Directions for Use
	<p>“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).”</p> <p>“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).”</p>	Directions for Use

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
Environmental Hazards Statements Required by the RED and Agency Label Policies	"Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."	Precautionary Statements

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
End Use Products Intended for Occupational Use		
PPE Requirements Established by the RED ¹ for products	<p>“Personal Protective Equipment (PPE)”</p> <p>“Mixers, loaders, applicators, and other handlers must wear: Long-sleeved shirt and long pants Chemical Resistant Gloves Shoes plus socks.”</p>	Immediately following/below Precautionary Statements: Hazards to Humans and Domestic Animals
Engineering Controls for Aerial Applicators	Pilots must use an enclosed cockpit that meets the requirements in the Worker Protection Standard	
User Safety Requirements	“Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.”	Precautionary Statements: Hazards to Humans and Domestic Animals (Immediately following PPE Requirements.)
User Safety Recommendations	<p>User Safety Recommendations</p> <p>Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</p> <p>Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</p> <p>Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing*. As soon as possible, wash thoroughly and change into clean clothing.”</p>	Precautionary Statements immediately following User Safety Requirements (Must be placed in a box.)

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
Environmental Hazards	<p>“Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.”</p> <p>Note: May need to be modified based on toxicity and use.</p>	<p>Precautionary Statements immediately following the User Safety Recommendations</p>

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
Restricted-Entry Interval	“Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24”	Directions for Use, Agricultural Use Requirements Box
Early Re-entry Personal Protective Equipment established by the RED.	“PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: * coveralls, * shoes plus socks * chemical-resistant gloves made of any waterproof material * Eye wear	
Spray Drift		Directions for Use
General Precautions and Restrictions	“Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.”	Directions for Use

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
Application Restrictions	<p>End use product labels must be revised to delete all references to and use directions for the following cancelled uses: pistachio, walnut, grapefruit, lemon, nectarine, orange, tangerine, tangelo, apricot, cherry, peach, plum, prune, apple, pear, fig, avocado, pomegranate, artichoke, and olive.</p> <p>The following risk mitigation measures must be reflected in the Directions for Use:</p> <p><u>Almonds</u> “Maximum application rate per crop cycle: 4 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p> <p><u>Pecans</u> “Maximum application rate per crop cycle: 4 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p> <p><u>Cranberries</u> “Maximum application rate per crop cycle: 9 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p> <p><u>Grapes</u> “Maximum application rate per crop cycle: 4 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p> <p><u>Kiwi Fruit</u> “Maximum application rate per crop cycle: 4 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p> <p><u>Persimmons</u> “Maximum application rate per crop cycle: 4 pounds active ingredient per acre.” “Apply a maximum of one application per year.”</p>	Place in the Directions for Use under Application Instructions for Each Crop

Table 11: Summary of Labeling Changes for Napropamide

Description	Amended Labeling Language	Placement on Label
End Use Products Intended Primarily for Use by Homeowners		
Application Restrictions	“Do not apply this product in a way that will contact ay person, pet, either directly or through drift. Keep people and pets out of the area during application.”	Directions for Use under General Precautions and Restrictions
Entry Restriction	Liquid: “Do not allow people or pets to enter the treated area until sprays have dried.” Dry: “Do not allow people or pets to enter the treated area until dusts have settled. [If watering-in is required after the application, do not enter or allow others to enter the treated areas (except those involved in the watering) until the watering-in is complete and the surface is dry.”	Directions for Use under General Precautions and Restrictions
Application Equipment Restrictions	For turf, the maximum application rate per application: 2 pounds active ingredient per acre. Can only apply a maximum of one application per year.	Directions for Use under General Precautions and Restrictions

Instructions in the Labeling section appearing in quotations represent the exact language that should appear on the label.

Instructions in the Labeling section not in quotes represents actions that the registrant should take to amend their labels or product registrations.

¹ PPE that is established on the basis of Acute Toxicity of the end-use product must be compared to the active ingredient PPE in this document. The more protective PPE must be placed in the product labeling. For guidance on which PPE is considered more protective, see PR Notice 93-7.

² If the product contains oil or bears instructions that will allow application with an oil-containing material, the “N” designation must be dropped. **[This footnote is not needed if a respirator is not required]**

* Text “Wash the outside of gloves before removing” in User Safety Recommendations may not be needed if gloves are not required.

Appendix A: Use Patterns Eligible for Reregistration

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Almond						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	35	12	
Asparagus						
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	35	12	Two applications are allowed per year for asparagus.
Basil						
Band Treatment, Broadcast, Chemigation Soil Incorporation	50% DF	4	4		12	There is currently no registered uses of napropamide on basil. The registrant (United Phosphorus Inc.) has indicated that they will propose the inclusion of basil on the product label for the 50% DF formulation (70506-36).
Blackberry						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	90	12	
Blueberry						

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	90	12	
Boysenberry						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	90	12	
Broccoli						
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for broccoli.
Brussels sprouts						
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for Brussels Sprouts.
Cabbage						
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for cabbage.
Cauliflower						

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for cauliflower.
Cranberry						
Aerial, Ground Spray	10% G [70506-34]	9	9	90	12	
Eggplant						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for eggplant.
Filbert						
Broadcast, Chemigation	50%	4	4	35	12	
Grape						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	35	12	
Kiwi Fruit						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	35	12	
Loganberry						

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	90	12	
Majoram						
Band Treatment, Broadcast, Chemigation Soil Incorporation	50% DF	4	4	90	12	There is currently no registered uses of napropamide on marjoram. The registrant (United Phosphorus Inc.) has indicated that they will propose the inclusion of marjoram on the product label for the 50% DF formulation (70506-36).
Ornamentals (Trees-field & Container, Herbaceous Plants, Woody Shrubs, Vines)						
Band Treatment, Directed Spray, Ground Spray	50% DF [70506-38]	6	6	N/A	12	
Pecan						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	35	12	
Pepper						
Chemigation, Band Treatment, Soil Incorporated, Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for pepper.
Persimmon						

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	180	12	
Raspberry						
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	90	12	
Rhubarb						
Chemigation, Band Treatment, Soil Incorporation, Broadcast	50% DF [70506-36]	4	4	90	12	
Rosemary						
Band Treatment, Broadcast, Chemigation Soil Incorporation	50%	4	4	90	12	There is currently no registered uses of napropamide on rosemary. The registrant (United Phosphorus Inc.) has indicated that they will propose the inclusion of rosemary on the product label for the 50% DF formulation (70506-36).
Savory						
Band Treatment, Broadcast, Chemigation Soil Incorporation	50%	4	4	90	12	There is currently no registered uses of napropamide on savory. The registrant (United Phosphorus Inc.) has indicated that they will propose the inclusion of savory on the product label for the 50% DF formulation (70506-36).
Strawberry						

Application Type, Equipment	Formulation	Max. Single App. Rate (lbs ai/A)	Seasonal Max (lbs ai/A/Yr)	PHI (days)	REI (Hours)	Restrictions/Comments
Chemigation, Band Treatment, Irrigation Incorporation, Directed Spray	50% DF [70506-36]	4	4	35	12	
Sweet Potato						
Broadcast, Band Treatment, Soil Incorporation,	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for sweet potato.
Tobacco						
Broadcast, Band Treatment, Soil Incorporation	50% DF [70506-36]	2	2	N/A	12	
Tomato						
Chemigation, Band Treatment, Soil Incorporation, Directed Spray	50% DF [70506-36]	2	2	90	12	Two applications are allowed per year for tomato.
Turf						
Band Treatment, Directed Spray, Ground Spray	50% DF [70506-38]	2	2	N/A	12	

APPENDIX B

Data Supporting Guideline Requirements for the Reregistration of Napropamide

REQUIREMENT		USE PATTERN	CITATION(S)
<u>PRODUCT CHEMISTRY</u>			
New Guideline Number	Old Guideline Number		
830.1550	61-1	Product Identity and Composition	All 41222501, 41222502, 43160601
830.1600	61-2A	Start. Mat. & Mnfg. Process	All 41222501, 42013001
830.1670	61-2B	Formation of Impurities	All 40491301, 41222501, 42013001
830.1700	62-1	Preliminary Analysis	All 40924701, 41222502, 43160601, 43160602
830.1750	62-2	Certification of limits	All 41222502
830.1800	62-3	Analytical Method	All 41222502, 42013002, 42275201, 42679201, 43160601
830.6302	63-2	Color	All 41222503
830.6303	63-3	Physical State	All 41222503
830.6304	63-4	Odor	All 41222503
830.7200	63-5	Melting Point	All 41222503
830.7300	63-7	Density	All 41222503
830.7840 830.7860	63-8	Solubility	All 41222503
830.7950	63-9	Vapor Pressure	All 41222503
830.7550	63-11	Octanol/Water Partition Coefficient	All 41222503
830.7000	63-12	pH	All 41222503
830.6313	63-13	Stability	All 41222503
830.6317	63-17	Storage Stability	All 41222503, 42013003, 4207801
830.6320	63-20	Corrosion characteristics	All 41222503, 42013003
<u>ECOLOGICAL EFFECTS</u>			
850.2100	71-1A	Avian Acute Oral Toxicity	B, C, K 00160000
850.2200	71-2A	Avian Dietary Toxicity - Quail	B, C, K 00022923
850.2200	71-2B	Avian Dietary Toxicity - Duck	B, C, K 00022923
850.1075	72-1A	Fish Toxicity Bluegill	B, C, K 40098001
850.1075	72-1C	Fish Toxicity Rainbow Trout	40098001

Data Supporting Guideline Requirements for the Reregistration of Napropamide

REQUIREMENT			USE PATTERN	CITATION(S)
850.1010	72-2A	Invertebrate Toxicity	B, C, K	41257101
None	72-3A	Estuarine/Marine Toxicity - Fish		40228401
850.1025	72-3B	Estuarine/Marine Toxicity - Mollusk		40228401
850.1035	72-3C	Estuarine/Marine Toxicity - Shrimp		40228401
850.3020	141-1	Honey Bee Acute Contact		00036935
850.3030	141-2	Honey Bee Residue on Foliage		05000837

TOXICOLOGY

870.1100	81-1	Acute Oral Toxicity-Rat	ALL	41222504
870.1200	81-2	Acute Dermal Toxicity-Rabbit/Rat	ALL	41222505
870.1300	81-3	Acute Inhalation Toxicity-Rat	ALL	00138933
870.2400	81-4	Primary Eye Irritation-Rabbit	ALL	41222506
870.2500	81-5	Primary Skin Irritation	ALL	41222507
870.2600	81-6	Dermal Sensitization	ALL	41377902, 42981001
870.6100	81-7	Acute Delayed Neurotoxicity - Hen		00079791, 41905901
870.6200	81-8	Acute Neurotoxicity Screen		42912501
870.3100	82-1A	Subchronic Oral Toxicity Test (90-Day Feeding - Rodent)	B, L	43371201
870.3250	82-3	90-day Subchronic Dermal Toxicity Test, Rat		41342001
870.4100	83-1A	Chronic Feeding Toxicity - Rodent	B, L	00112525, 42980901
870.4100	83-1B	Chronic Feeding Toxicity -Non-Rodent	B, L	00077819, 42679401
870.4200	83-2A	Oncogenicity - Rat	B, L	00117443, 42980901
870.4200	83-2B	Oncogenicity - Mouse	B, L	00117443, 00126039
870.3700	83-3A	Developmental Toxicity - Rat	B, L	40152701, 4250101
870.3700	83-3B	Developmental Toxicity - Rabbit	B, L	00127831
870.3800	83-4	2-Generation Reproduction - Rat	B, L	00077802, 42054301
870.5140	84-2A	Gene Mutation (Ames Test)	B, C, K, L, M	41222508
870.5375	84-2B	Structural Chromosomal Aberration	B, C, K, L, M	41312901
None	84-4	Other Genotoxic Effects	B, C, K, L, M	42156401
870.7485	85-1	General Metabolism	B, L	41988401
870.7600	85-2	Dermal Penetration		42111501

Data Supporting Guideline Requirements for the Reregistration of Napropamide

REQUIREMENT			USE PATTERN	CITATION(S)
870.7200	86-1	Domestic (Companion) Animal Safety		40436601, 41810101, 41810102

OCCUPATIONAL/RESIDENTIAL EXPOSURE

875.1200	233	Estimation of Dermal Exposure, Indoor Sites		45519601, 45528801
875.1400	234	Estimation of Inhalation Exposure, Indoor Sites		45519601, 45528801
875.2400	133-3	Dermal Passive Dosimetry Exposure		42622301, 45485501
875.2500	133-4	Inhalation Passive Dosimetry Exposure		42622301

ENVIRONMENTAL FATE

None	160-5	Chemical Identity	ALL	41222501, 41222502, 43160601
835.2120	161-1	Hydrolysis	ALL	41929101
835.4100	162-1	Aerobic Soil Metabolism	B, C, K	00077821, 42082401
835.1240	163-1	Leaching/Adsorption/Desorption	B, C, K	41681301
None	164-A-SS	Dissipation of Residues in Excrement		42848501

RESIDUE CHEMISTRY

860.1300	171-4B	Nature of Residue - Livestock	B	00116020, 00117354, 00120147, 00120204, 42828801, 42828802, 42828803
860.1340	171-4C	Residue Analytical Method - Plants	B	00038458, 00077812, 00077814, 00077816, 00115939, 00116020, 00116553, 00117329, 00117340, 00117351, 00117354, 00117389, 00118265, 00120147, 00120200, 00120205, 00120206, 00120229, 00130705, 00133913, 05004211

Data Supporting Guideline Requirements for the Reregistration of Napropamide

REQUIREMENT			USE PATTERN	CITATION(S)
860.1340	171-4D	Residue Analytical Method - Animals	B	00038458, 00077812, 00077814, 00077816, 00115939, 00116020, 00116553, 00117329, 00117340, 00117351, 00117354, 00117389, 00118265, 00120147, 00120200, 00120205, 00120206, 00120229, 00130705, 00133913, 05004211
860.1380	171-4E	Storage Stability	B	00117329, 00117354, 00117361, 00117389, 00133913
860.1480	171-4J	Magnitude of Residues - Meat/Milk/Poultry/Egg	B	00038458, 00084189, 00115939, 00117298, 00117298, 00117339, 00117340, 00117354, 00117389, 00118265, 00120200, 00120206, 00120225, 00120227, 05006630

Appendix C. TECHNICAL SUPPORT DOCUMENTS

Additional documentation in support of this RED is maintained in the OPP docket, located in Room 119, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA. It is open Monday through Friday, excluding legal holidays, from 8:30 am to 4 pm.

The docket initially contained preliminary risk assessments and related documents as of August 10, 1998. Sixty days later the first public comment period closed. The EPA then considered comments, revised the risk assessment, and added the formal "Response to Comments" document and the revised risk assessment to the docket on June 16, 1999.

All documents, in hard copy form, may be viewed in the OPP docket room or downloaded or viewed via the Internet at the following site:

www.epa.gov/pesticides/op

These documents include:

HED Documents:

- Napropamide: REVISED HED Chapter of the Reregistration Eligibility Decision Document (RED). 2/23/05 Stanton, Susan
- Napropamide. Chronic Dietary Exposure Assessments for the Reregistration Eligibility Decision. 10/29/04. Stanton, Susan
- Napropamide: Revised Occupational and Residential Exposure Assessment and Recommendations for the Reregistration Eligibility Decision Document. 2/20/05. Tadayon, Nadar

- Revised Product Chemistry Considerations. 2/15/05. Drew, Danette
- Napropamide. Revised Residue Chemistry Considerations for Reregistration Eligibility Decision. 2/18/05. Drew, Danette
- Review of Napropamide Incident Reports. 11/4/04.
Blondell, Jerome
- Outcome of the 3/16/93 Meeting of HED Metabolism Committee.
4/7/93.
Knizner, Steven
- Napropamide: Final HED Chapter of the Reregistration Eligibility Decision (RED) Document. 7/7/05. Stanton, Susan

EFED Documents:

1. EFED Risk Assessment for Napropamide Registration Eligibility Document. 3/1/05. Breithaupt, James & Jenkins, Fred
2. Drinking Water Assessment for Napropamide for Terrestrial Uses 8/17/04. Breithaupt, James
3. Drinking Water Assessment for Napropamide. 11/12/04.
Breithaupt, James
4. Guidance for selecting Input parameters in Modeling the Environmental Fate & Transport of Pesticides. 2/28/02. US EPA (Office of Pesticide Programs (OPP) Environmental Fate and Effects Division.
5. EFED Risk Assessment for the Napropamide Reregistration Eligibility Document. 8/15/05. Borges, Shannon & Breithaupt, James.
6. EFED Response to “Error Only” and Public Comments for the Napropamide RED. 8/16/05. Breithaupt, James
7. EFED RED Chapter for Napropamide Chronic Risk Recalculations for Mammals. 9/22/05. Randall, Donna

8. EFED RED Chapter for Napropamide Chronic Risk Recalculation Spreadsheet Supporting Documentation for Mammals. 9/22/05 Randall, Donna

Appendix D. Citations Considered to Be Part of the Data Base Supporting the Reregistration Decision (Bibliography)

Bibliography

61-1 Chemical Identity

MRID

- 40137 Stauffer Chemical Company (19??) Formula Disclosure (Percent Weight): Waylay 50-WP. (Unpublished study received Aug 20, 1971 under 2F1194; CDL:095554-D)
- 79332 Stauffer Chemical Company (1981) Confidential Statement of Formula: Devrinol^(R)I 10-G Ornamental Selective Herbicide. (Unpublished study received Jun 24, 1981 under 476-2176; CDL:245343-A)
- 16213 Yu Farina, L. (1986) Characterization of Devrinol
4 Selective Herbicide: Report No. RRC 86-30. Unpublished study prepared by Stauffer Chemical Co. 42 p.

- 41943 Farina, L. (1989) Analysis and Certification of Product
301 Ingredients in Devrinol Selective Herbicide:
Supplemental Information: Lab Project No. 89-19.
Unpublished study prepared by ICI Americas, Inc. 12
p.
- 43928 Smith, J. (1996) Product Chemistry for Napropamide-
602 Oxidiazon 4-2 Granules: Lab Project Number: 96-1.
Unpublished study prepared by Platte Chemical Co. 13
p.
- 44409 Crowther, H. (1997) Napropamide: Product Identity,
301 Description of Beginning Materials and Manufacturing
Process and Discussion of the Formation of Impurities
for Napropamide Technical (TGAI) Produced by
United Phosphorus at Sandbach UK: Lab Project
Number: RAD1822. Unpublished study prepared by
Zeneca Ag Products. 93 p.
- 44409 Kennedy, D.; Robson, C. (1997) Napropamide:
302 Preliminary Analysis, Certification of Limits and
Methods of Analysis to Verify Certified Limits for
Napropamide Technical (TGAI) Produced by United
Phosphorus at Sandbach UK: Lab Project Number:
702371: CGR10/97: WRC-88-76. Unpublished study
prepared by Zeneca Specialities. 57 p.

61-2 Description of Beginning Materials and Manufacturing Proces

MRID

- 40135 Stauffer Chemical Company (1971) The Name, Chemical Identity and Composition of the
Pesticide Chemical: WaylayTMI. (Unpub- lished study received Aug 20, 1971 under 2F1194;
CDL:095554-B)

- 57802 Stauffer Chemical Company (19??) Manufacturing Process for Devri- nol. (Unpublished study received May 27, 1977 under 476-2174; CDL:230294-B)
- 61724 Stauffer Chemical Company (19??) Manufacturing Process for Devri- nol. (Unpublished study received Apr 27, 1977 under 476-2175; CDL:229649-B)
- 72689 Stauffer Chemical Company (19??) ?Chemistry of Devrinol|. (Unpub- lished study received Apr 27, 1981 under 0F2319; CDL:070040-D)
- 113818 Stauffer Chemical Co. (1976) ?Chemical Study: Devrinol|. (Compila- tion; unpublished study received May 5, 1977 under 476-2173; CDL:229749-A)
- 126778 Stauffer Chemical Co. (1983) Devrinol Technical Selective Herbi- cide. (Compilation; unpublished study received Apr 4, 1983 under 476-2221; CDL:249917-A)
- 137595 Stauffer Chemical Co. (1984) ?Chemistry of Devrinol 50 DF|. (Com- pilation; unpublished study received Feb 7, 1984 under 476-2229; CDL:252427-A)
- 40362901 Javdani, K. (1987) Description of Beginning Materials and Manufac- turing Process and Discussion of the Formation of Impurities for Devrinol Technical: RRC No. 87-87. Unpublished study prepared by Stauffer Chemical Co. 59 p.
- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 43928602 Smith, J. (1996) Product Chemistry for Napropamide-Oxidiazon 4-2 Granules: Lab Project Number: 96-1. Unpublished study prepared by Platte Chemical Co. 13 p.
- 44006501 Javdani, K.; Lee, E. (1993) Second Addendum to Report Rrc 87-87 (MRID 40362901): Description of Beginning Materials and Manufacturing Process and Discussion of the Formation of Impurities for DEVRINOL Technical: Supplement to MRID Nos. 40362901, 41067801 and 41943301: Lab Project Number: RR 93-041B: 72-62-7820-01. Unpublished study prepared by Zeneca Western Research Center. 25 p.
- 44409301 Crowther, H. (1997) Napropamide: Product Identity, Description of Beginning Materials and Manufacturing Process and Discussion of the Formation of Impurities for Napropamide Technical (TGAI) Produced by United Phosphorus at Sandbach UK: Lab Project Number: RAD1822. Unpublished study prepared by Zeneca Ag Products. 93 p.
- 92125001 Javdani, K. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40362901. Description of Beginning Materials and Manufacturing Process and Discussion of the Formation of Impurities for Devrinol Technical: RRC 87-87; Summary ID No. RR-90-239B. Prepared by WESTERN RESEARCH CENTER/ ICI AMERICAS. 20 p.

61-3 Discussion of Formation of Impurities

MRID

- 40362901 Javdani, K. (1987) Description of Beginning Materials and Manufac- turing Process and Discussion of the Formation of Impurities for Devrinol Technical: RRC No. 87-87. Unpublished study prepared by Stauffer Chemical Co. 59 p.

- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 43928602 Smith, J. (1996) Product Chemistry for Napropamide-Oxidiazon 4-2 Granules: Lab Project Number: 96-1. Unpublished study prepared by Platte Chemical Co. 13 p.
- 44006501 Javdani, K.; Lee, E. (1993) Second Addendum to Report Rrc 87-87 (MRID 40362901): Description of Beginning Materials and Manufacturing Process and Discussion of the Formation of Impurities for DEVRINOL Technical: Supplement to MRID Nos. 40362901, 41067801 and 41943301: Lab Project Number: RR 93-041B: 72-62-7820-01. Unpublished study prepared by Zeneca Western Research Center. 25 p.
- 44409301 Crowther, H. (1997) Napropamide: Product Identity, Description of Beginning Materials and Manufacturing Process and Discussion of the Formation of Impurities for Napropamide Technical (TGAI) Produced by United Phosphorus at Sandbach UK: Lab Project Number: RAD1822. Unpublished study prepared by Zeneca Ag Products. 93 p.

62-1 Preliminary Analysis

MRID

- 162134 Yu Farina, L. (1986) Characterization of Devrinol Selective Herbicide: Report No. RRC 86-30. Unpublished study prepared by Stauffer Chemical Co. 42 p.
- 41067801 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Project ID: Study No. APP-001; Report No. WRC 89-19. Unpublished study prepared by ICI Americas Inc. 241 p.
- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 44006502 Lee, E. (1993) Analysis and Certification of Product Ingredients in DEVRINOL Technical Produced at Cold Creek Organics Plant: Lab Project Number: RR 93-001B: WRC 92-152: WRC 93-007. Unpublished study prepared by Zeneca Western Research Center. 246 p.
- 44409302 Kennedy, D.; Robson, C. (1997) Napropamide: Preliminary Analysis, Certification of Limits and Methods of Analysis to Verify Certified Limits for Napropamide Technical (TGAI) Produced by United Phosphorus at Sandbach UK: Lab Project Number: 702371: CGR10/97: WRC-88-76. Unpublished study prepared by Zeneca Specialities. 57 p.
- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.
- 92125002 Wegner, M. (1990) ICI Americas Inc. Phase 3 Summary of MRID 41067801. Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Project APP001; Summary ID No. RR 90-179B. Prepared by ICI AMERICAS INC./WESTERN RESEARCH CENTER. 18 p.

62-2 Certification of limits

MRID

- 40135 Stauffer Chemical Company (1971) The Name, Chemical Identity and Composition of the Pesticide Chemical: WaylayTMI. (Unpublished study received Aug 20, 1971 under 2F1194; CDL:095554-B)
- 61725 Stauffer Chemical Company (19??) Purities of Raw Materials, Intermediates, and Devrinol Technical. (Unpublished study received Apr 27, 1977 under 476-2175; CDL:229649-C)
- 72833 Brookman, D.J. (1973) Determination of Impurities in Technical Devrinol^RI. Method no. WRC 73-26 dated Apr 2, 1973. (Unpublished study received Apr 2, 1973 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101330-A)
- 126778 Stauffer Chemical Co. (1983) Devrinol Technical Selective Herbicide. (Compilation; unpublished study received Apr 4, 1983 under 476-2221; CDL:249917-A)
- 137595 Stauffer Chemical Co. (1984) ?Chemistry of Devrinol 50 DF|. (Compilation; unpublished study received Feb 7, 1984 under 476-2229; CDL:252427-A)
- 41067801 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Project ID: Study No. APP-001; Report No. WRC 89-19. Unpublished study prepared by ICI Americas Inc. 241 p.
- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 43928602 Smith, J. (1996) Product Chemistry for Napropamide-Oxidiazon 4-2 Granules: Lab Project Number: 96-1. Unpublished study prepared by Platte Chemical Co. 13 p.
- 44006502 Lee, E. (1993) Analysis and Certification of Product Ingredients in DEVRINOL Technical Produced at Cold Creek Organics Plant: Lab Project Number: RR 93-001B: WRC 92-152: WRC 93-007. Unpublished study prepared by Zeneca Western Research Center. 246 p.
- 44409302 Kennedy, D.; Robson, C. (1997) Napropamide: Preliminary Analysis, Certification of Limits and Methods of Analysis to Verify Certified Limits for Napropamide Technical (TGAI) Produced by United Phosphorus at Sandbach UK: Lab Project Number: 702371: CGR10/97: WRC-88-76. Unpublished study prepared by Zeneca Specialities. 57 p.
- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.

62-3 Analytical Method**MRID**

- 41067801 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Project ID: Study No. APP-001; Report No. WRC 89-19. Unpublished study prepared by ICI Americas Inc. 241 p.
- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI

Americas, Inc. 12 p.

- 43928602 Smith, J. (1996) Product Chemistry for Napropamide-Oxidiazon 4-2 Granules: Lab Project Number: 96-1. Unpublished study prepared by Platte Chemical Co. 13 p.
- 44006502 Lee, E. (1993) Analysis and Certification of Product Ingredients in DEVRINOL Technical Produced at Cold Creek Organics Plant: Lab Project Number: RR 93-001B: WRC 92-152: WRC 93-007. Unpublished study prepared by Zeneca Western Research Center. 246 p.
- 44409302 Kennedy, D.; Robson, C. (1997) Napropamide: Preliminary Analysis, Certification of Limits and Methods of Analysis to Verify Certified Limits for Napropamide Technical (TGAI) Produced by United Phosphorus at Sandbach UK: Lab Project Number: 702371: CGR10/97: WRC-88-76. Unpublished study prepared by Zeneca Specialities. 57 p.
- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.

63-0 Reports of Multiple phys/chem Characteristics

MRID

- 4190 Gjerstad, D.H.; South, D.B. (1976) Supporting Data for Application for State Registration of: Modown for Weed Control in Pine Seed- beds. (Unpublished study received Dec 13, 1977 under 2224-50; prepared by Auburn Univ., Dept. of Forestry in cooperation with U.S. Forest Service, State and Private Forestry, Southeastern Area, submitted by Mobil Chemical Co., Industrial Chemicals, Richmond, Va.; CDL:232503-A)
- 32566 Bost, J.J. (1974) Devrinol Tillam Tank Mix: Project No. 038229. (Unpublished study received Dec 17, 1974 under 476-2150; sub- mitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028421-C)
- 33178 Hudek, R.D.; Bost, J.J. (1974) ?Tank Mix Compatibility|. (Unpub- lished study received Dec 17, 1974 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:000836-G)
- 39764 Stauffer Chemical Company (1972?) Devrinol^(R)I: Summary of Envi- ronmental Studies. Summary of studies 093519-C through 093519- M. (Unpublished study received Dec 14, 1972 under 2F1194; CDL:093519-A)
- 40135 Stauffer Chemical Company (1971) The Name, Chemical Identity and Composition of the Pesticide Chemical: Waylay^(TM)I. (Unpub- lished study received Aug 20, 1971 under 2F1194; CDL:095554-B)
- 57801 Stauffer Chemical Company (1972) Devrinol^(R)I Physical and Chemi- cal Properties. (Unpublished study received May 27, 1977 under 476-2174; CDL:230294-A)
- 67870 Stauffer Chemical Company (1980) Tillam Dyfonate Devrinol Tank-mix Compatibility. (Unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-B)
- 70782 Hudek, R.D. (1978) Letter sent to R.L. Riggs dated Oct 24, 1978 ?Tank mix data for Devrinol registration|. (Unpublished study received Dec 11, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:243859-E)

- 70787 Hudek, R.D. (1980) Letter sent to R.L. Riggs dated Oct 31, 1980: Tank mixes for registrations. (Unpublished study received Dec 11, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:243860-E)
- 72688 Stauffer Chemical Company (1971) Devrinol: Physical and Chemical Properties. (Unpublished study received Apr 27, 1981 under 0F2319; CDL:070040-C)
- 92498 Bost, J.J. (1974) Letter sent to Glenn Kurimoto dated Nov 11, 1974: Devrinol tillam tank mix project #038229. (Unpublished study received Dec 17, 1974 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101112-C)
- 94168 Hudek, R.D. (1973) Letter sent to R.L. Riggs dated Apr 5, 1973: Tank-mix compatibility-- Devrinol 50W and Simazine 80W. (Unpublished study received Dec 17, 1974 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028423-L)
- 94169 Bost, J.J. (1974) Letter sent to R. Riggs dated Oct 2, 1974: Tank mix compatibility of Devrinol 50W and 2E with paraquat 2L and simazine 80W. (Unpublished study received Dec 17, 1974 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028423-M)
- 94477 Stauffer Chemical Company (1974) ?Tank-mix Compatibility--Devrinol 50W and Simazine 80W; Devrinol 50W and 2E with Paraquat 2L and Simazine 80W|. (Compilation; unpublished study received Dec 17, 1974; CDL:101111-D)
- 97397 Hudek, R.D. (1979) Letter sent to W. Hoover dated Oct 10, 1979: Tank mix data for registration of: Devrinol 4F + simazine 80W; Devrinol 4F + Paraquat CL; Devrinol 4F + simazine 80W + para- quat CL; Devrinol 4F + Tillam 6E. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-U)
- 139541 Griffith, W. (1983) Particle Size Distribution of Technical Dev- rinol. (Unpublished study received Dec 15, 1983 under 476- 2221; submitted by Stauffer Chemical Co., Richmond, CA; CDL: 252081-A)
- 40362904 Wegner, M. (1987) Technical Devrinol: Particle Size Analysis: Laboratory Project ID RRC 87-66. Unpublished study prepared by Stauffer Chemical Co. 8 p.
- 41610201 Lee, K. (1990) Napropamide-Physical Properties: Lab Project Number: RR/90/093B. Unpublished study prepared by ICI Americas Inc. 33 p.
- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 43928601 Irving, J. (1995) PCC-146: Chemical and Physical Properties: Lab Project Number: PLT-137. Unpublished study prepared by Dartec Inc. 34 p.

63-2 Color

MRID

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-3 Physical State

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-6 Boiling Point

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-7 Density

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-9 Vapor Pressure

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-10 Dissociation Constant

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-12 pH

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-14 Oxidizing/Reducing Action

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-15 Flammability

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-16 Explodability**MRID**

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-17 Storage stability**MRID**

- 41943301 Farina, L. (1989) Analysis and Certification of Product Ingredients in Devrinol Selective Herbicide: Supplemental Information: Lab Project No. 89-19. Unpublished study prepared by ICI Americas, Inc. 12 p.
- 43928601 Irving, J. (1995) PCC-146: Chemical and Physical Properties: Lab Project Number: PLT-137. Unpublished study prepared by Dartec Inc. 34 p.
- 44152201 Irving, J. (1996) PCC-146: Storage Stability, Corrosion Characteristics: Supplemental Report to MRID 43928601: Lab Project Number: PLT-137. Unpublished study prepared by Dartec, Inc. 20 p.
- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-18 Viscosity**MRID**

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-19 Miscibility**MRID**

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-20 Corrosion characteristics**MRID**

44152201 Irving, J. (1996) PCC-146: Storage Stability, Corrosion Characteristics: Supplemental Report to MRID 43928601: Lab Project Number: PLT-137. Unpublished study prepared by Dartec, Inc. 20 p.

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

63-21 Dielectric breakdown voltage

MRID

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

71-1 Avian Single Dose Oral Toxicity

MRID

- 73620 Fink, R. (1976) Final Report: Acute Oral LD50--Mallard Duck: Project No. 144-102. (Unpublished study received May 27, 1977 under 476-2174; prepared by Wildlife International, Ltd., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230293-B)
- 79548 Fink, R. (1976) Final Report: Acute Oral LD50--Mallard Duck: Project No. 144-102. (Unpublished study received Apr 27, 1977 under 476-2175; prepared by Wildlife International, Ltd., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229652-A)
- 79555 Fink, R. (1976) Final Report: Acute Oral LD50--Mallard Duck: Project No. 144-102. (Unpublished study received Mar 28, 1977 under 476-2184; prepared by Wildlife International, Ltd., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229228-A)
- 115312 Fink, R. (1976) Acute Oral LD50--Mallard Duck: Devrinol Technical: Project No. 144-102. Final rept. (Unpublished study received May 5, 1977 under 476-2173; prepared by Wildlife International, Ltd., submitted by Stauffer Chemical Co., Richmond, CA; CDL: 229750-A)
- 119533 Fink, R. (1976) Acute Oral LD50--Mallard Duck: Devrinol Technical: Project No. 144-102; T-5997. Final rept. (Unpublished study received Nov 9, 1982 under 476-2218; prepared by Wildlife International Ltd., submitted by Stauffer Chemical Co., Richmond, CA; CDL:248806-B)
- 41610202 Culotta, J.; et al. (1990) An Acute Oral Toxicity Study with the Mallard: Lab Project Number: 123-154. Unpublished Study Published by Wildlife International. 18 p.
- 42657401 Edwards, P. (1993) Addendum to MRID 41610202: Napropamide: An Acute Oral Toxicity Study with the Mallard. Unpublished study prepared by Zeneca Agrochemicals. 19 p.
- 43182401 Pearson, F.; White, J. (1994) Addendum to MRIDs 41610202 and 42657401: Napropamide: An Acute Oral Toxicity Study with the Mallard: Lab Project Number: WI-123-154. Unpublished study prepared by Zeneca Agrochemicals. 5 p.
- 43506701 Campbell, S.; Beavers, J. (1994) Napropamide: An Acute Oral Toxicity Study With the Northern Bobwhite: Lab Project Number: WI 123-169: 123-169. Unpublished study prepared by Wildlife Int'l Ltd. 23 p.

71-2 Avian Dietary Toxicity

MRID

- 25893 Beavers, J.B.; Fink, R.; Brown, R. (1978) Final Report: Eight-Day Dietary LC50--Bobwhite Quail:

Project No. 144-108. (Unpublished study received Jan 29, 1980 under 476-2108; prepared by Wildlife International, Ltd. in cooperation with Washington College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-P)

- 25894 Joiner, R.L. (1975) Safety Evaluation of Devrinol Technical by a Five-Day Feeding Study in Mallard Ducks: T-5469. (Unpublished study received Jan 29, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-Q)
- 39775 Knott, W.B.; Johnston, C.D. (1970) R-7465 Safety Evaluation on Bobwhite Quail. (Unpublished study received Dec 14, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-L)
- 49497 Knott, W.B.; Johnston, C.D. (1970) R-7465: Safety Evaluation on Bobwhite Quail. (Unpublished study received May 5, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-T)
- 113819 Joiner, R. (1975) Safety Evaluation of Devrinol Technical by a Five-day Feeding Study in Mallard Ducks: T-5469. (Unpublished study received Apr 25, 1979 under 476-2175; submitted by Stauffer Chemical Co., Richmond, CA; CDL:238234-A)
- 113820 Fink, R.; Beavers, J.; Brown, R. (1978) Eight-day Dietary LC50-- Bobwhite Quail: Devrinol: Project No. 144-108; T-6519. Final rept. (Unpublished study received Apr 25, 1979 under 476-2175; prepared by Wildlife International Ltd. and Washington College, submitted by Stauffer Chemical Co., Richmond, CA; CDL:238234-B)
- 41610203 Foster, J.; et al. (1990) Napropamide: A Dietary LC50 Study with the Mallard: Lab Project Number: 123-153. Unpublished study prepared by Wildlife International Ltd. 55 p.
- 92125003 Calderbank, A. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00113820. Eight-Day Dietary LC50-Bobwhite Quail-Devrinol: Report No. T-6519; Study No. 144-108. Prepared by WILDLIFE INTERNATIONAL LTD. 10 p.

71-4 Avian Reproduction

MRID

- 42027701 Beavers, J.; Foster, J.; Lynn, S.; et al. (1991) Napropamide: A One Generation Reproduction Study with the Mallard (*Anas platyrhynchos*): Lab Project Number: 123-160. Unpublished study prepared by Wildlife International, Ltd. 203 p.
- 42081301 Beavers, J.; Foster, J.; Lynn, S.; et al. (1991) Napromamide: A One Generation Reproduction Study With the Bobwhite Quail (*Colinus virginianus*): Lab Project Number: 123-159. Unpublished study prepared by Wildlife International, Ltd. 204 p.

72-1 Acute Toxicity to Freshwater Fish

MRID

- 72686 Vilkas, A.G.; Schupner, J.K. (1981) The Acute Toxicity of Devrinol Technical to the Rainbow Trout: UCCES Project No. 11506-22-10. (Unpublished study received Apr 27, 1981 under 0F2319; prepared by Union Carbide Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070040-A)

- 115313 Calmbacher, C. (1978) The Acute Toxicity of Devrinol Technical Composite WRC 4921-27-3 to the Rainbow Trout ...: UCES Proj. No. 11506-22-10; T-6520. (Unpublished study received Apr 25, 1979 under 476-2175; prepared by Union Carbide Corp., submitted by Stauffer Chemical Co., Richmond, CA; CDL:238234-C)
- 118002 Sleight, B. (1972) Acute Toxicity of Devrinol to Bluegill ...: ?Submitter| T-2223. (Unpublished study received Nov 9, 1982 under 476-2218; prepared by Bionomics, Inc., submitted by Stauffer Chemical Co., Richmond, CA; CDL:248806-C)
- 41610204 Tapp, J.; et al. (1990) Napropamide: Determination of Acute Toxicity to Bluegill Sunfish (*Lepomis macrochirus*): Lab Project No. BL3804/B. Unpublished Study Prepared by Imperial Chemical Industries PLC. 20 p.
- 92125004 Calderbank, A. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00115313 and Related MRIDs 00072686. The Acute Toxicity of Devrinol Technical to the Rainbow Trout *Salmo gairdneri* Richardson: Report No. T-10726; Study No. 11506-22-10. Prepared by UNION CARBIDE CORP. 11 p.

72-2 Acute Toxicity to Freshwater Invertebrates

MRID

- 57805 Vilkas, A.G. (1976) Acute Toxicity of Devrinol Technical to the Water Flea, *Daphnia magna*~Straus: AES Proj. # 7600-87. (Unpublished study received May 27, 1977 under 476-2174; prepared by Union Carbide Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230293-C)
- 88064 Vilkas, A.G. (1976) Acute Toxicity of Devrinol Technical to the Water Flea~*Daphnia magna*~Straus: AES Proj. #7600-87. (Unpublished study received Jan 25, 1977 under 476-2182; prepared by Union Carbide Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227696-C)
- 41610205 Stewart, K.; et al. (1990) Napropamide: Determination of Acute Toxicity to *Daphnia magna*: Lab Project Number: BL3845/B. Unpublished Study Prepared by Imperial Chemical Industries PLC. 18 p.

72-3 Acute Toxicity to Estuarine/Marine Organisms

MRID

- 65360 Heitmuller, T. (1976) Acute Toxicity of Devrinol to Embryos of Eastern Oysters (~*Crassostrea virginica*~), to Pink Shrimp (~*Penaeus duorarum*~), and to Fiddler Crabs (~*Uca pugilator*~). (Unpublished study received Mar 28, 1977 under 476-2184; prepared by EG&G, Bionomics, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229228-C)
- 41610206 Tapp, J.; et al. (1990) Napropamide: Determination of Acute Toxicity to Sheepshead Minnow (*Cyprinodon variegatus*): Lab Project Number: BL3854/B. Unpublished study prepared by Imperial Chemical Industries PLC. 18 p.
- 41610207 Williams, T.; et al. (1990) Napropamide: Determination of Acute Toxicity to Mysid Shrimp: Lab Project Number: BL3741/B. Unpublished Study Prepared by Imperial Chemical Industries PLC. 16 p.

- 41667101 Dionne, E. (1990) Napropamide Technical--Acute Toxicity to Eastern Oysters (*Crassostrea virginica*) under Flow-Through Conditions: Lab Project Number: 90-8-3449. Unpublished study prepared by Springborn Labs, Inc. 50 p.
- 42656201 Dionne, E. (1993) Addendum to MRID 41667101: Napropamide Technical: Acute Toxicity to Eastern Oysters (*Crassostrea virginica*) Under Flow-Through Conditions: Lab Project Number: 90-8-3449. Unpublished study prepared by Springborn Labs., Inc. 17 p.
- 43875001 Dionne, E. (1995) Napropamide Technical: Acute Toxicity to Eastern Oysters (*Crassostrea virginica*): Addendum to MRID Nos. 41667101 and 42656201: Lab Project Number: SL-90-8-3449 ADDENDUM 2. Unpublished study prepared by Zeneca Brixham, UK. 14 p.

72-4 Fish Early Life Stage/Aquatic Invertebrate Life Cycle Study

MRID

- 25895 Calmbacher, C.W. (1978) The Acute Toxicity of Devrinol Technical Composite WRC 4921-27-3 to the Rainbow Trout~*Salmo gairdneri*?~ Richardson: UCES Proj. No. 11506-22-10. (Unpublished study received Jan 29, 1980 under 476-2108; prepared by Union Carbide Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-R)
- 39771 Howard, D.J.; Johnston, C.D. (1971) R-7465: Safety Evaluation on Rainbow Trout. (Unpublished study received Dec 14, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-H)
- 39772 Howard, D.J.; Johnston, C.D. (1971) R-7465: Technical and 50% WP Safety Evaluation on Bluegill Sunfish. (Unpublished study received Dec 14, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-I)
- 39773 Sleight, B.H., III; Macek, K.J. (1972) Acute Toxicity of Devrinol to Bluegill (?~*Lepomis macrochirus*?~). (Unpublished study received Dec 14, 1972 under 2F1194; prepared by Bionomics, Inc., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 093519-J)
- 49496 Howard, D.J.; Johnston, C.D. (1971) R-7465: Safety Evaluation on Rainbow Trout. (Unpublished study received May 5, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-S)

81-1 Acute oral toxicity in rats

MRID

- 32495 Bullock, C.H. (1973) Acute Oral LDI50^, Male Rats: Toxicology Lab Report--T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-D)
- 35672 Stauffer Chemical Company (19??) Devrinol 4-F Selective Herbicide. Summary of studies 242620-Q through 242620-S and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; CDL: 242620-N)
- 35673 Humm, L.J.; Castles, T.R. (1978) Devrinol 4F--New Flowable: Toxicology Laboratory Report T-6630. Summary of studies 242620-Q through 242620-T and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.;

- CDL:242620-O)
- 35678 Brookins, M.; Howell, A.; Jones, B. (1949?) ?Acute Oral Toxicity of Devrinol in Rats|: T-6630. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-X)
- 55025 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Dec 30, 1980 under 476-2202; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244052-B)
- 65359 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-C)
- 67521 Scholler, J. (1970?) Devrinol 10G Acute Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-A)
- 70815 Bullock, C.H. (1972) Acute Oral LDI50[^], Male Rats: Toxicology Lab Report T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221951-D)
- 72401 Scholler, J. (1976) Devrinol 10G Acute Toxicity Evaluation: T-5559. (Unpublished study received Mar 2, 1981 under 476-2205; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244467-B)
- 85945 Castles, T.R. (1978) Toxicity Evaluation: ?Devrinol Technical|: Toxicology Laboratory Report T-6139. (Unpublished study received Aug 1, 1979 under 9E2244; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:098861-B)
- 88065 Scholler, J. (1976) Toxicity Evaluation: Tillam-Devrinol 4:1-E: Toxicology Laboratory Report--T-5712. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-A)
- 88067 Howell, A.M. (1975) Devrinol: Toxicology Laboratory Report--T-4554. Summary of studies 227697-E and 227697-F. (Unpublished study received Jan 25, 1977 under 476-2182, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-D)
- 88068 Howell, A.M. (1975) Acute Rat Oral Toxicity: Devrinol: T-4554. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-E)
- 88070 Morgan, S.E. (1974) Devrinol, Technical: Toxicology Laboratory Report--T-4825. Summary of studies 227697-H through 227697-J. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-G)
- 88071 Morgan, S.E. (1974) Acute Rat Oral Toxicity: Devrinol, Technical: T-4825; (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-H)
- 88072 Morgan, S.E. (1974) Acute Rat Oral Toxicity: Devrinol, Technical: T-4825. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-I)

- 112719 Stauffer Chemical Co. (19??) Acute Oral (Female) Devrinol Technical: T-6139. (Unpublished study received Apr 6, 1981 under 9E2244; CDL:099978-A)
- 113802 Bullock, C. (1970) Toxicology Summary: ?R-7465|: T-1555. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-B)
- 113803 Bullock, C.; Hall, A.; Saylor, J. (1971) Toxicology Lab Report: ?R-7465|: T-1179. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-C)
- 113806 Stauffer Chemical Co. (1969) ?Toxicity of R-7465 to Rabbits|: Toxicology Lab Report T-1324. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-F)
- 113807 Stauffer Chemical Co. (1971) ?Toxicity of R-7465 to Rats|: Toxicology Lab Report T-1692. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-G)
- 113808 Stauffer Chemical Co. (1971) ?Toxicity of R-7465 to Guinea Pigs and Mice|: Toxicology Lab Report T-1723. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-H)
- 126779 Castles, T. (1978) Toxicity Evaluation: ?Devrinol Technical|: Toxicology Laboratory Report T-6139. (Unpublished study received Apr 4, 1983 under 476-2221; submitted by Stauffer Chemical Co., Richmond, CA; CDL:249918-A)
- 137596 Morgan, R.; Doane, P. (1983) Devrinol 50 Dry Flowable: ?Toxicity in Rats, Rabbits|: Richmond Toxicology Laboratory Report T-11230. (Unpublished study received Feb 7, 1984 under 476-2229; submitted by Stauffer Chemical Co., Richmond, CA; CDL:252428-A)
- 40362902 Morgan, R. (1987) Acute Toxicity Tests: Oral and Dermal Toxicity, Skin and Ocular Irritation for Devrinol Technical: Final Report: T-13121. Unpublished study prepared by Stauffer Chemical Co. 23 p.
- 46105004 Malte, A. (2003) Acute Toxicity Studies: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 67 p.
- 92125005 McCall, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00112719 and Related MRIDs 00126779. Napropamide (Devrinol Technical): Acute Oral Toxicity-Rat: CTL Report No. T-6139. Prepared by STAUFFER CHEMICAL COMPANY. 8 p.

81-2 Acute dermal toxicity in rabbits or rats

MRID

- 32495 Bullock, C.H. (1973) Acute Oral LDI50^, Male Rats: Toxicology Lab Report--T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-D)
- 35672 Stauffer Chemical Company (19??) Devrinol 4-F Selective Herbicide. Summary of studies 242620-Q through 242620-S and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; CDL: 242620-N)
- 35673 Humm, L.J.; Castles, T.R. (1978) Devrinol 4F--New Flowable: Toxicology Laboratory Report T-6630. Summary of studies 242620-Q through 242620-T and 242620-X. (Unpublished study

- received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-O)
- 35675 Howell, A.; Humm, L. (1978) Acute Rabbit Dermal Toxicity: T-6630. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-Q)
- 55025 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Dec 30, 1980 under 476-2202; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244052-B)
- 65359 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-C)
- 67521 Scholler, J. (1970?) Devrinol 10G Acute Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-A)
- 70816 Bullock, C.H. (1972) Acute Dermal Screening, Rabbits: Toxicology Lab Report T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221951-E)
- 72401 Scholler, J. (1976) Devrinol 10G Acute Toxicity Evaluation: T-5559. (Unpublished study received Mar 2, 1981 under 476-2205; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244467-B)
- 85945 Castles, T.R. (1978) Toxicity Evaluation: ?Devrinol Technical: Toxicology Laboratory Report T-6139. (Unpublished study received Aug 1, 1979 under 9E2244; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:098861-B)
- 88065 Scholler, J. (1976) Toxicity Evaluation: Tillam-Devrinol 4:1-E: Toxicology Laboratory Report--T-5712. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-A)
- 88067 Howell, A.M. (1975) Devrinol: Toxicology Laboratory Report--T-4554. Summary of studies 227697-E and 227697-F. (Unpublished study received Jan 25, 1977 under 476-2182, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-D)
- 88069 Howell, A.M. (1975) Acute Rabbit Dermal Toxicity: Devrinol: T-4554. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-F)
- 88070 Morgan, S.E. (1974) Devrinol, Technical: Toxicology Laboratory Report--T-4825. Summary of studies 227697-H through 227697-J. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-G)
- 88073 Morgan, S.E. (1974) Acute Rabbit Dermal Toxicity: Devrinol Technical: T-4825. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-J)
- 113802 Bullock, C. (1970) Toxicology Summary: ?R-7465: T-1555. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-B)

113803 Bullock, C.; Hall, A.; Saylor, J. (1971) Toxicology Lab Report: ?R-7465|: T-1179. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-C)

113806 Stauffer Chemical Co. (1969) ?Toxicity of R-7465 to Rabbits|: Toxicology Lab Report T-1324. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-F)

126779 Castles, T. (1978) Toxicity Evaluation: ?Devrinol Technical|: Tox- icology Laboratory Report T-6139. (Unpublished study received Apr 4, 1983 under 476-2221; submitted by Stauffer Chemical Co., Richmond, CA; CDL:249918-A)

137596 Morgan, R.; Doane, P. (1983) Devrinol 50 Dry Flowable: ?Toxicity in Rats, Rabbits|: Richmond Toxicology Laboratory Report T-11230. (Unpublished study received Feb 7, 1984 under 476-2229; submit- ted by Stauffer Chemical Co., Richmond, CA; CDL:252428-A)

40362902 Morgan, R. (1987) Acute Toxicity Tests: Oral and Dermal Toxicity, Skin and Ocular Irritation for Devrinol Technical: Final Report: T-13121. Unpublished study prepared by Stauffer Chemical Co. 23 p.

43928603 Kuhn, J. (1995) PCC-146: Acute Dermal Toxicity Study in Rabbits: Final Report: Lab Project Number: 2401-95: S9-FF81-2. Unpublished study prepared by Stillmeadow Inc. 14 p.

46105004 Malte, A. (2003) Acute Toxicity Studies: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 67 p.

92125006 McCall, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40362902. Napropamide (Devrinol Technical): Acute Dermal Toxicity-Rabbit: Stauffer Report No.: T-13121. Prepared by STAUFFER CHEMICAL COMPANY. 8 p.

81-3 Acute inhalation toxicity in rats

MRID	Citation Reference
32495	Bullock, C.H. (1973) Acute Oral LDI50^,Male Rats: Toxicology Lab Report--T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-D)
35672	Stauffer Chemical Company (19??) Devrinol 4-F Selective Herbicide. Summary of studies 242620-Q through 242620-S and 242620-X. (Un- published study received Jun 9, 1980 under 476-2199; CDL: 242620-N)
35673	Humm, L.J.; Castles, T.R. (1978) Devrinol 4F--New Flowable: Toxicology Laboratory Report T-6630. Summary of studies 242620-Q through 242620-T and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-O)
52236	Miller, J.L. (1979) Acute Inhalation Toxicity of Devrinol^(R)I 4F in Albino Rats: T-6630. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-T)
70818	Bullock, C.H. (1973) To Evaluate the Acute Inhalation Toxicity of Devrinol 2E: Toxicology Lab Report T-4140. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221951-G)

- 88065 Scholler, J. (1976) Toxicity Evaluation: Tillam-Devrinol 4:1-E: Toxicology Laboratory Report--T-5712. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-A)
- 113807 Stauffer Chemical Co. (1971) ?Toxicity of R-7465 to Rats: Toxicology Lab Report T-1692. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-G)
- 42181001 Lewis, R.; Gibson, K. (1991) Napropamide: 4-Hour Acute Inhalation Toxicity Study in the Rat of a 500g/kg DF Formulation: Lab Project Number: CTL/P/3475: HR2111. Unpublished study prepared by ICI Central Tox Lab (UK). 65 p.
- 42231501 Hext, P. (1989) Napropamide: 4-Hour Acute Inhalation Toxicity Study in the Rat: Lab Project Number: CTL/P/2418. Unpublished study prepared by ICI Central Toxicology. 89 p.
- 43928604 Bennick, J. (1995) PCC-146: Acute Inhalation Toxicity Study in Rats: Final Report: Lab Project Number: 2402-95: S9-FF81-3. Unpublished study prepared by Stillmeadow, Inc. 11 p.
- 46105004 Malte, A. (2003) Acute Toxicity Studies: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 67 p.

81-4 Primary eye irritation in rabbits

MRID

- 32495 Bullock, C.H. (1973) Acute Oral LD₅₀, Male Rats: Toxicology Lab Report--T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-D)
- 35672 Stauffer Chemical Company (19??) Devrinol 4-F Selective Herbicide. Summary of studies 242620-Q through 242620-S and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; CDL: 242620-N)
- 35673 Humm, L.J.; Castles, T.R. (1978) Devrinol 4F--New Flowable: Toxicology Laboratory Report T-6630. Summary of studies 242620-Q through 242620-T and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-O)
- 35677 Howell, A.; Humm, L. (1978) Ocular Irritation: T-6630. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-S)
- 55025 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Dec 30, 1980 under 476-2202; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244052-B)
- 65358 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-6021. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-B)
- 65359 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-C)
- 67521 Scholler, J. (1970?) Devrinol 10G Acute Toxicity Evaluation: Toxicology Laboratory Report T-

5559. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-A)
- 67522 Scholler, J. (1965?) Devrinol Tech. (4059-17-?RFD-2401) Skin and Eye Irritation Evaluation: Toxicology Laboratory Report T-6021. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-B)
- 70817 Stauffer Chemical Company (1972) Acute Eye Irritation--Rabbits: Toxicology Lab Report T-1832. (Unpublished study received Oct 16, 1973 under 476-2150; CDL:221951-F)
- 72687 Stauffer Chemical Company (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5991. (Unpublished study received Apr 27, 1981 under 0F2319; CDL:070040-B)
- 88065 Scholler, J. (1976) Toxicity Evaluation: Tillam-Devrinol 4:1-E: Toxicology Laboratory Report--T-5712. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-A)
- 88074 Scholler, J. (1976) Toxicity Evaluation: Devrinol Tech. (4059-17-1 ?RFD-2401): Toxicology Laboratory Report--T-6021. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-K)
- 88979 Hillebrecht, W.R. (1981) Letter sent to Robert J. Taylor dated Dec 22, 1981: Devrinol^(R)I 50-WP selective herbicide. (Unpublished study received Dec 22, 1981 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070577-A)
- 100311 Stauffer Chemical Company (1976) Toxicity Evaluation: Devrinol 50-WP (SEE 1504): Toxicology Laboratory Report--T-5991. (Unpublished study received Apr 27, 1977 under 476-2175; CDL:229650-A)
- 113803 Bullock, C.; Hall, A.; Saylor, J. (1971) Toxicology Lab Report: ?R-7465|: T-1179. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-C)
- 113806 Stauffer Chemical Co. (1969) ?Toxicity of R-7465 to Rabbits|: Toxicology Lab Report T-1324. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-F)
- 126779 Castles, T. (1978) Toxicity Evaluation: ?Devrinol Technical|: Toxicology Laboratory Report T-6139. (Unpublished study received Apr 4, 1983 under 476-2221; submitted by Stauffer Chemical Co., Richmond, CA; CDL:249918-A)
- 137596 Morgan, R.; Doane, P. (1983) Devrinol 50 Dry Flowable: ?Toxicity in Rats, Rabbits|: Richmond Toxicology Laboratory Report T-11230. (Unpublished study received Feb 7, 1984 under 476-2229; submitted by Stauffer Chemical Co., Richmond, CA; CDL:252428-A)
- 40362902 Morgan, R. (1987) Acute Toxicity Tests: Oral and Dermal Toxicity, Skin and Ocular Irritation for Devrinol Technical: Final Report: T-13121. Unpublished study prepared by Stauffer Chemical Co. 23 p.
- 41453401 Keenan, K. (1989) Acute Ocular Irritation Test for Devrinol DF: Lab Project I.D.: T-13540. Unpublished study prepared by ICI Americas, Inc. 20 p.
- 43928605 Kuhn, J. (1995) PCC-146: Primary Eye Irritation Study in Rabbits: Final Report: Lab Project Number: 2403-95: S9-FF81-4. Unpublished study prepared by Stillmeadow, Inc. 21 p.

- 46105004 Malte, A. (2003) Acute Toxicity Studies: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 67 p.
- 92125007 Parr-Dobrzanski, R. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40362902. Napropamide: (Devrinol Technical): Eye Irritation to the Rabbit: CTL Report No.: T-13121. Prepared by STAUFFER CHEMICAL COMPANY. 6 p.

81-5 Primary dermal irritation

MRID

- 35672 Stauffer Chemical Company (19??) Devrinol 4-F Selective Herbicide. Summary of studies 242620-Q through 242620-S and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; CDL: 242620-N)
- 35673 Humm, L.J.; Castles, T.R. (1978) Devrinol 4F--New Flowable: Toxicology Laboratory Report T-6630. Summary of studies 242620-Q through 242620-T and 242620-X. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-O)
- 35676 Howell, A.; Jones, B. (1978) Primary Skin Irritation: T-6630. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-R)
- 55025 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Dec 30, 1980 under 476-2202; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244052-B)
- 65358 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-6021. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-B)
- 65359 Scholler, J. (1976) Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229229-C)
- 67521 Scholler, J. (1970?) Devrinol 10G Acute Toxicity Evaluation: Toxicology Laboratory Report T-5559. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-A)
- 67522 Scholler, J. (1965?) Devrinol Tech. (4059-17-?RFD-2401) Skin and Eye Irritation Evaluation: Toxicology Laboratory Report T-6021. (Unpublished study received Jun 2, 1977 under 476-2176; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:230602-B)
- 88065 Scholler, J. (1976) Toxicity Evaluation: Tillam-Devrinol 4:1-E: Toxicology Laboratory Report--T-5712. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-A)
- 88074 Scholler, J. (1976) Toxicity Evaluation: Devrinol Tech. (4059-17-1 ?RFD-2401): Toxicology Laboratory Report--T-6021. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227697-K)
- 88979 Hillebrecht, W.R. (1981) Letter sent to Robert J. Taylor dated Dec 22, 1981: Devrinol^(R)I 50-WP selective herbicide. (Unpublished study received Dec 22, 1981 under 476-2108; submitted by

Stauffer Chemical Co., Richmond, Calif.; CDL:070577-A)

- 126779 Castles, T. (1978) Toxicity Evaluation: ?Devrinol Technical|: Toxicology Laboratory Report T-6139. (Unpublished study received Apr 4, 1983 under 476-2221; submitted by Stauffer Chemical Co., Richmond, CA; CDL:249918-A)
- 137596 Morgan, R.; Doane, P. (1983) Devrinol 50 Dry Flowable: ?Toxicity in Rats, Rabbits|: Richmond Toxicology Laboratory Report T-11230. (Unpublished study received Feb 7, 1984 under 476-2229; submitted by Stauffer Chemical Co., Richmond, CA; CDL:252428-A)
- 40362902 Morgan, R. (1987) Acute Toxicity Tests: Oral and Dermal Toxicity, Skin and Ocular Irritation for Devrinol Technical: Final Report: T-13121. Unpublished study prepared by Stauffer Chemical Co. 23 p.
- 43928606 Kuhn, J. (1995) PCC-146: Primary Dermal Irritation Study in Rabbits: Final Report: Lab Project Number: 2404-95: S9-FF81-5. Unpublished study prepared by Stillmeadow, Inc. 14 p.
- 46105004 Malte, A. (2003) Acute Toxicity Studies: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 67 p.
- 92125008 Parr-Dobrzanski, R. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40362902. Napropamide (Devrinol Technical): Skin Irritation to the Rabbit: CTL Report No. T-13121. Prepared by STAUFFER CHEMICAL COMPANY. 6 p.

81-6 Dermal sensitization

MRID

- 147494 Reagan, E. (1984) Dermal Sensitization Study of Devrinol Technical Lot 4921-27-24 in Albino Guinea Pigs (Modified Buehler Test): FDRL Study No. 8296A. Unpublished study prepared by Food & Drug Research Laboratories, Inc. 47 p.
- 149412 Reagan, E. (1984) Dermal Sensitization Study of Devrinol 50 DF Lot WDA 3005 in Albino Guinea Pigs (Modified Buehler Test): Study No. 8296C. Unpublished study prepared by Food and Drug Research Laboratories, Inc. 49 p.
- 40362903 Mutter, L. (1987) Dermal Sensitization Test of Devrinol Technical: Final Report: T-13161. Unpublished study prepared by Stauffer Chemical Co. 66 p.
- 43928607 Kuhn, J. (1995) PCC-146: Dermal Sensitization Study in Guinea Pigs: Final Report: Lab Project Number: 2405-95: S9-FF81-6. Unpublished study prepared by Stillmeadow, Inc. 19 p.
- 92125009 Lees, D. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40362903. Dermal Sensitisation Test of Napropamide (Devrinol Technical): WRC Report No: T-13161. Prepared by STAUFFER CHEMICAL COMPANY/RICHMOND TOXIC. 9 p.

82-1 Subchronic Oral Toxicity: 90-Day Study

MRID

- 42791 Fogleman, R.W.; Tyler, H.Y. (1972) Final Report: 90-Day Subchronic Toxicity of Isophorone in the Rat: Project No. 120-1008-61. (Unpublished study received Jan 22, 1973 under 2F1224; prepared by Affiliated Medical Enterprises, Inc., submitted by Rohm & Haas Co., Philadelphia,

Pa.; CDL:091054-I)

- 42792 Fogleman, R.W. (1971) 90-Day Subchronic Toxicity of Isophorone in the Rat--Progress Report--8 Weeks: Project No. 120-1008-61. (Unpublished study received Jan 22, 1973 under 2F1224; prepared by Affiliated Medical Enterprises, Inc., submitted by Rohm & Haas Co., Philadelphia, Pa.; CDL:091054-J)
- 113809 Howard, D.; Woodard, M.; Woodard, G. (1970) R-7465: Safety Evaluation by Dietary Feeding to Rats for 13 Weeks. (Unpublished study received Jun 2, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-I)
- 113810 Banerjee, B.; Woodard, M.; Woodard, G.; et al. (1970) R-7465: Safety Evaluation by Repeated Dietary Administration to Dogs for 13 Weeks. Final rept. (Unpublished study received Jun 2, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-J)

82-2 21-day dermal-rabbit/rat

MRID

- 42006701 Parr-Dobrzanski, R.; Leah, A. (1991) Napropamide: 21-Day Dermal Toxicity to the Rat: Lab Project Number: CTL/P/3397. Unpublished study prepared by ICI Central Toxicology Lab. 347 p.

83-1 Chronic Toxicity

MRID

- 72684 Goldenthal, E.I.; Richter, W.R.; Nair, K.P.C. (1981) Lifetime Oral Study in Mice: IRDC No. 153-013. (Unpublished study received Apr 27, 1981 under 9E2244; prepared by International Research and Development Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070039-A)
- 81613 Goldenthal, E.I.; Jessup, D.C.; Geil, R.G.; et al. (1978) Lifetime Oral Study in Mice: 153-013. (Unpublished study received Aug 1, 1979 under 9E2244; prepared by International Research and Development Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:098861-C)
- 81614 Trutter, J.A.; Lemen, J.K.; Ulland, B.M.; et al. (1978) 24-month Chronic Feeding Study in Rats: Devrinol Technical: Project No. 132-137. Final rept. (Unpublished study, including letters dated Dec 18, 1978 and Feb 21, 1980 from D.R. Saunders to T.R. Castles, R.I. Freudenthal, T.H. Swigut, et al., received Aug 1, 1979 under 9E2244; prepared by Stauffer Chemical Co., Richmond, Calif.; CDL:098862-B)
- 88979 Hillebrecht, W.R. (1981) Letter sent to Robert J. Taylor dated Dec 22, 1981: Devrinol^(R)I 50-WP selective herbicide. (Unpublished study received Dec 22, 1981 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070577-A)
- 112720 Stauffer Chemical Co. (1978) Two Year Feeding Study in Rats: Devrinol Technical: Raw Data: Project No. 132-137. (Compilation; unpublished study received Apr 6, 1981 under 9E2244; CDL:099978-B)
- 112721 Goldenthal, E.; Richter, W. (1980) Lifetime Oral Study in Mice: 153-013. (Unpublished study received Apr 6, 1981 under 9E2244; prepared by International Research and Development Corp.,

sub- mitted by Stauffer Chemical Co., Richmond, CA; CDL:099978-C)

- 41156602 Batham, P.; Engel, D. (1988) A 52Week Toxicity Study of Devrinol Technical in the Beagle Dog: Project ID: 82658. Unpublished study prepared by Bio-Research Laboratories Ltd. 389 p.
- 43068801 Hodge, M. (1993) Two-year Chronic Toxicity/Oncogenicity Study with R-7465 (Napropamide) in Rats: Supplement to T-13276 Histopathology Report and Study Discussion: Addendum to MRID 42189102: Lab Project Number: CTL/P/4137: PR0873. Unpublished study prepared by Zeneca Central Toxicology Lab. 1416 p.
- 92125010 Barber, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 41156602. A 52-Week Oral Toxicity Study of Napropamide (Devrinol) Technical in the Beagle Dog: Stauffer Report No.: T-12924; Bio-Research LTD Project No.: 82658. Prepared by BIO-RESEARCH LABS. LTD. 9 p.

83-2 Oncogenicity

MRID

- 42189101 Pettersen, J.; Walberg, J. (1992) 18-Month Dietary Mouse Oncogenicity Study with R-7465: Final Report: Lab Project Number: T-13272. Unpublished study prepared by Ciba-Geigy Corp. 1163 p.
- 43068801 Hodge, M. (1993) Two-year Chronic Toxicity/Oncogenicity Study with R-7465 (Napropamide) in Rats: Supplement to T-13276 Histopathology Report and Study Discussion: Addendum to MRID 42189102: Lab Project Number: CTL/P/4137: PR0873. Unpublished study prepared by Zeneca Central Toxicology Lab. 1416 p.

83-3 Teratogenicity -- 2 Species

MRID

- 72691 Durloo, R.S.; Johnston, C.D. (1971) R-7465: Safety Evaluation by a Teratological Study in Rats. (Unpublished study, including letter dated Jan 21, 1972 from G. Woodard to A.B. Lindquist, received Apr 27, 1981 under OF2319; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070040-F)
- 88979 Hillebrecht, W.R. (1981) Letter sent to Robert J. Taylor dated Dec 22, 1981: Devrinol^(R)I 50-WP selective herbicide. (Unpublished study received Dec 22, 1981 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:070577-A)
- 128104 Rodwell, D.; Tasker, E.; Winbigler, J.; et al. (1982) A Teratology Study in Rats with Devrinol: Wil 27002. Final rept. (Unpublished study received Feb 7, 1983 under 476-2108; prepared by Wil Research Laboratories, Inc., submitted by Stauffer Chemical Co., Richmond, CA; CDL:071390-A)
- 142118 Minor, J. (1984) A Teratology Study in New Zealand White Rabbits with Devrinol: T-11898. Unpublished study prepared by Stauffer Chemical Co. 207 p.
- 41156601 Sauerhoff, M. (1987) An Oral Dose Rangefinding Study of Devrinol Technical in the Beagle Dog: T-12921: Final Report: Project ID: 82657. Unpublished study prepared by Bio-Research Laboratories Ltd. 162 p.
- 42006702 Meyer, L. (1990) A Teratology Study in CD Rats with R-7465 Technical: Lab Project Number: T-13589. Unpublished study prepared by Ciba-Geigy Environmental Health Center. 170 p

- 42006703 Meyer, L. (1990) A Teratology Study in CD Rats with R-7465 Technic- al: Lab Project Number: T-13274. Unpublished study prepared by Ciba-Geigy Environmental Health Center. 211 p.
- 42006704 Minor, J. (1990) A Teratology Study in Rabbits with R-7465 Technic- al: Lab Project Number: T-13270. Unpublished study prepared by Ciba-Geigy Environmental Health Center. 181 p.

83-4 2-generation repro.-rat

MRID

- 72685 Goldenthal, E.I. (1981) Three Generation Reproduction Study in Rats: Amendment to the Final Report: IRDC No. 153-015. (Unpub- lished study received Apr 27, 1981 under 9E2244; prepared by In- ternational Research and Development Corp., submitted by Stauf- fer Chemical Co., Richmond, Calif.; CDL:070039-B)
- 81615 Goldenthal, E.I.; Jessup, D.C.; Geil, R.G.; et al. (1978) Three Generation Reproduction Study in Rats: 153-015. (Unpublished study, including letter dated Dec 26, 1978 from D.R. Saunders to T.R. Castles, R.I. Freudenthal, T.H. Swigut, et al., received Aug 1, 1979 under 9E2244; prepared by International Research and Development Corp., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:098862-C)
- 88979 Hillebrecht, W.R. (1981) Letter sent to Robert J. Taylor dated Dec 22, 1981: Devrinol^(R)I 50-WP selective herbicide. (Unpublished study received Dec 22, 1981 under 476-2108; submitted by Stauf- fer Chemical Co., Richmond, Calif.; CDL:070577-A)
- 92125011 Guttman, E. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00081615 and Related MRIDs 00112722. Napropamide (Devrinol): Three Generation Reproduction Study: Stauffer Report No.: T-6334. Prepared by INTERNATIONAL RESEARCH/DEVELOPMENT CORP. 10 p.
- 92125069 Jessup, D.; Geil, R.; Rodwell, D. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00081615 and Related MRIDs 00112722. Napropamide (Devrinol): Three Generation Reproduction Study: Stauffer Report Number: T-6334. Prepared by INTERNATIONAL RESEARCH AND DEVELOPMENT CO. 120 p.

83-5 Dietary: Combined Chronic Toxicity/Oncogenicity Studies

MRID

- 42189102 Pettersen, J.; Walberg, J. (1992) Two-Year Chronic Toxicity/Oncogenicity Study with R-7465 in Rats: Final Report: Lab Project Number: T-13276. Unpublished study prepared by Ciba-Geigy Corp. 1085 p.

84-2 Intreraction with Gonadal DNA

MRID

- 25880 Shirasu, Y.; Moriya, M.; Simmon, V.F.; et al. (1976) Mutagenicity Testing on Napropamide in Microbial Systems. (Unpublished study including submitting company summary, received Jan 29, 1980 under 476-2108; prepared by Institute of Environmental Toxicology, Toxicology Div. in cooperation with Stanford Research Institute, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 099218-B)

- 147489 Majeska, J. (1984) Mutagenicity Evaluation in Bone Marrow Micro- nucleus [of Devrinol Technical]: Report No. T-11822. Unpub- lished study prepared by Stauffer Chemical Co. 12 p.
- 147490 Majeska, J. (1984) Mutagenicity Evaluation in Mouse Lymphoma Mul- tiple Endpoint Test: Forward Mutation Assay: Report No. T-11912. Unpublished study prepared by Stauffer Chemical Co. 21 p.
- 147491 Majeska, J. (1984) Mutagenicity Evaluation in Mouse Lymphoma Mul- tiple Endpoint Test: Cytogenetic Assay: Report No. T-11913. Un- published study prepared by Stauffer Chemical Co. 14 p.
- 147492 Majeska, J. (1984) Mutagenicity Evaluation in Salmonella typhi- murium: Report No. T-11914. Unpublished study prepared by Stauffer Chemical Co. 16 p.
- 147493 Snyder, R. (1984) Effects of Devrinol on Human Fibroblast DNA: Re- port No. T-11915. Unpublished study prepared by Stauffer Chemi- cal Co. 9 p.
- 162135 Snyder, R. (1986) Effects of Devrinol Technical on Human Fibro- blast DNA: Report No. T- 12810. Unpublished study prepared by Stauffer Chemical Co. 10 p.
- 162136 Majeska, J. (1986) Mutagenicity Evaluation in Bone Marrow Micro- nucleus: Report No. T-12813. Unpublished study prepared by Stauffer Chemical Co. 10 p.
- 162137 Majeska, J. (1985) Mutagenicity Evaluation in Chinese Hamster Ovary Forward Mutation Assay: Report No. T-12057. Unpublished study prepared by Stauffer Chemical Co. 21 p.
- 41582201 Callander, R. (1986) Study of the Capacity of the Test Article, Technical Napropamide, to Induce Gene Mutation in V79 Chinese Hamster Lung Cells: Lab Project Number: S-162: RBM/M979. Unpub- lished study prepared by Instituto di Recerche Biomediche. 32 p.
- 41610208 Kennelly, J. (1990) Napropamide: Assessment for the Induction of Unscheduled DNA Synthesis in Rat Hepatocytes in Vivo: Lab Project Number: CTL/P/3018. Unpublished study prepared by ICI Central Toxicology Laboratory. 42 p.
- 92125012 Callander, R. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00147492. Devrinol Technical (Lot N. WRC 4921-27-24); Mutagenicity Evaluation in Salmonella typhimurium: Report No.: T- 11914; Study No. T-11914. Prepared by Stauffer Chemical Co. in Vitro Tox. Section. 6 p.
- 92125013 Callander, R. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00147490. Devrinol Technical (Lot No. 4921-27-24): Mutagenicity Evaluation in Mouse Lymphoma Multiple Endpoint Test Forward Mutation Assay: Report No. T-11912; Study No.: T-11912. Prepared by Stauffer Chemical Co. in Vitro Toxicology Section. 6 p.
- 92125014 MacKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00147489 and Related MRIDs 00162136. Devrinol Technical: Mutagenicity Evaluation in Bone Marrow Micro- nucleus: Report Nos. T-11822 and T-12813; Study Nos.: T-11822 and T-12813. Prepared by Stauffer Chemical Co. 7 p.

85-1 General metabolism

MRID

- 25879 Stauffer Chemical Company (19??) Evidence Regarding the Safety of the Pesticide Chemical

- Devrinol(R). (Unpublished study received Jan 29, 1980 under 476-2108; CDL:099218-A)
- 39765 Murphy, J.J.; Gray, R.A. (1972) Degradation Products of R-7465 in the Environment. (Unpublished study received Dec 14, 1972 under 2F1194; CDL:093519-B)
- 49480 Hoffman, L.J.; Menn, J.J. (1970) Metabolism of R-7465-¹⁴C 2- alpha-Naphthoxy)-N~,~N~-diethylpropionamide]: Balance and Tissue Residue Elimination Studies in the Rat: ARC-B-27. (Un- published study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-B)
- 49481 Murphy, J.J.; Didriksen, J.; Gray, R.A. (1970?) Metabolism of Radioactive 2-(alpha-Naphthoxy)-N,N-diethyl propionamide (R- 7465) in Plants and Animals. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-C)
- 113801 Stauffer Chemical Co. (19??) Evidence Regarding the Safety of the Pesticide Chemical Waylay. Summary of studies 091008-B through 091008-L. (Unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-A)
- 113811 Murphy, J.; Didriksen, J.; Gray, R. (1970?) Metabolism of Radio- active ... (R-7465) in Plants and Animals. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-L)
- 132823 Stauffer Chemical Co. (1983) ?Toxicity of Devrinol to Rats, Mice, Dogs, and Rabbits: Summary of Data]. (Unpublished study re- ceived Dec 1, 1983 under 4F3005; CDL:072184-A)
- 40838601 Jeffcoat, A. (1988) Dermal Absorption of Devrinol in Rats: T-13014: Volume 1: Final Report: Laboratory Project ID 3586-50. Unpubli- shed study prepared by Research Triangle Institute. 314 p.
- 42027702 Macpherson, D.; Jones, B. (1991) Napropamide: Biotransformation Study in the Rat: Lab Project Number: CTL/P/3404. Unpublished study prepared by ICI Central Toxicology Laboratory. 55 p.
- 42027703 Hall, M.; Howard, E. (1991) Napropamide: Repeat Dose Metabolism Study in the Rat (30 mg/kg): Lab Project Number: CTL/P/3403: UR044. Unpublished study prepared by ICI Central Toxicology Lab. 40 p.
- 42758901 Tanokura, Y. (1990) Napropamide: Tissue Distribution in Animal: Lab Project Number: 021102: R-7465: CTL/C/2689. Unpublished study prepared by Nemoto & Co., Ltd. 79 p.
- 42758902 Macpherson, D.; Jones, B. (1993) Napropamide: Biotransformation Study in the Rat: Addendum to MRID 42027702: Lab Project Number: CTL/P/3404. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 21 p.
- 42758903 Zeneca Inc. (1993) Napropamide: Supplemental Information for MRID Nos. 42027702 and 42027703 in Response to EPA Toxicology Branch I Review. Unpublished study prepared by Zeneca Central Toxicology Laboratory. 30 p.

85-3 Dermal Penetration/Absorption

MRID

- 92125015 Batten, P. (1990) ICI Americas Inc. Phase 3 Summary of MRID 40838601. Dermal Absorption of Devrinol in Rats: ICI Americas Report No.: T-13014; RRI Study No. 3586-50. Prepared by

121-1 Phytotoxicity

MRID

- 2647 Monaco, T.J. (1970) Weed Control in Direct Seeded and Transplanted Tomatoes, 1970: Report No. 38246. (Unpublished study including letter dated Mar 1, 1973 from T.J. Monaco to Dick Nash, received May 6, 1976 under 3125-277; prepared by North Carolina State Univ., Coastal Plain Vegetable Research Station, Dept. of Horticultural Science, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AA)
- 2652 Tisdell, T.; King, R. (1971) Nightshade Control in Tomatoes: Report No. 38866. (Unpublished study received May 6, 1976 under 3125- 277; prepared by Univ. of California--Davis, Botany Dept., sub- mitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AF)
- 2655 Putnam, A. (1973) Weed Control in Seeded Tomatoes: Report No. 39375. (Unpublished study received May 6, 1976 under 3125- 277; prepared by Michigan State Univ., submitted by Mobay Chemi- cal Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL: 224187-AI)
- 2667 Ashton, ?; Kukos, ? (1973) Chemagro Herbicide Evaluation Form: Report No. 40129. (Unpublished study received May 6, 1976 under 3125-277; prepared by Univ. of California--Davis, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AU)
- 2669 Fischer, B.B. (1973) Tomato Weed Control Trial: 1973 Vegetation Management in Tomato Production: Report No. 40483. (Unpublished study received May 6, 1976 under 3125-277; prepared by (Univ. of California--Riverside), West Side Field Station, Farm Advisor Office, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AY)
- 3252 Talbert, R.E.; Kennedy, J.M. (1974) Field Evaluation of Herbicides in Vegetable Crops, 1973. By Univ. of Arkansas, Depts. of Agronomy, Horticulture and Forestry. Fayetteville, Ark.: Univ. of Arkansas, Agricultural Experiment Station. (Mimeograph se- ries 219; also~In~unpublished submission received May 6, 1976 under 3125-277; submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BD)
- 4192 Mobil Chemical Company (1977) Weed Control in Tobacco. (Unpub- lished study received Feb 9, 1978 under 2224-50; prepared by ?Univ. of Tennessee|, Tobacco Experiment Station and Highland Rim Experiment Station, submitted by Mobil Chemical Co., Indus- trial Chemicals, Richmond, Va.; CDL:232880-D)
- 12050 IR-4 Project at Rutgers, the State University (1969) Weed Control in Blueberries: Screening Study. (Unpublished study received Dec 19, 1975 under 6E1719; CDL:095364-R)
- 12118 Foy, C.L.; Witt, H.L. (1971) Fruit: Evaluation of Herbicides for Weed Control in One-Year-Old Red Delicious Apples--Piney River, Virginia. (Unpublished study received Jan 18, 1973 under 100- 437; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-M)
- 12147 Foy, C.L.; Witt, H.L. (1970) Fruit: Chemical Weed Control in a Bearing Peach Orchard-- Winchester. (Unpublished study received Jan 18, 1973 under 100-437; prepared by Virginia

- Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL: 000242-AS)
- 12148 Foy, C.L.; Witt, H.L. (1971) Fruit: Evaluation of Herbicides for Weed Control in 4-Year-Old Blake Peaches--Bonsack, Virginia. (Unpublished study received Jan 18, 1973 under 100-437; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-AT)
- 12149 Foy, C.L.; Witt, H.L. (1971) Fruit: Evaluation of Herbicides for Weed Control in 2-Year-Old Peaches--Winchester, Virginia. (Unpublished study received Jan 18, 1973 under 100-437; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-AU)
- 12351 Wascom, B.W.; Young, W.A.; Meadows, W.A. (1971?) A Five Year Study of Weed Control in Pecan Orchards. (Unpublished study received Jan 11, 1978 under 352-317; prepared by Louisiana State Univ., submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:096709-H)
- 12353 Aitken, J.B.; Arnold, C.E. (1971) Preliminary Evaluation of Herbicides in Pecan Orchards. (Unpublished study received Jan 11, 1978 under 352-317; prepared by Univ. of Florida, Agricultural Research and Education Center at Quincy and Fruit Crops Dept., submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL: 096709-J)
- 12360 Aitken, J.B. (1974) Evaluation of Pecan Herbicides. (Incomplete study; unpublished study received Jan 11, 1978 under 352-317; prepared by Clemson Univ., Sandhill Experiment Station, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL: 096709-R)
- 12403 Palm, H.L.; Doll, C.C. (1972) ?Weed Control in Apple Orchards|. (Unpublished study received Oct 17, 1973 under 352-374; prepared in cooperation with Univ. of Illinois, Cooperative Extension Service, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-B)
- 12417 Daniell, J.W. (1972) Performance of Herbicides in Peach Orchards. (Unpublished study received Oct 17, 1973 under 352-374; submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL: 026721-Q)
- 12421 Scroch, W.A.; Harris, M. (1972) 2 Year Peach Study--Sandhills Research Station. (Unpublished study received Oct 17, 1973 under 352-374; prepared by North Carolina State Univ., submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-U)
- 12422 Scroch, W.A. (1973) 3 Year Old Peaches, 1973. (Unpublished study received Oct 17, 1973 under 352-374; prepared by North Carolina State Univ., submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-W)
- 17896 Lange, A.H.; Agamalian, H.; Aldrich, T.; et al. (1972) Fruit and Nut Crops. (pp. 1-7,42,47,56-59 only; unpublished study received Aug 1, 1974 under 5G1563; prepared by Univ. of California, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AK)
- 17908 Gambrell, C.E., Jr. (1973) Peach Herbicide Studies. (Unpublished study received Aug 1, 1974 under 5G1563; prepared by Clemson Univ., Sandhill Experiment Station, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL: 094565-BD)
- 17913 Eli Lilly and Company (1974) Herbicides on Bearing Pistachios. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BJ)

- 20711 Mulkey, B.; Fankhauser, D. (1973) 1972-73 Pre-emergence Sugarcane Herbicide Test EA 7218-E. (Unpublished study received Sep 1, 1974 under 5G1562; prepared by Rio Farms, Inc., submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094912-F)
- 21185 Rud, O.E.; Foy, C.L. (1969) Chemical Control of Seedling Johnson- grass and Annual Weeds in Corn: Research Report CF-4782. (Un- published study received Oct 18, 1969 under 9F0846; prepared by Virginia Polytechnic Institute and State Univ., submitted by Ciba Agrochemical Co., Summit, N.J.; CDL:091463-BX)
- 21228 Sweet, R.D. (1968?) Follow-Up Test--Potatoes: Pre-Emergence: Re- search Report CF-3857. (Unpublished study received Jun 1, 1970 under 0F0993; prepared by Cornell Univ., Dept. of Vegetable Crops, submitted by Ciba Agrochemical Co., Summit, N.J.; CDL: 092044-AW)
- 21415 Wilson, H.P. (1970) 1970 Weed Science Research Summary. (Unpub- lished study received Apr 5, 1971 under 891-EX-21; prepared by Virginia Truck and Ornamentals Research Station, Eastern Shore Branch, Dept. of Plant Physiology, submitted by Hercules, Inc., Agricultural Chemicals, Wilmington, Del.; CDL: 126399-B)
- 23226 Rappos, S.; Hardman, N.F.; Riddle, R.; et al. (1974) ?Efficacy of Simazine and Other Chemicals for Various Weeds|: Test No. H-8- RGH-72. (Unpublished study including test nos. H-9-RGH-72, H- 10-RGH-72, H-11-RGH-72..., received Dec 17, 1974 under 476-2108; prepared in cooperation with Luchessa Brothers and others, sub- mitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101113-A)
- 23227 Dickel, C.P.; Fischer, B.; Schweers, V.H.; et al. (1974) Devrinol-- California Pepper Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Univ. of California, Agricultural Extension Service, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101113-C)
- 23231 STAUFFER CHEMICAL CO. (1973) DEVRINOL + TILLAM (TANK MIX) ON TOMA- TOES IN CALIFORNIA: BARNYARDGRASS CONTROL SUMMARY. UNPUBLISHED COMPILATION PREPARED IN COOPERATION WITH WILBUR-ELLIS CO. AND OTHERS. 126 P.
- 23232 Deichler, ?; Jenkins, ?; Syms, D.; et al. (1974) Devrinol 50W on Grapes in the Pacific Northwest: Grape Phytotoxicity. (Unpub- lished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Oregon State Univ., North Willamette Experiment Station, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101112-D)
- 23234 Lake, B.H.; Goza, A.; Eastin, E.F.; et al. (1973) (Devrinol: Control of Weeds and Phytotoxicity in Citrus Fruits). (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Valley Orchard Service and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101112-F)
- 23877 Zaput, P.; Leach, J.; Hamilton, K.C.; et al. (1974) Devrinol 50W-- Paraquat 2E. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Univ. of Arizona and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028423-D)
- 25312 Maltby, R.; Wright, J.; Tredinnick, J.; et al. (1974) Eptam 7E Pre- plant Incorporated Weed Control Summary. (Unpublished study re- ceived Feb 22, 1976 under 476-2154; prepared in cooperation with Auburn Univ., Tallassee Experiment Station, submitted by Stauf- fer Chemical Co., Richmond, Calif.; CDL:224457-G)

- 26649 Shepherd, J.L.; Cromartie, J.; Hauser, E.; et al. (1966) Summary Analysis of Field Test Data for Tillam 6E Applied Pre-transplant by Sub-surface Sweep to Tobacco in the United States. (Unpublished study received Feb 5, 1968 under 8F0628; prepared in co-operation with Parramore & Griffin and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:090823-B)
- 26683 Aitken, J.B.; Arnold, C.E.; Amling, H.J.; et al. (1972) ?Efficacy of Various Herbicides in Pecan Orchards|. (Unpublished study including published data, received Nov 15, 1972 under 3F1313; prepared in cooperation with Univ. of Florida, Agricultural Research and Education Center at Quincy, Fruit Crops Dept. and others, submitted by Dow Chemical U.S.A., Midland, Mich.; CDL:092243-H)
- 26684 Wascom, B.W.; Young, W.A.; Meadows, W.A. (1972) A five year study of weed control in pecan orchards. Proceedings of the Southern Weed Science Society 25:227. (Also~In~unpublished submission received Nov 15, 1972 under 3F1313; submitted by Dow Chemical U.S.A., Midland, Mich.; CDL:092243-I)
- 26725 Benson, A.; Baxter, M.; Gerhold, J.F.; et al. (1974) ?Devrinol 50WP Use for Weed Control on Tomatoes|. (Unpublished study received Sep 7, 1976 under 476-2150; prepared in cooperation with Michigan State Univ. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-B)
- 26726 Barry, R.; Cole, W.; Barrentin, W.L.; et al. (1974) ?Devrinol 2-E Use on Tomatoes|. (Unpublished study received Sep 7, 1976 under 476-2150; prepared in cooperation with U.S. Dept. of Agriculture, Roza Unit and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-C)
- 26727 Gerhold, J.F.; Gruelach, L.; Cates, M.D.; et al. (1974) ?Devrinol 2-E Use on Tomatoes|. (Unpublished study received Sep 7, 1976 under 476-2150; prepared in cooperation with Univ. of Southwestern Louisiana, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-D)
- 26729 Maltby, R.; Monaco, T.; Skiles, R.; et al. (1974) ?Devrinol 50 WP 2-E Use on Varieties of Peppers|. (Unpublished study received Sep 7, 1976 under 476-2150; prepared in cooperation with Univ. of Kentucky, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-F)
- 26884 Dickel, C.P.; Hardman, N.; Kappos, S.; et al. (1974) ?Efficacy of Devrinol and Other Herbicides for Weed Control in Grapes and Citrus Fruit|. (Unpublished study received Aug 5, 1975 under 476-2173; prepared in cooperation with Barr Packing Co. and J.G. Boswell Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221821-A)
- 26902 Collins, W.K.; Holifield, E.L.; Hogan, W.H.; et al. (1974) ?Study of the Efficacy of Various Herbicides Applied after Layby to Tobacco|. (Unpublished study including published data, received Feb 7, 1974 under 1023-23; prepared in cooperation with North Carolina State Univ. and Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Upjohn Co., Kalamazoo, Mich.; CDL:024396-B)
- 27457 Mostel, E.; Gunning, F.; Pond, D.D.; et al. (1970) Field Performance Summary for Dyfonate Emulsifiable on Irish Potatoes. (Unpublished study received Jun 11, 1971 under 476-2056; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:003889-K)
- 27975 Fischer, B.; Lange, A.H.; Elmore, C.; et al. (1969) ?Evaluation of Simazine for Weed Control in Stone Fruits and Almonds|. (Unpublished study received Apr 19, 1974 under 100-437; prepared by Univ. of California, Kearney Horticultural and Moreno Field Stations, submitted by Ciba-Geigy

- Corp., Greensboro, N.C.; CDL: 009437-B)
- 28446 Stauffer Chemical Co. (1974) Devrinol on Ornamentals-- Weed Control Summary. Unpublished study prepared in cooperation with Univ. of California--Davis and others. 555 p.
- 28797 Dickel, C.P.; Kappos, S.; Hardman, N.; et al. (1973) Devrinol + Tillam (Tank Mix) on Tomatoes in California. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Pure-Gro and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:001019-B)
- 28799 Lake, B.H.; Goza, A.; Eastin, E.F.; et al. (1972) ?Efficacy Data & Summary|. (Unpublished study received Dec 17, 1974 under 476- 2108; prepared in cooperation with Valley Orchard Service, Inc. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:001019-E)
- 29346 Stauffer Chemical Company (1974) ?Devrinol and Simazine on Orna- mentals and Container Stock--Tolerance Summaries|. (Unpublished study received Aug 5, 1975 under 476-2173; CDL:224672-A)
- 29602 Ciba Agrochemical Company (1968) Weed Control in Soybeans--1968: Research Report CF-4155. (Unpublished study received Nov 29, 1969 under 8192-11; CDL:006048-C)
- 30958 Keeley, P.E.; Carter, C.H.; Miller, J.H.; et al. (1972) ?Phytox- icity of Herbicides to Cotton and Nutsedge|. (Unpublished study including published data, received Feb 16, 1973 under 876-EX-13; prepared in cooperation with Univ. of California, Agricultural Experiment Station, submitted by Velsicol Chemical Corp., Chi- cago, Ill.; CDL:210105-D)
- 31343 Lavalleye, M.P. (1968) Herbicide Screening Program, Fall--1968: Residue Activity Study: Supplemental Report to Herbicide Screen- ing Report No. 3. (pp. 1,7 only; unpublished study including submitter summary, received Jul 11, 1973 under 707-98; prepared by Univ. of California--Riverside, submitted by Rohm & Haas Co., Philadelphia, Pa.; CDL:120403-L)
- 31749 Lake, B.H.; Leeper, P.; Cox, E.; et al. (1974) Devrinol 50W Pre- plant Incorporated on Tomatoes/Peppers. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; prepared in cooperation with U.S. Agricultural Research Service, Plant Science Research Div., Weed Investigations in Horticultural Crops and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-A)
- 31750 Locascio, S.; Layton, J.; Sheets, W.A.; et al. (1976) ?Weed Control in Strawberries with Devrinol 50 WP|. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; prepared in cooperation with Oregon State Univ., North Willamette Experiment Station, submit- ted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-B)
- 31752 Gerhold, J.F.; Locascio, S.; Sheets, A.; et al. (1975) ?Weed Con- trol in Transplant Strawberries with Devrinol|. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in coopera- tion with Univ. of Florida and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-D)
- 31753 Barnes, J.; Gerhold, J.F.; Maltby, R.; et al. (1974) ?Weed Control in Transplant Tomatoes with Devrinol + Tillam Tank Mix|. Sum- mary of study 225548-F. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Virginia Truck Ex- periment Station and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-E)
- 31754 Gerhold, J.F.; Stevenson, V.C.; Greulach, L.; et al. (1974) ?Weed Control in Transplanted

- Tomatoes with Devrinol + Tillam Tank Mix|. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Missouri, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-F)
- 31755 Orr, J.; Hardman, N.; Perry, J.; et al. (1974) ?Weed Control in To- matoes with Devrinol + Tillam Tank Mix|. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; submitted by Stauffer Chemi- cal Co., Richmond, Calif.; CDL:225548-G)
- 31757 Gerhold, J.F.; Worsham, A.D.; Hickey, S.; et al. (1974) ?Weed Con- trol in Tobacco with Devrinol 2-E|. (Unpublished study received Sep 7, 1976 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-I)
- 31760 Hickey, S.; Jeffery, L.; Worsham, D.; et al. (1975) ?Weed Control in Tobacco with Devrinol- Tillam 1:4-E|. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; submitted by Stauffer Chemi- cal Co., Richmond, Calif.; CDL:225548-L)
- 31761 Gerhold, J.; Monaco, T.; Hickey, S.; et al. (1974) Devrinol 2E Pre- plant Incorporated on Tomatoes/Peppers. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; submitted by Stauffer Chemi- cal Co., Richmond, Calif.; CDL:225348-M)
- 31941 Rose, E.; Lange, A.H.; Stevenson, G.; et al. (1974) Crop Tolerance Summary for Devrinol 50-W on Apples. (Unpublished study re- ceived Mar 21, 1975 under 476-2108; submitted by Stauffer Chem- ical Co., Richmond, Calif.; CDL:101096-A)
- 31943 Hardman, N.; Lange, A.H.; Stevenson, G.; et al. (1974) Crop Toler- ance Summary for Devrinol 50-W on Pears. (Unpublished study received Mar 21, 1975 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-C)
- 32299 Zaput, P.; Leach, J.; Hamilton, K.C.; et al. (1974) ?Phytotoxicity of Various Herbicies on Food Crops|. (Unpublished study re- ceived Dec 17, 1974 under 476-2108; submitted by Stauffer Chem- ical Co., Richmond, Calif.; CDL:101111-A)
- 32303 Lake, B.H.; Zaput, P.; Clemens, T.; et al. (1973) Crop Tolerance Summary for Devrinol 50-W on Pecans. (Unpublished study re- ceived on unknown date under 4F1447; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co., Rich- mond, Calif.; CDL:093854-D)
- 32304 Kempen, H.M.; Rose, E.; Lange, A.; et al. (1973) Crop Tolerance Summary for Devrinol 50-W on Pistachios. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California, Agricultural Extension Service, Kear- ney Field Station and Fowler Farm Management, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093854-E)
- 32305 Lange, A.; Botkin, G.; Rose, E.; et al. (1973) Crop Tolerance Sum- mary for Devrinol 50-W on Walnuts. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California, Extension Service, Kearney Field Station, submit- ted by Stauffer Chemical Co., Richmond, Calif.; CDL:093854-F)
- 32492 Fischer, B.; Ashton, F.M.; Kukas, R.; et al. (1973) Synopsis of Devrinol: Biological Performance and Phytotoxicity on Tomatoes. (Unpublished study received Oct 16, 1973 under 476-2150; pre- pared in cooperation with Univ. of California--Davis, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-A)
- 32548 Huntley, A.; Lange, A.; Rose, E.; et al. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Apples in California. (Un- published study received Oct 1, 1974 under 4F1447;

- prepared in cooperation with Niagara Chem and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-A)
- 32549 Lange, A.; Rose, E. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Figs in California. (Unpublished study received Oct 1, 1974 under 4F1447; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-B)
- 32550 Lange, A.; Dickel, C.P.; Rose, E.; et al. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Pears in California. (Unpublished study received Oct 1, 1974 under 4F1447; prepared in cooperation with John McCormack Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-C)
- 32552 Lange, A. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Pistachios in California. (Unpublished study received Oct 1, 1974 under 4F1447; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-E)
- 32553 Lange, A. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Walnuts in California. (Unpublished study received Oct 1, 1974 under 4F1447; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-F)
- 32555 Rose, E.; Sorensen, C., Jr.; Kinagawa, B.; et al. (1974) Summary of Devrinol Soil Residue Data: Multiple Applications of Devrinol 50-WP in California. (Unpublished study received Oct 1, 1974 under 4F1447; prepared in cooperation with Univ. of California, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 093856-H)
- 32565 Dickel, C.P.; Kappos, S.; Hardman, N.; et al. (1974) Devrinol + Tillam (Tank Mix) on Tomatoes in California: Barnyardgrass Control Summary. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Pure-Gro and Fresh Pic, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 028421-B)
- 32572 Lake, B.H.; Goza, A.; Solether, W.K. (1973) Devrinol and Simazine in Weed Control for Citrus Fruits. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Oklahoma State Univ., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028421-I)
- 33037 Huntley, A.; Lange, A.; Rose, E.; et al. (1973) Crop Tolerance Summary for Devrinol 50-W on Apples. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California, Extension Service and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093854-A)
- 33038 Rose, E.; Lange, A.; Fischer, B.; et al. (1973) Crop Tolerance Summary for Devrinol 50-W on Figs. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California, Extension Service, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093854-B)
- 33039 Dickel, C.P.; Lange, A.H.; Fischer, B.B.; et al. (1973) Crop Tolerance Summary for Devrinol 50-W on Pears. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California, Extension Service, Kearney Horticultural Field Station and John McCormack Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093854-C)
- 33960 Dickel, C.P.; Fischer, B.; Schweers, V.; et al. (1974) Devrinol-- California: Pepper Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Univ. of California--Davis, Agricultural Extension Service and Wilbur-Ellis Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028312-C)

- 57806 Stauffer Chemical Company (1975) Devrinol 2-E Efficacy and Phyto- toxicity Data. (Compilation; unpublished study received May 27, 1977 under 476-2174; CDL:230292-A)
- 64536 Stauffer Chemical Company (1980) Devrinol on Ornamentals: Crop Tolerance Summary. (Unpublished study received Dec 11, 1980 under 476-2175; CDL:243858-A)
- 65712 Stauffer Chemical Company (1980) Performance Summaries: ?Devrinol|. (Unpublished study received Dec 11, 1980 under 476-2201; CDL: 243951-A)
- 70812 Stauffer Chemical Company (1973) Devrinol^(R)I Biological Perform- ance and Phytotoxicity on Tomatoes. (Compilation; unpublished study received Oct 16, 1973 under 476-2150; CDL:221951-A)
- 113817 Stauffer Chemical Co. (1974) ?Efficacy Study: Specified Herbicides on Tobacco|. (Compilation; unpublished study received on un- known date under unknown admin. no.; CDL:223372-B)
- 113822 Stauffer Chemical Co. (1979) Performance Summaries: ?Devrinol 50-WP Selective Herbicide|. (Compilation; unpublished study received Nov 13, 1979 under 476-2108; CDL:241323-B)
- 115127 Stauffer Chemical Co. (1981) Devrinol Split Application--Crop Tol- erance and Weed Control Summary. (Compilation; unpublished study received Sep 3, 1982 under 476-2108; submitted by Stauffer Chemical Co., Richmond, CA; CDL:248365-A)
- 5001074 Orr, J.P.; Elmore, C.L. (1974) Canning tomato herbicide--varietal interaction trial. Pages 48-50,~In~Proceedings--Western Society of Weed Science. Vol. 27. Boise, Idaho: Western Society of Weed Science.

122-1 Seed Germination/Seedling Emergence and Vegetable Vigor

MRID

- 41610209 Farmer, D. ; Canning, L. (1990) Napropamide: A Glasshouse Study of Pre and Post-emergence Effects on Terrestrial Non-target Plants: Lab Project Number: 90JH176. Unpublished study prepared by ICI Agrochemicals. 94 p.
- 42656202 Farmer, D.; Canning, L. (1993) Addendum to MRID 41610209 Napropamide: A Glasshouse Study of Pre and Post-Emergence Effects of Terrestrial Non-Target Plants: Lab Project Number: RJ0873B. Unpublished study prepared by Zeneca Agrochemicals. 42 p.

122-2 Aquatic plant growth

MRID

- 41610210 Smyth, D.; et al. (1989) Napropamide: Determination of Toxicity of a 45% FL Formulation to the Green Alga (*Selenastrum capricornu- tum*): Lab Project Number: BL/B/3671. Unpublished study prepared by Imperial Chemical Industries PLC. 19 p.

133-3 Dermal passive dosimetry expo

MRID

- 40251601 Knarr, R.; Curry, K. (1987) Applicator and Mixer-loader Exposure to Napropamide During Ground-spray Application of Devrinol 50-WP Selective Herbicide to Pistachio Orchards: Project

No. 148213. Unpublished study prepared by Stauffer Chemical Co. 63 p.

133-4 Inhal. passive dosimetry expo

MRID

- 40251601 Knarr, R.; Curry, K. (1987) Applicator and Mixer-loader Exposure to Napropamide During Ground-spray Application of Devrinol 50-WP Selective Herbicide to Pistachio Orchards: Project No. 148213. Unpublished study prepared by Stauffer Chemical Co. 63 p.

161-1 Hydrolysis

MRID

- 49490 Miller, W.W.; Gray, R.A. (1969?) Behavior and Persistence of 2- (alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-L)
- 49494 Stauffer Chemical Company (1971) Behavior and Persistence of 2- (alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Compilation; unpublished study including FSDS nos. B-1708, B-0480, A-626..., received May 5, 1972 under 2F1194; CDL:091006-P)
- 129110 Katague, D. (1982) Letter sent to J. McKay dated Mar 3, 1982: Hydrolysis of Devrinol: Project No. 148229. (Unpublished study received Jul 6, 1983 under 476-2108; submitted by Stauffer Chemical Co., Richmond, CA; CDL:071720-C)
- 132497 Stauffer Chemical Co. (1983) Devrinol 50-WP Selective Herbicide: Product Chemistry Data. (Compilation; unpublished study received Aug 11, 1983 under 476-2108; CDL:251690-A)
- 41863201 Lee, K. (1989) Hydrolysis of Napropamide: Lab Project Number: WRC 89-21. Unpublished study prepared by ICI Americas Inc. 20 p.

161-2 Photodegradation-water

MRID

- 41575301 Lee, K. (1989) Aqueous Photolysis of Napropamide: Lab Project Number: WRC 88-80: ENV-002. Unpublished study prepared by ICI Americas Inc. 82 p.
- 43175301 Ericson, J. (1994) Addendum to MRID 41575301 (WRC 88-80): Aqueous Photolysis of Napropamide: Lab Project Number: WRC 88-80. Unpublished study prepared by Zeneca Inc. 19 p.

161-3 Photodegradation-soil

MRID

- 49490 Miller, W.W.; Gray, R.A. (1969?) Behavior and Persistence of 2- (alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-L)
- 41863202 Lee, K. (1989) Soil Photolysis of Napropamide: Lab Project Number: WRC 88-79: ENV-003. Unpublished study prepared by ICI Americas Inc. 30 p.

162-1 Aerobic soil metabolism

MRID

- 41105901 Lay, M. (1989) Aerobic Metabolism of Napropamide in Soil: Project ID: WRC 89-38. Unpublished study prepared by ICI Americas Inc. 57 p.
- 41901801 Lay, M. (1989) Aerobic Metabolism of Napropamide in Soil: Supplemental Information: Lab Project Number: WRC 89-38. Unpublished Study prepared by ICI Americas Inc. 11 p.
- 45074202 Graham, D. (2000) Determination of Napropamide Residues in Soil by Capillary Gas Chromatography: Lab Project Number: RR-90-005B. Unpublished study prepared by Zeneca Ag Products. 19 p.
- 92125016 Calderbank, A. (1990) ICI Americas Inc. Phase 3 Summary of MRID 41105901. Aerobic Metabolism of Napropamide in Soil: Report No. WRC 89-38; Study No. PMS-267. Prepared by ICI AMERICAS INC./WESTERN RESEARCH. 17 p.

162-2 Anaerobic soil metabolism

MRID

- 163271 Subba-Rao, R. (1986) Anaerobic Metabolism of Devrinol in Soil: Laboratory Project ID No. PMS-181; MRC-86-03. Unpublished study prepared by Stauffer Chemical Co., Richmond Research Center. 58 p.
- 92125017 Calderbank, A. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00163271. Anaerobic Metabolism of Devrinol in Soil: Report No. MRC-86-03; Study No.: PMS-181. Prepared by ICI Richmond Research Center. 20 p.

162-3 Anaerobic aquatic metab.

MRID

- 42699701 Joseph, R. (1992) The Anaerobic Aquatic Metabolism of (carbon 14)-Napropamide: Lab Project Number: HRC/ISN 266A/921034. Unpublished study prepared by Huntingdon Research Centre, Ltd. 92 p.

162-4 Aerobic aquatic metab.

MRID

- 45074201 Graham, D. (2000) Napropamide Determination at ppb Concentrations in Water: Lab Project Number: RRC-88-09. Unpublished study prepared by Zeneca Ag Products. 14 p.

163-1 Leach/adsorp/desorption

MRID

- 39766 Miller, W.W.; Gray, R.A. (1971) Behavior and Persistence 2-(alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif., CDL: 093519-C)

- 49490 Miller, W.W.; Gray, R.A. (1969?) Behavior and Persistence of 2- (alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-L)
- 49494 Stauffer Chemical Company (1971) Behavior and Persistence of 2- (alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Compilation; unpublished study including FSDS nos. B-1708, B-0480, A-626..., received May 5, 1972 under 2F1194; CDL:091006-P)
- 110744 Fisher, J.; Callan, E. (1979) Goal and Devrinol Soil Residue Decline Study: Technical Report No. 34H-79-4. (Unpublished study received Mar 12, 1979 under 707-EX-142; submitted by Rohm & Haas Co., Philadelphia, PA; CDL:098213-B)
- 113815 Thomas, V. (1973) Leaching Study on Devrinol Degradation Products. (Unpublished study received Nov 6, 1973 under 476-2108; submitted by Stauffer Chemical Co., Richmond, CA; CDL:180005-A)
- 129111 Thomas, V.; Dennison, J. (1981) Adsorption, Desorption, and Aged-leaching of Devrinol in Soils: MRC-81-03. (Unpublished study received Jul 6, 1983 under 476-2108; submitted by Stauffer Chemical Co., Richmond, CA; CDL:071720-D)
- 41575302 Spillner, C. (1987) Adsorption and Desorption of Napropamide in Four Soils: Lab Project Number: PMS-270: MRC-87-29. Unpublished study prepared by ICI Americas Inc. 45 p.
- 42707201 Spillner, C. (1993) Addendum to MRID 41575302 Adsorption and Desorption of Napropamide in Four Soils: Lab Project Number: PMS-270: MRC 87-29. Unpublished study prepared by Zeneca Inc. 10 p.
- 43514401 Muller, K.; Ferguson, R. (1994) Napropamide: Adsorption and Desorption Properties in Soil of Naphthoxypropionic Acid, a Soil Metabolite: Lab Project Number: 94JH004: RJ1703B. Unpublished study prepared by Zeneca Agrochemicals. 49 p.

164-1 Terrestrial field dissipation

MRID

- 39766 Miller, W.W.; Gray, R.A. (1971) Behavior and Persistence 2-(alpha-Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif., CDL: 093519-C)
- 49495 Riggs, R.L.; Humphreys, R.; MacLaren, G.; et al. (1971) Waylay (R-7465) Run-Off Study: Soil, Water, Silt, Fish Residues. (Unpublished study including FSDS nos. B-1066, B-1067, B-1083..., received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-Q)
- 163272 Stauffer Chemical Co. (1986) Field Dissipation Study with Devrinol 2E and 10G: California Field Research Station. Unpublished compilation. 13 p.
- 163273 Stauffer Chemical Co. (1986) Field Dissipation Study with Devrinol 2E and 10G: Florida Field Research Station. Unpublished compilation. 37 p.
- 41575303 Pearson, F. (1989) Devrinol 10G Field Dissipation Study for Terrestrial Food Crop Uses: Napropamide (Calif. 1989): Lab Project Number: DEVR-88-SD-01: USO2-88-122. Unpublished study prepared by ICI Americas Inc. 157 p.

- 41575304 Curry, K. (1989) Devrinol 50-WP Field Dissipation Study for Terrestrial Food Crop Uses: Napropamide (Calif. 1988): Lab Project Number: 94CA-88-123: RR 89-022B. Unpublished study prepared by ICI Americas Inc. 146 p.
- 42764201 Roper, E. (1993) Supplemental Information/Response on Napropamide Field Soil Dissipation Studies (MRID's 41575303 and 41575304): Devrinol 10-G Field Dissipation Study for Terrestrial Food Crop Uses, Napropamide: California, 1988 and Devrinol 50-WP Field Dissipation Study for Terrestrial Food Crop Uses, Napropamide, California, 1988: Lab Project Number: RR 89-021/022B REB. Unpublished study prepared by Zeneca Inc. 25 p.
- 43742401 Meyers, T. (1995) Devrinol: Terrestrial Soil Dissipation for Napropamide, Mississippi, 1993-1994: Lab Project Number: NAPR-93-SD-01: RR 95-009B. Unpublished study prepared by Zeneca Ag Products. 77 p.
- 43742402 Meyers, T. (1995) Devrinol: Terrestrial Soil Dissipation for Napropamide, California, 1993-1994: Lab Project Number: NAPR-93-SD-02: RR 95-018B: 02-CA-93-443. Unpublished study prepared by Zeneca Ag Products. 105 p.

164-2 Aquatic field dissipation

MRID

- 39766 Miller, W.W.; Gray, R.A. (1971) Behavior and Persistence 2-(alpha- Naphthoxy)-N,N-diethyl propionamide (R-7465) in Soils and Water. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif., CDL: 093519-C)
- 49495 Riggs, R.L.; Humphreys, R.; MacLaren, G.; et al. (1971) Waylay (R-7465) Run-Off Study: Soil, Water, Silt, Fish Residues. (Unpublished study including FSDS nos. B-1066, B-1067, B-1083..., received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-Q)

165-1 Confined rotational crop

MRID

- 41462001 Nelson, S.; Nicholls, R. (1990) Confined Rotation Crop Study for Carbon 14 Phenyl Labeled Pronamide: Lab Project Number: TR 34- 90-11: EF-87-41. Unpublished study prepared by Rohm and Haas Co., in cooperation with Pan-Agricultural Labs, Inc. 540 p.
- 42794501 Parker, S.; Steel, T.; Harris, M.; et al. (1993) Napropamide: Uptake and Metabolism in Confined Rotational Crops: Lab Project Number: 90JH199: RJ1348B. Unpublished study prepared by ICI Agrochemicals Jealott's Hill Research Station. 174 p.
- 43419901 French, D. (1993) Addendum to MRID 42794501: Napropamide: Uptake and Metabolism in Rotational Crops: Lab Project Number: RJ1348B. Unpublished study prepared by Zeneca Agrochemicals. 36 p.

165-4 Bioaccumulation in fish

MRID

- 92125019 Calderbank, A. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00039774. Exposure of Fish

to Carbon 14-labelled Devrinol: Accumulation, Distribution and Elimination of Residues: Report No. T-2224. Prepared by BIONOMICS, INC. 15 p.

171-11 Tobacco Uses: Total Residues and Pyrolysis Products

MRID

- 2760 Stauffer Chemical Company (1975) Tillam 6-E Residue Data on Wisconsin Cigar Binder Tobacco (Types 54 and 55). (Unpublished study received Jul 19, 1976 under 476-1615; CDL:225188-A)
- 27323 Thompson, L.; Worsham, A.D.; Newman, R.C. (1975) Residue Studies Summary: Devrinol on Tobacco. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Kentucky and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-F)
- 41575306 McKay, J. (1990) Napropamide: Storage Stability Study (Validation): Tobacco: Lab Project Number: RR 89-061. Unpublished study prepared by ICI Americas Inc. 37 p.
- 92125059 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00120304 and Related MRIDs 00025882. Devrinol Magnitude of the Residue Applied Lay-by on Tobacco: Lab. Study ID No. RR 90-095B. Prepared by ICI Americas. 8 p.

171-4B Residue Analytical Methods

MRID

- 25882 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol(R) in Crops, Animal Tissues and Soils. Method WRC 73-56 dated Nov 20, 1973. (Unpublished study received Jan 29, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-D)
- 27549 MacLaren, G.E. (1973) Determination of Residues of Devrinol^(R)I in Crops, Animal Tissues, and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received Feb 25, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099271-B)
- 31946 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol(R) in Crops, Animal Tissues and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received Mar 21, 1975 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-F)
- 32355 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol(R) in Crops, Animal Tissues, and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received on unknown date under 4F1447; CDL:093855-B)
- 32356 Patchett, G.G. (1972) Determination of Residues of Devrinol(TM) Metabolites R-25541 and R-25124 in Crops. Method WRC 72-27 dated Jun 19, 1972. (Unpublished study received on unknown date under 4F1447; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093855-C)
- 41376 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol^(R)I in Crops, Animal Tissues and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received Sep 7, 1976 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.;

CDL:225547-I)

- 49482 Patchett, G.G. (1971) Determination of R-7465 Residues in Crops: WRC 71-35. Method dated Jul 12, 1971. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-D)
- 49483 Stauffer Chemical Company (1971) Determination of Residues of R- 7465 Metabolites in Tomatoes and Potatoes: Research Report No. WCR-71-42. (Compilation; unpublished study received May 5, 1972 under 2F1194; CDL:091006-E)
- 49484 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50 W|: FSDS No. B-0610. (Reports by various sources; unpublished study including FSDS nos. B-0147, B-0909, B-0624..., received May 5, 1972 under 2F1194; CDL:091006-F)
- 49485 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0685. (Reports by various sources; unpublished study including FSDS nos. B-1787, B-0686, B-0683..., received May 5, 1972 under 2F1194; CDL:091006-G)
- 49486 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0190. (Reports by various sources; unpublished study including FSDS nos. B-0189, B-1858, B-1860..., received May 5, 1972 under 2F1194; CDL:091006-H)
- 49487 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0123. (Reports by various sources; unpublished study including FSDS nos. B-0094, A 780, B-0187...,received May 5, 1972 under 2F1194; CDL:091006-I)
- 49488 Stauffer Chemical Company (1971) Crop Residue Report: ?Almonds|: FSDS No. A 782. (Compilation; unpublished study including B-1715, B-1714, B-1730....received May 5, 1972 under 2F1194; CDL:091006-J)
- 49489 Patchett, G.G. (1971) Storage Stability of Waylay in Benzene Ex- tracts of Crops and Soils. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Rich- mond, Calif.; CDL:091006-K)
- 65363 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol^(R)I in Crops, Animal Tissues, and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229227-B)
- 94488 McKay, J.C. (1973) Letter sent to R.L. Riggs dated Nov 21, 1973: Frozen storage stability studies for Devrinol. (Unpublished study received on unknown date under 4F1447; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093855-G)
- 42256501 Biehn, W. (1992) Napropamide: Magnitude of Residue on Sweet Potato: Lab Project Number: IR-4 PR NO. 3938. Unpublished study prepared by IR-4 Southeastern Region Analytical Laboratory. 217 p.
- 43345102 Curry, K.; Grant, C. (1994) Napropamide: Analytical Method for the Determination of Residues of Napropamide in Apple Processed Products: Lab Project Number: NAPR-91-MV-04: RR 92-073B. Unpublished study prepared by Zeneca Ag Products, Western Research Center. 45 p.
- 43345105 Storoni, H. (1993) Napropamide: Analytical Method for the Determination of Napropamide Residues in Orange Processed Commodities: Lab Project Number: NAPR-91-MV-05: RR 92-006B.

- Unpublished study prepared by Zeneca Ag Products, Western Research Center. 52 p.
- 43345106 Curry, K.; Grant, C. (1993) Validation of an Analytical Method for Residues of Napropamide in Pome Fruit: Lab Project Number: NAPR-91-MV-03: RR 92-072B. Unpublished study prepared by Zeneca Ag Products, Western Research Center. 42 p.
- 43345108 Curry, K.; Grant, C. (1993) Validation of an Analytical Method for the Determination of Residues of Napropamide in Stone Fruit and Prunes: Lab Project Number: NAPR-91-MV-02: RR 91-101B. Unpublished study prepared by Zeneca Ag Products, Western Research Center. 48 p.
- 92125046 Curry, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00049482 and Related MRIDs 00025882. Devrinol: Residue Method for Crops: Laboratory Study ID No. RR/90/247B. Prepared by STAUFFER CHEMICAL COMPANY/WESTERN RESEARCH. 85 p.
- 92125070 Curry, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00049482. Devrinol: Residue Method for Napropamide Determination of Napro- pamide Residues in Crops: WRC 71-35; Laboratory Study ID No. RR 90-160B. Prepared by STAUFFER CHEMICAL. 23 p.
- 92125071 Curry, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025882. Devrinol: Residue Method for Crops: Determination of Residues of Devrinol in Crops, Animal Tissues and Soils; WRC 73-56: Laboratory Study ID RR 90-173B. Prepared by STAUFFER CHEMICAL COMPANY/WESTERN RESEARCH. 42 p.

171-4C Magnitude of the Residue [by commodity]

MRID

- 23228 Lombardi, G.; Kitaharwa, H.; Schweers, V.H. (1974) Crop Residue Studies Summary for Devrinol 50-WP, 2-E 1-2 Lbs. a.i./A on Peppers in California. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Univ. of Cali- fornia, Extension Service, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101113-D)
- 23230 Phillips, ?; Wood, ?; Gusti, A.; et al. (1974) Crop Residue Stud- ies Summary for Devrinol 50-WP, 2-E + Tillam 6-E (1-2+4-6 Lbs. a.i./A) Tank-Mix on Direct-Seeded Tomatoes in California. (Un- published study received Dec 17, 1974 under 476-2108; prepared in cooperation with A.L. Noll Farms, Inc. and Newhall Land Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 101112-A)
- 23233 Tavenner, H. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4 Lbs. a.i./A on Grapes in the Pacific Northwest. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in coopera- tion with Univ. of Oregon, North Willamette Experiment Station, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 101112-E)
- 23235 Parker, R.; Solether, N.; Gay, A.D.; et al. (1974) Crop Residue Studies Summary for Devrinol 50- WP 4-6 Lbs. a.i./A on Grapefruit and Oranges in Texas. (Unpublished study received Dec 17, 1974 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101112-G)
- 23883 Thompson, R.; Jensen, ?; Elmore, C.; et al. (1974) Crop Residue Studies Summary for Devrinol 50-WP (4 Lbs. A.I./A) Tank Mixed with Simazine 80-WP (0.5-1 Lb.A.I./A) and/or Paraquat (1 Lb.A.I./A) in California/Arizona. (Unpublished study re- ceived Dec 17, 1974 under 476-2150; prepared in cooperation with Kern County Land Company and others, submitted by Stauffer Chem- ical Co., Richmond, Calif.; CDL:028423-J)

- 25883 Dorman, D.L.; Agamalian, H.; DeSante, J.; et al. (1979) Devrinol 50-WP: Summary of Crop Residue on Artichokes. (Unpublished study received Jan 29, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-E)
- 25884 Dorman, D.C.; De Guzman, D.; Rahn, E.M.; et al. (1979) Devrinol 50- WP: Summary of Crop Residue on Asparagus. (Unpublished study received Jan 29, 1980 under 476-2108; prepared in cooperation with Univ. of Delaware and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-F)
- 25885 Dewey, M.L.; Doty, C.; Griffin, M.; et al. (1976) Devrinol 50-WP: Summary of Crop Residue on Avocados. (Unpublished study received Jan 29, 1980 under 476-2108; prepared in cooperation with Morse Laboratories, Inc. and Lemoniera Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-G)
- 25886 Sullivan, R.E.; De Guzman, D.; Dorman, D.C.; et al. (1979) Devrinol(R) Selective Herbicide: Summary of Crop Residue Data on Cucurbits. (Unpublished study received Jan 29, 1980 under 476- 2108; prepared in cooperation with Morse Laboratory, Inc. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-H)
- 25887 Lesh, M.; Dorman, D.C.; De Guzman, D.; et al. (1979) Devrinol 50- WP: Summary of Crop Residue on Kiwifruit. (Unpublished study received Jan 29, 1980 under 476-2108; prepared in cooperation with California Kiwi and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-I)
- 25888 DeGuzman, D.; Dorman, D.C.; Agamalian, H.; et al. (1979) Devri- nol^(R)I Selective Herbicide: Summary of Crop Residue Data on Leafy Vegetables. (Unpublished study received Jan 29, 1980 un- der 476-2108; prepared in cooperation with Oregon State Univ. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-J)
- 25889 Dorman, D.C.; Rettig, M; Herndon, G.; et al. (1978) Devrinol 50-WP: Summary of Crop Residue on Mint. (Unpublished study received Jan 29, 1980 under 476-2108; prepared in cooperation with Oregon State Univ., Dept. of Crop Science, submitted by Stauffer Chemi- cal Co., Richmond, Calif.; CDL:099218-K)
- 25890 Tootilian, G.; Apkarian, V. (1975) Devrinol 50-WP: Summary of Crop Residue on Persimmons. (Unpublished study received Jan 29, 1980 under 476-2108; prepared in cooperation with Sadoian Brothers and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-M)
- 27319 Hopen, H.; Weyand, B.; Barry, B. (1975) Summary of Residue Data: Devrinol on Tomatoes. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Illinois and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-B)
- 27320 Barry, B.; Barrentine, W.L.; Monaco, T.; et al. (1975) Summary of Residue Data: Devrinol + Tillam on Tomatoes. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Southwestern Louisiana and Univ. of Missouri, sub- mitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-C)
- 27321 Jones, R.; Barry, B.; Monaco, T.; et al. (1976) Summary of Residue Data: Devrinol on Peppers. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Southwestern Louisiana, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-D)
- 27322 Anderson, L.; VanBuren, B.; Collins, R.; et al. (1976) Summary of Residue Data: Devrinol on Strawberries. (Unpublished study re- ceived Sep 7, 1976 under 476-2108; prepared in cooperation

- with Utah State Univ. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-E)
- 27550 Yavssey, L.O. (1978) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Nuts. (Unpublished study received Feb 25, 1980 under 476-2108; prepared in cooperation with Fowler Farm Management and Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099271-C)
- 28796 Philips, ?; Wood, ?; Gusti, A.; et al. (1974) Crop Residue Studies Summary for Devrinol 50-WP, 2-E + Tillam 6-E (1-2+4-6 Lbs.a.i./ A): Tank Mix on Direct-Seeded Tomatoes in California. (Unpub- lished study received Dec 17, 1974 under 476-2108; prepared in cooperation with A.L. Noll Farms, Inc. and Newhall Land Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 001019-A)
- 28800 Parker, R.; Solether, N.; Solether, B.; et al. (1973) Crop Residue Studies Summary for Devrinol 50-WP 4-6 Lbs.a.i./A on Grapefruit and Oranges in Texas. (Unpublished study received Dec 17, 1974 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:001019-F)
- 30179 Oberta, ?; Kevorkian, A. (1975) Devrinol 50-WP: Summary of Crop Residue on Olives. (Unpublished study received Jan 29, 1980 un- der 476-2108; prepared in cooperation with Reedley College, sub- mitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-L)
- 31946 MacLaren, G.E.; Patchett, G.G. (1973) Determination of Residues of Devrinol(R) in Crops, Animal Tissues and Soils. Method no. WRC 73-56 dated Nov 20, 1973. (Unpublished study received Mar 21, 1975 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-F)
- 31947 Lombardi, G.; Kitaharwa, H.; Schweers, V.H.; et al. (1974) Devrin- ol--Rotational Crop Residue Studies: Data on Crops with Estab- lished Devrinol Tolerances but No Registrations. (Unpublished study received Mar 21, 1975 under 476-2108; prepared in coop- eration with Univ. of California, Extension Service and Univ. of Southwestern Louisiana, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-G)
- 31948 Rodgers, B.; Rocha, J.; Walton, J.; et al. (1974) Devrinol--Rota- tional Crop Residue Studies: Data on Crops for Which No Devrinol Tolerances Have Been Established. (Unpublished study received Mar 21, 1975 under 476-2108; prepared in cooperation with Fresno State Univ. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-H)
- 32300 Cannon, J.L.; Smith, V.; McAfee, K.H. (1974) Crop Residue Studies: Summary for Devrinol 50-WP. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in coopertion with Reedley Col- lege, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 101111-B)
- 32357 Tootilian, G.; Montgomery, ? (1973) Summary of Devrinol Residue Data on Figs. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Sadoian Brothers and Reed- ley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093855-D)
- 32358 Elmore, C.L.; Neely, R.E.; McFarland, ?; et al. (1973) Summary of Devrinol Residue Data on Nut Crops. (Unpublished study received on unknown date under 4F1447; prepared in cooperation with Univ. of California--Davis, Depts. of Environmental Toxicology and Botany and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093855-E)
- 32359 Elmore, C.L.; Daniels, D.; Warman, H.; et al. (1973) Summary of Devrinol Residue Data for Pome Fruits. (Unpublished study re- ceived on unknown date under 4F1447; prepared in cooperation

- with Univ. of Connecticut, Agricultural Experiment Station and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093855-F)
- 32494 Bailey, C.E.; Dumlao, S.; Phillips, D.; et al. (1973) Crop Residue Report: Devrinol 2-E: Tomatoes: FSDS No. A-7740. (Unpublished study including FSDS nos. A-7090, A-7085, A-7135..., received Oct 16, 1973 under 476-2150; prepared in cooperation with H.J. Heinz Co. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-C)
- 32564 Gusti, A.; Haven, A.; Wyrick, F.; et al. (1974) Crop Residue Studies Summary for Devrinol 50-WP, 2-E + Tillam 6-E (1-2+4-6 Lbs.a.i./A) Tank Mix on Direct-Seeded Tomatoes in California. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with A.L. Noll Farms, Inc. and Newhall Land Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 028421-A)
- 32568 Tavenner, H. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4 Lbs.a.i./A on Grapes in the Pacific Northwest. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Oregon State Univ., North Willamette Experiment Station, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 028421-E)
- 32571 Parker, R.; Solether, N.; Solether, B.; et al. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4-6 Lbs.a.i./A on Grapefruit and Oranges in Texas. (Unpublished study received Dec 17, 1974 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028421-H)
- 33035 Thompson, R.; Jensen, ?; Elmore, C.; et al. (1974) Crop Residue Studies Summary for Devrinol 50-WP (4 Lbs. a.i./A) Tank Mixed with Simazine 80-WP (0.5-1 Lb.a.i./A) and/or Paraquat (1 Lb.a.i./A) in California/Arizona. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Univ. of California--Davis and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101111-C)
- 33961 Lombardi, G.; Kitaharwa, H.; Schweers, V.H. (1974) Crop Residue Studies Summary for Devrinol 50-WP, 2-E 1-2 Lbs. a.i./A on Peppers in California. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Univ. of California, Agricultural Extension Service, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028312-D)
- 34223 Cannon, J.L.; Smith, V.; McAfee, K.H. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4 Lbs.a.i./A on Grapefruit, Lemons and Tangerines in California/Arizona and Oranges in Arizona. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Lemoniera Co. and Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 000836-B)
- 35663 De Guzman, D.; Dorman, D.C.; LaRue, J.; et al. (1980) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Stone Fruits. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-E)
- 35664 De Guzman, D.; Dorman, D.C. (1980) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Pome Fruits. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-F)
- 35665 De Guzman, D.; Dorman, D.C.; Rodgers, W.; et al. (1980) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Citrus. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co.,

- Richmond, Calif.; CDL:242620-G)
- 35666 De Guzman, D.; Dorman, D.C.; Stiles, N.; et al. (1980) Devri- nol^(R)I Selective Herbicide: Summary of Crop Residue Data on Nuts. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-H)
- 35667 De Guzman, D.; Dorman, D.C.; O'Sullivan, R.; et al. (1980) Devri- nol^(R)I Selective Herbicide: Summary of Crop Residue Data on Small Fruits. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-I)
- 35668 De Guzman, D.; Dorman, D.C. (1980) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Figs. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-J)
- 35669 De Guzman, D.; Dorman, D.C.; Lesh, M. et al. (1980) Devrinol^(R)I Selective Herbicide: Summary of Crop Residue Data on Fruiting Vegetables. (Unpublished study received Jun 9, 1980 under 476-2199; prepared in cooperation with Clemson Univ., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-K)
- 49484 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50 W|: FSDS No. B-0610. (Reports by various sources; unpublished study including FSDS nos. B-0147, B-0909, B-0624..., received May 5, 1972 under 2F1194; CDL:091006-F)
- 49485 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0685. (Reports by various sources; unpublished study including FSDS nos. B-1787, B-0686, B-0683..., received May 5, 1972 under 2F1194; CDL:091006-G)
- 49486 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0190. (Reports by various sources; unpublished study including FSDS nos. B-0189, B-1858, B-1860..., received May 5, 1972 under 2F1194; CDL:091006-H)
- 49487 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-0123. (Reports by various sources; unpublished study including FSDS nos. B-0094, A 780, B-0187..., received May 5, 1972 under 2F1194; CDL:091006-I)
- 49488 Stauffer Chemical Company (1971) Crop Residue Report: ?Almonds|: FSDS No. A 782. (Compilation; unpublished study including B-1715, B-1714, B-1730..., received May 5, 1972 under 2F1194; CDL:091006-J)
- 49495 Riggs, R.L.; Humphreys, R.; MacLaren, G.; et al. (1971) Waylay (R-7465) Run-Off Study: Soil, Water, Silt, Fish Residues. (Unpublished study including FSDS nos. B-1066, B-1067, B-1083..., received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-Q)
- 65362 Stauffer Chemical Company (1973) Summary of Residue Chemistry. (Compilation; unpublished study received Mar 28, 1977 under 476-2184; CDL:229227-A)
- 67872 Stauffer Chemical Company (1980) Summary of Residue Reports for Tillam 6-E^(R)I/Devrinol^(R)I 4-F Tank Mix on Tomatoes. (Compilation; unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-G)

- 67873 Stauffer Chemical Company (1980) Summary of Residue Reports for Tillam[^](R)I 6-E/Devrinol[^](R)I/Dyfonate[^](R)I Tank Mix on Toma- toes. (Compilation; unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-I)
- 70779 Stauffer Chemical Company (1980) Devrinol[^](R)I50-WP Selective Her- bicide: Summary of Crop Residue Data on Apples, Peaches, and Citrus. (Compilation; unpublished study received Dec 11, 1980 under 476-2108; CDL:243859-A)
- 70780 Stauffer Chemical Company (1980) Devrinol[^](R)I50-WP Selective Her- bicide: Summary of Crop Residue Data on Apples, Pears, Citrus, Peaches, Grapes and Walnuts. (Compilation; unpublished study received Dec 11, 1980 under 476-2108; CDL:243860-A)
- 70781 Stauffer Chemical Company (1980) ?Residues of Devrinol on Egg- plants|. (Compilation; unpublished study received Dec 11, 1980 under 476-2108; CDL:243859-C)
- 70784 Stauffer Chemical Company (1980) Devrinol[^](R)I4-F Selective Herbi- cide: Summary of Crop Residue Data on Apples, Peaches, and Cit- rus. (Compilation; unpublished study received Dec 11, 1980 un- der 476-2199; CDL:243860-A)
- 70785 Stauffer Chemical Company (1980) Devrinol[^](R)I4-F Selective Herbi- cide: Summary of Crop Residue Data on Apples, Pears, Citrus, Peaches, Grapes and Walnuts. (Compilation; unpublished study received Dec 11, 1980 under 476-2199; CDL:243860-B)
- 70786 Stauffer Chemical Company (1980) Devrinol[^](R)I 4-F Selective Herbi- cide: Summary of Crop Residue Data on Eggplants. (Compilation; unpublished study received Dec 11, 1980 under 476-2199; CDL: 243860-C)
- 70814 Stauffer Chemical Company (1973) Crop Residue Report: Devrinol 2-E: FSDS No. A-7740. (Compilation; unpublished study, including FSDS nos. A-7090, A-7085, A-7135..., received Oct 16, 1973 under 476-2150; CDL:221951-C)
- 72690 Stauffer Chemical Company (1980) ?Residue of Devrinol on Lettuce and Sugar Beets|: FSDS No. A-26496. (Compilation; unpublished study, including FSDS nos. B-2529, A-9615 and A-11880, received Apr 27, 1981 under 0F2319; CDL:070040-E)
- 94087 Interregional Research Project Number 4 (1981) The Results of Tests on the Amount of Napropamide Residues Remaining in or on Basil Including a Description of the Analytical Method Used. Includes methods dated Aug 5, 1981 and WRC 73-56 dated Nov 20, 1973. (Compilation; unpublished study received Feb 3, 1982 under 2E2643; CDL:070654-A)
- 113800 Stauffer Chemical Co. (1972) ?Residues of R-7465 in Tomatoes and Other Crops|. (Compilation; unpublished study received May 11, 1972 under 2F1194; CDL:091005-A)
- 113814 Stauffer Chemical Co. (1979) ?Residues of Devrinol in Coffee Beans and Other Crops|. (Compilation; unpublished study received Aug 1, 1979 under 9E2244; CDL:098860-A)
- 113821 Stauffer Chemical Co. (1979) Residue Data: Summaries and Analytical Data for Devrinol, Devrinol/Simazine and Devrinol/Paraquat on Citrus. (Compilation; unpublished study received Nov 13, 1979 under 476-2108; CDL:241323-A)
- 115110 Interregional Research Project No. 4 (1982) The Results of Tests on the Amount of Napropamide Residues Remaining in or on Rose- mary and Summer Savory Including a Description of the Analytical Method Used. (Compilation; unpublished study received Sep 16, 1982 under 2E2759;

- CDL:071098-A)
- 115128 Stauffer Chemical Co. (1982) ?Study: Devrinol Residue on Selected Crops|. (Compilation; unpublished study received Sep 3, 1982 under 476-2108; CDL:248365-B)
- 118001 Stauffer Chemical Co. (1982) ?Devrinol: Residues in Apples and Other Crops|. (Compilation; unpublished study received Nov 9, 1982 under 476-2218; CDL:248804-A)
- 120304 Stauffer Chemical Co. (1982) ?Devrinol: Residues in Various Crops|. (Compilation; unpublished study received Dec 10, 1982 under 476-2108; CDL:249003-A)
- 126316 Interregional Research Project No. 4 (1982) The Results of Tests on the Amount of Napropamide Residues Remaining in or on Rhu- bard, Including a Description of the Analytical Method Used. (Compilation; unpublished study received Mar 7, 1983 under 3F2849; CDL:071479-A)
- 129108 Stauffer Chemical Co. (1981) Summary of Devrinol Residue Data on Rotation Crops: ?Residues|. (Compilation; unpublished study received Jul 6, 1983 under 476-2108; CDL:071720-A)
- 132824 Stauffer Chemical Co. (1983) The Results of Tests on the Amount and Nature of the Residue, and Analytical Methodology for Devrinol. (Compilation; unpublished study received Dec 1, 1983 under 4F3005; CDL:072186-A)
- 140144 Stauffer Chemical Co. (1979) ?Residue of Devrinol 50-WP on or in Coffee Beans|. (Compilation; unpublished study received Oct 10, 1979 under 9E2244; CDL:099027-A)
- 144964 Interregional Research Project No. 4. (1983) The Results of Tests On the Amount of Napropamide Residues Remaining in or on Pome- granates Including A Description of the Analytical Method used. Unpublished compilation. 65 p.
- 41575305 Curry, K. (1990) Determination of Napropamide Residues in Crops by Gas Chromatography (RRC 83-68): Lab Project Number: 90-175B. Unpublished study prepared by ICI Americas Inc. 60 p.
- 41575307 McKay, J. (1989) Napropamide. . . : Storage Stability Validation for Napropamide in Raw Agricultural Commodities and Soil: Lab Pro- ject Number: WRC 89-54. Unpublished study prepared by ICI Amer- icas Inc. 118 p.
- 41575308 Baron, J.; Pearson, F. (1990) Phase 3 Summary of MRID 094087: Napropamide--Magnitude of the Residue on Basil: Lab Project Num- ber 1570. Unpublished study prepared by IR-4 Project. 12 p.
- 41575309 Baron, J.; Pearson, F. (1990) Phase 3 Summary Of MRID 115110: Napropamide--Magnitude of the Residue on Rosemary: Lab Project Number: 1829. Unpublished study prepared by Stauffer Chemical Co. in cooperation with the IR-4 Project. 9 p.
- 41575310 Baron, J.; Pearson, F. (1990) Phase 3 Summary of MRID 115110: Napropamide--Magnitude of the Residue on Savory: Lab Project Number 1829. Unpublished study prepared by Stauffer Chemical Co. in cooperation with the IR-4. 10 p.
- 42845901 Joseph, R. (1993) Napropamide: Supplemental Information in Response to EPA HED Chemistry Branch II Review of Nature of the Residue Studies on Apples, Tomatoes and Cabbage: Lab Project Number: RJ1128B SUP: RJ1153B SUP: RJ1124B SUP. Unpublished study prepared by Zeneca Ag Products, Jealott's Hill Research Station. 70 p.
- 43249401 Grant, C.; Curry, K. (1994) DEVRINOL 50-DF: Residue Processing Study for Napropamide on Apples: Lab Project Number: NAPR-91-PR-01: RR 92-074B. Unpublished study prepared by

- ZENECA Ag Products, Western Research Center; ACDs, Inc. and Englar & Associates. 167 p.
- 43249402 Storoni, H. (1994) Napropamide: Residue Levels in Processed Grapes from Trials Carried Out in the USA During 1992: Lab Project Number: NAPR-92-PR-01: 56-NY-92-602: RR 93-056B. Unpublished study prepared by ZENECA Ag Products, Western Research Center. 161 p.
- 43249403 Curry, K.; Grant, C. (1994) DEVRINOL: Residue Processing Study for Napropamide on Oranges: Lab Project Number: NAPR-91-PR-03: 42-FL-91-181: RR 92-075B. Unpublished study prepared by ZENECA Ag Products, Western Research Center and Univ. of Florida., Institute of Food & Agricultural Sciences. 95 p.
- 43249404 Curry, K.; Grant, C. (1994) DEVRINOL: Residue Processing Study for Napropamide on Plums (Prune Type): Lab Project Number: NAPR-91-PR-02: RR 91-079B: 18-CA-91-152. Unpublished study prepared by ZENECA Ag Products, Western Research Center and The National Food Laboratory, Inc. 122 p.
- 43249405 Storoni, H. (1994) Napropamide: Residue Levels in Processed Tomatoes from Trials Carried Out in the USA During 1992: Lab Project Number: NAPR-92-PR-02: RR 93-007B: RP 5707. Unpublished study prepared by ZENECA Ag Products, Western Research Center. 101 p.
- 43345101 Grant, C.; Curry, K. (1994) Devrinol 50-DF: Residue Processing Study for Napropamide on Apples: Lab Project Number: NAPR-91-PR-01: RR 92-074B: 91307. Unpublished study prepared by Zeneca Ag Products, Western Research Center; ACDS, Inc.; and Englar & Associates, Inc. 167 p.
- 43345103 Storoni, H. (1994) Napropamide: Residue Levels in Processed Grapes from Trials Carried out in the USA During 1992: Lab Project Number: NAPR-92-PR-01: RR 93-056B: NAPR-91-MV-05. Unpublished study prepared by Zeneca Ag Products, Western Research Center. 161 p.
- 43345104 Curry, K.; Grant, C. (1994) Napropamide: Residue Processing Study for Napropamide on Oranges: Lab Project Number: NAPR-91-PR-03: RR 92-075B: 42-FL-91-182. Unpublished study prepared by Zeneca Ag Products, Western Research Center and University of Florida, Institute of Food & Agricultural Sciences. 95 p.
- 43345107 Curry, K.; Grant, C. (1994) Devrinol: Residue Processing Study for Napropamide on Plums (Prune Type): Lab Project Number: NAPR-91-PR-02: RR 91-079B: 18-CA-91-151. Unpublished study prepared by Zeneca Ag Products, Western Research Center and The National Food Lab, Inc. 122 p.
- 43345109 Storoni, H. (1994) Napropamide: Residue Levels in Processed Tomatoes from Trials Carried Out in the USA During 1992: Lab Project Number: NAPR-92-PR-02: RR 93-007B: NAPR-91-MV-01. Unpublished study prepared by Zeneca Ag Products, Western Research Center. 101 p.
- 43843401 Thompson, D. (1995) Napropamide: Magnitude of Residue on Oriental Radish (Daikon): Lab Project Number: 05133: 03253. 91-FLR12: 05133.91-FL39(3253.91-FL39). Unpublished study prepared by University of Florida. 106 p.
- 44020101 Roper, E.; Markle, J. (1996) Devrinol: Determination of the Stability of Napropamide in Processed Samples of Apples During Frozen Storage: Lab Project Number: NAPR-91-SS-01: RR 96-036B: ML91-0234-ICI. Unpublished study prepared by Zeneca Ag Products and Morse Labs., Inc. 59 p.
- 44020102 Roper, E.; Markle, J. (1996) Devrinol: Determination of the Stability of Napropamide in Processed Samples of Oranges During Frozen Storage: Lab Project Number: NAPR-91-SS-03: RR 96-032B:

- ML91-0235-ICI. Unpublished study prepared by Zeneca Ag Products and Morse Labs., Inc. 75 p.
- 92125020 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025883 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Artichokes: Laboratory Study ID No. RR 90-061B. Prepared by STAUFFER CHEMICAL/ICI AMERICAS. 9 p.
- 92125021 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. Devrinol: Magnitude of the Residue on Cabbage: Laboratory Study ID No. RR90-148B. Prepared by ICI AMERICAS, INC. 102 p.
- 92125022 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00033035 and Related MRIDs 00035663, 00049487, 00070779, 00070780, 00070784, 00070785, 00113821, 00118001. Devrinol 50-WP: Magnitude of the Residue on Peaches: Laboratory ID No. RR 90-018B. Prepared by Stauffer Chemical Co. ICI Americas. 10 p.
- 92125023 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00140144 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Coffee: Laboratory Summary ID No. RR 90/084B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS, INC. 9 p.
- 92125024 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00140144 and Related MRIDs 00025882. Devrinol Processed Food: Coffee: Laboratory Summary ID No. RR/90/219B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125025 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025886 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Watermelon: Laboratory Study ID No. RR 90-200B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS, INC. 8 p.
- 92125026 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00033035 and Related MRIDs 00113821, 00023883, 00049487, 00049482. DEVRINOL 50-WP Magnitude of the Residue on Cherries: Laboratory Study ID No. RR 90-015B. Prepared by ICI Americas/Stauffer Chemical Co. 9 p.
- 92125027 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00023257 and Related MRIDs 00113821, 00025882. Devrinol Processed Food: Figs: Laboratory Summary ID No. RR 90-242B. Prepared by STAUFFER CHEMICAL CO./ICI AMERICAS, INC. 8 p.
- 92125028 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025887 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Kiwifruit: Laboratory Study ID No. RR 90-118B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 9 p.
- 92125029 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025889 and Related MRIDs 00118001, 00025882. Devrinol: Magnitude of the Residue on Mint: Laboratory Study ID No. RR-90-198B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 9 p.
- 92125030 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025889 and Related MRIDs 00025882. Devrinol Processed Food: Mint: Laboratory Study ID No. RR 90-210B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 8 p.
- 92125031 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00030179 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Olives: RR-90-111B. Prepared

by STUAFFER CHEMICAL CO./ICI AMERICAS, INC. 9 p.

- 92125032 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00030179 and Related MRIDs 00025882. Devrinol Processed Food: Olives: Laboratory Summary ID No. RR-90-209B. Prepared by ICI AMERICAS INC./STAUFFER CHEMICAL. 8 p.
- 92125033 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00025890 and Related MRIDs 00049482. Devrinol: Magnitude of the Residue on Persimmons: Laboratory Study ID No. RR 90-196B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS INC. 10 p.
- 92125034 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00027550 and Related MRIDs 00032358, 00113821, 00025882. Devrinol: Magnitude of the Residue on Pistachios: Laboratory Study ID No. RR 90-120B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 9 p.
- 92125035 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00032359 and Related MRIDs 00035664, 00070779, 00070780, 00070785, 00113821, 00115128, 00118001. Devrinol: Magnitude of the Residue on Apples: Laboratory Study ID No. RR 90-077B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 10 p.
- 92125036 Baron, J.; Pearson, F. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00126316. Napropamide-Magnitude of the Residue on Rhubarb: Study ID IR-4 Project No. 2482 and Pesticide Petition 3E-2849. Prepared by Interregional Regional Research Project No.4. 9 p.
- 92125037 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00049486 and Related MRIDs 00113821, 00118001, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Caneberries (Blackberries, Boysenberries, Raspberries and Loganberries): Laboratory Study ID No. RR 90-104B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125038 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00033035 and Related MRIDs 00025882. DEVRINOL Processed Food: Grapes: Laboratory Study ID No. RR 90-302B. Prepared by Ici Americas, Inc. 8 p.
- 92125039 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00033035 and Related MRIDs 00035663, 00049487, 00113821, 00115128, 00025882, 00032356, 00049482. Devrinol Magnitude of the Residue on Plums: Laboratory Study ID No. RR 90-024B. Prepared by Stauffer Chemical Co. 9 p.
- 92125040 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00025884 and Related MRIDs 00031948, 00025882. Devrinol: Magnitude of the Residue on Asparagus: Laboratory Study ID No. RR 90-071B. Prepared by STAUFFER CHEMICAL CO./ICI AMERICAS. 9 p.
- 92125041 Adelson, B.; Leary, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00025885 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Avocados: Laboratory Study ID No. RR 90-089B. Prepared by ICI AMERICAS/STAUFFER CHEMICAL COMPANY. 90 p.
- 92125042 Adelson, B.; Leary, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00031947 and Related MRIDs 00070781, 00049482. Devrinol Magnitude of the Residue on Eggplant: Laboratory Study ID No. RR 90-163B. Prepared by Stauffer Chemical Co. 8 p.
- 92125043 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00032358 and Related MRIDs 00033035, 00035666, 00049488, 00113821, 00115128, 00025882, 00032356,

00049482. Devrinol Magnitude of the Residue on Almonds: Laboratory Study ID No. RR 90-046B. Prepared by Stauffer Chemical Co. ICI Americas. 10 p.
- 92125044 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00144964 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Pomegranates: Laboratory Study ID No. RR-90-134B. Prepared by ICI AMERICAS/STAUFFER CHEMICAL COMPANY. 8 p.
- 92125045 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00027323 and Related MRIDs 00027324, 00035670, 00120304, 00025882. Devrinol: Magnitude of the Residue Applied Pre-transplant on Tobacco: Laboratory Study ID No. RR 90-082B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 11 p.
- 92125047 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00023235 and Related MRIDs 00033035, 00035663, 00049485, 00070779, 00070780, 00113821, 00115121, 00115128. DEVRINOL Magnitude of the Residue on Oranges: Laboratory Study ID No. RR 90-031B. Prepared by Stauffer Chemical Co. 9 p.
- 92125048 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. Devrinol Magnitude of the Residue on Cauliflower: Lab. Study ID No. RR 90-152B. Prepared by STAUFFER CHEMICAL COMPANY. 8 p.
- 92125049 Adelson, B.; Leary, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00049486 and Related MRIDs 00118001, 00049482. Devrinol Magnitude of the Residue on Cranberries: Lab. Study ID No. RR 90-161B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125050 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00035663 and Related MRIDs 00113821, 00025882, 00049482. Devrinol: Magnitude of the Residue on Apricots: RR 90-026B. Prepared by STAUFFER CHEMICAL/ ICI AMERICAS INC. 8 p.
- 92125051 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00023233 and Related MRIDs 00035677, 00049486, 00113821, 00115128, 00025882, 00049482. Devrinol Magnitude of the Residue on Grapes: Laboratory Study ID No. RR 90-154B. Prepared by Stauffer Chemical Co. 9 p.
- 92125052 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00035665 and Related MRIDs 00032300, 00023235, 00049485, 00113821, 00025882, 00049482, 00049483. DEVRINOL Magnitude of the Residue on Grapefruit: Laboratory Study ID No. RR 90-033B. Prepared by Stauffer Chemical Co. 103 p.
- 92125053 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00049482 and Related MRIDs 00025882, 00120304. DEVRINOL Magnitude of the Residue on Blueberries: Laboratory Study No. RR 90-099B. Prepared by Stauffer Chemical Co. 8 p.
- 92125054 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00113821 and Related MRIDs 00033035, 00035665, 00032300, 00025882. DEVRINOL Magnitude of the Residue on Lemons: Laboratory Study ID No. RR 90-041B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125055 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00027322 and Related MRIDs 00031947, 00035667, 00118001, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Strawberries: Laboratory Study ID No. RR 90-215B. Prepared by Stauffer Chemical Co. 11 p.

- 92125056 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00025888 and Related MRIDs 00031948, 00049482. Devrinol Magnitude of the Residue on Brussels Sprouts: Laboratory Study ID No. RR 90-146B. Prepared by Stauffer Chemical Co. 8 p.
- 92125057 Adelson, B.; Ott, K. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00023257 and Related MRIDs 00035668, 00113821, 00025882. Devrinol: Magnitude of the Residue on Figs: Laboratory Study ID No. RR 90-132B. Prepared by STAUFFER CHEMICAL CO./ICI AMERICAS. 9 p.
- 92125058 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. Devrinol: Magnitude of the Residue on Broccoli: Laboratory Study ID No. 90-130B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 10 p.
- 92125059 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00120304 and Related MRIDs 00025882. Devrinol Magnitude of the Residue Applied Lay-by on Tobacco: Lab. Study ID No. RR 90-095B. Prepared by ICI Americas. 8 p.
- 92125060 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00032300 and Related MRIDs 00111381, 00025882. Devrinol Magnitude of the Residue on Tangerines: Lab. Study ID No. RR 90-044B. Prepared by ICI Americas. 8 p.
- 92125061 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00120304 and Related MRIDs 00025882. Devrinol Magnitude of the Residue Applied Post-transplant on Tobacco: Laboratory Study ID No. RR 90-086B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125062 Adelson, B.; McKay, J. (1990) Ici Americas Inc. Phase 3 Summary of MRID 00035663 and Related MRIDs 00113821, 00025882. Devrinol: Magnitude of the Residue on Nectarines: Laboratory Study ID No. RR 90-028B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS INC. 8 p.
- 92125063 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00023228 and Related MRIDs 00027321, 00031947, 00033961, 00113800, 00025882, 00049482. DEVRINOL: Magnitude of the Residue on Peppers: Laboratory ID No. RR 90-194B. Prepared by Stauffer Chemical Co. ICI Americas. 11 p.
- 92125064 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00023230 and Related MRIDs 00027319, 00027320, 00032494, 00035669, 00049484, 00113800, 00025882, 00049482. Devrinol: Magnitude of the Residue on Tomatoes: Laboratory Study ID No. RR 90-106B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 13 p.
- 92125065 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00032358 and Related MRIDs 00035666, 00113821, 00025882. Devrinol Magnitude of the Residue on Filberts: Lab. Study ID No. RR 90-049B. Prepared by Stauffer Chemical Co. 8 p.
- 92125066 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00032359 and Related MRIDs 00070780, 00113821, 00118001, 00025882, 00049482. Devrinol Magnitude of the Residue on Pears: Laboratory Study ID No. RR 90-073B. Prepared by STAUFFER CHEMICAL COMPANY. 10 p.
- 92125067 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00032358 and Related MRIDs 00035666, 00070780, 00113821, 00025882. Devrinol: Magnitude of the Residue on Walnuts: Laboratory Study ID No. RR 90-053B. Prepared by STAUFFER CHEMICAL CO./ICI

AMERICAS. 9 p.

- 92125068 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Summary of MRID 00118001 and Related MRIDs 00032358, 00113821, 00025882. DEVRINOL Magnitude of the Residue on Pecans: Laboratory Study ID No. RR 90-063B. Prepared by STAUFFER CHEMICAL COMPANY. 9 p.
- 92125072 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. Devrinol: Magnitude of the Residue on Cabbage: Laboratory Study ID No. RR 90-149B. Prepared by STAUFFER CHEMICAL COMPANY/ICI AMERICAS. 102 p.
- 92125073 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023235 and Related MRIDs 00033035, 00035663, 00049485, 00070779, 00070780, 00113821, 00115121, 00115128. DEVRINOL Magnitude of the Residue on Oranges: Laboratory Study ID No. RR 90-032B. Prepared by ICI Americas, Inc. 144 p.
- 92125074 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00140144 and Related MRIDs 00025882. Devrinol Magnitude of the Residue on Coffee: Laboratory Summary ID No. RR 90-085B. Prepared by ICI Americas. 93 p.
- 92125075 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00140144 and Related MRIDs 00025882. Devrinol: Processed Food: Coffee: Laboratory Study ID No. RR 90-220B. Prepared by ICI AMERICAS. 64 p.
- 92125076 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025886 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Watermelon: Laboratory Study ID No. RR 90-201B. Prepared by ICI AMERICAS INC./WESTERN RESEARCH. 65 p.
- 92125077 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023257 and Related MRIDs 00035668, 00113821, 00025882. Devrinol: Magnitude of the Residue on Figs: Laboratory Study ID No. RR 90-133B. Prepared by ICI AMERICAS. 72 p.
- 92125078 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023257 and Related MRIDs 00113821, 00025882. Devrinol: Processed Food: Figs: Laboratory Study ID No. RR 90- 243B. Prepared by ICI AMERICAS. 41 p.
- 92125079 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025887 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Kiwifruit: RR 90-119B. Prepared by ICI AMERICAS, INC. 81 p.
- 92125080 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025889 and Related MRIDs 00118001, 00025882. Devrinol: Magnitude of the Residue on Fresh Mint Hay: Laboratory Study ID No. RR 90-199B. Prepared by STAUFFER CHEMICAL CO./WESTERN RESEARCH. 76 p.
- 92125081 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025889 and Related MRIDs 00025882. Devrinol: Processed Food: Mint: Laboratory Study ID No. RR 90-211B. Prepared by ICI AMERICAS. 56 p.
- 92125082 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00030179 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Olives: Laboratory Study ID No. RR 90-112B. Prepared by ICI AMERICAS, INC. 72 p.

- 92125083 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00030179 and Related MRIDs 00025882. Devrinol: Processed Food: Olives: Laboratory Study ID No. RR-90-192B. Prepared by ICI AMERICAS. 57 p.
- 92125084 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025890 and Related MRIDs 00049482. Devrinol: Magnitude of the Residue on Persimmons: Laboratory ID No. 90-197B. Prepared by ICI AMERICAS, INC. 66 p.
- 92125085 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00027550 and Related MRIDs 00032358, 00113821, 00025882. Devrinol: Magnitude of the Residue on Pistachios: Laboratory Study ID No. 90-121B. Prepared by ICI AMERICAS, INC. 66 p.
- 92125086 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032359 and Related MRIDs 00035664, 00070779, 00070780, 00070785, 00113821, 00115128, 00118001, 00025882. DEVRINOL Magnitude of the Residue on Apples: Laboratory Study ID No. RR 90-078B. Prepared by Stauffer Chemical Co. 209 p.
- 92125087 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00049486 and Related MRIDs 00113821, 00118001, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Caneberries (Blackberries, Boysenberries, Raspberries and Loganberries): Laboratory Study ID No. RR 90-105B. Prepared by STAUFFER CHEMICAL COMPANY. 118 p.
- 92125088 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00033035 and Related MRIDs 00025882. Devrinol Processed Food: Grapes: Lab. Study ID No. RR 90-303B. Prepared by ICI Americas. 37 p.
- 92125089 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00033035 and Related MRIDs 00113821, 00023883, 00049487, 00049482, 00025882. DEVRINOL 50-WP Magnitude of the Residues on Cherries: Laboratory ID No. RR 90-017B. Prepared by ICI Americas. 101 p.
- 92125090 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025883 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Artichoke: Laboratory Study ID No. RR 90-062B. Prepared by ICI AMERICAS, INC./WESTERN RESEARCH. 91 p.
- 92125091 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025884 and Related MRIDs 00031948, 00025882. Devrinol: Magnitude of the Residue on Asparagus: Laboratory Study ID No. RR 90-072B. Prepared by ICI AMERICAS, INC. 99 p.
- 92125092 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025885 and Related MRIDs 00025882, 00049482. Devrinol: Magnitude of the Residue on Avocados: Laboratory Study ID No. RR 90-090B. Prepared by ICI AMERICAS, INC. Western Research Center. 90 p.
- 92125093 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00031947 and Related MRIDs 00070781, 00049482. Devrinol Magnitude of the Residue on Eggplant: Laboratory Study ID No. RR 90-164B. Prepared by STAUFFER CHEMICAL COMPANY. 58 p.
- 92125094 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032358 and Related MRIDs 00113821, 00033035, 00035666, 00049488, 00115128, 00032356, 00025882, 00049482. Devrinol: Magnitude of the Residue on Almonds: Laboratory Study ID No. RR 90-047B. Prepared by ICI AMERICAS, INC./WESTERN RESEARCH CENTER. 167 p.

- 92125095 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00144964 and Related MRIDs 00025882. Devrinol: Magnitude of the Residue on Pomegranates: Laboratory Study ID No. RR 90-135B. Prepared by ICI AMERICAS, INC. 80 p.
- 92125096 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00027323 and Related MRIDs 00027324, 00035670, 00120304, 00025882. Devrinol Magnitude of the Residue Applied Pre-transplant on Tobacco: Laboratory Study Id No. RR 90-083B. Prepared by ICI Americas. 319 p.
- 92125097 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025888 and Related MRIDs 00031948, 00049482. DEVRINOL Magnitude of the Residue on Brussels Sprouts: Laboratory Study ID No. RR 90-147B. Prepared by ICI Americas, Inc. 45 p.
- 92125098 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00027322 and Related MRIDs 00031947, 00035667, 00118001, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Strawberries: Laboratory Study ID No. RR 90-216B. Prepared by ICI Americas, Inc. 223 p.
- 92125099 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00120304 and Related MRIDs 00025882. Devrinol Magnitude of the Residue Applied Lay-by on Tobacco: Laboratory Study ID No. RR 90-096B. Prepared by STAUFFER CHEMICAL COMPANY. 105 p.
- 92125101 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032358 and Related MRIDs 00113821, 00118001, 00025882. DEVRINOL Magnitude of the Residue on Pecans: Laboratory Study ID No. RR 90-064B. Prepared by ICI Americas, Inc. 131 p.
- 92125102 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00113821 and Related MRIDs 00035663, 00025882, 00049482. DEVRINOL: Magnitude of the residue on Apricots: Laboratory Study ID No. RR 90-027B. Prepared by STAUFFER CHEMICAL COMPANY. 88 p.
- 92125103 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00113821 and Related MRIDs 00032300, 00033035, 00035665, 00025882. DEVRINOL: Magnitude of the Residue on Lemons: Laboratory Study ID No. RR 90-042B. Prepared by STAUFFER CHEMICAL COMPANY. 98 p.
- 92125104 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032358 and Related MRIDs 00035666, 00113821, 00025882. DEVRINOL Magnitude of the Residue on Filberts: Laboratory Study ID No. RR 90-050B. Prepared by ICI Americas, Inc. 61 p.
- 92125105 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. Devrinol Magnitude of the Residue on Cauliflower: Lab. Study ID No. RR 90-153B. Prepared by ICI Americas. 62 p.
- 92125106 Adelson, B.; Leary, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00049486 and Related MRIDs 00118001, 00049482. DEVRINOL Magnitude of the Residue on Cranberries: Laboratory Study ID No. RR 90-162B. Prepared by ICI Americas, Inc. 76 p.
- 92125107 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00035663 and Related MRIDs 00113821, 00025882. DEVRINOL Magnitude of the Residue on Nectarines: Laboratory Study ID No. RR 90-029B. Prepared by ICI Americas, Inc. 44 p.
- 92125108 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00049487 and

- Related MRIDs 00035663, 00033035, 00113821, 00115128, 00025882, 00032356, 00049482. DEVRINOL Magnitude of the Residue on Plums: Laboratory Study ID No. RR 90-025B. Prepared by ICI Americas, Inc. 169 p.
- 92125109 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00049482 and Related MRIDs 00025882, 00049482, 00120304. DEVRINOL Magnitude of the Residue on Blueberries: Laboratory Study ID No. RR 90-100B. Prepared by ICI Americas, Inc. 56 p.
- 92125110 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00031947 and Related MRIDs 00027321, 00023228, 00033961, 00113800, 00025882, 00049482. DEVRINOL - Magnitude of the Residue on Peppers: Laboratory Study ID No. RR 90-195B. Prepared by ICI Americas, Inc. 127 p.
- 92125111 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023235 and Related MRIDs 00032300, 00035665, 00049485, 00113821, 00025882, 00049482, 00049483. DEVRINOL Magnitude of the Residue on Grapefruit: Laboratory Study ID No. RR 90-033B. Prepared by ICI Americas, Inc. 103 p.
- 92125112 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00025888 and Related MRIDs 00031948, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Broccoli: Laboratory Study ID No. RR 90-131B. Prepared by ICI Americas, Inc. 98 p.
- 92125113 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023233 and Related MRIDs 00035667, 00049486, 00113821, 00115128, 00025882, 00049482. Devrinol--Magnitude of the Residue on Grapes: Laboratory Study ID No. RR 90-155B. Prepared by ICI Americas Inc. 111 p.
- 92125114 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032300 and Related MRIDs 00113821, 00025882. DEVRINOL Magnitude of the Residue on Tangerines: Laboratory Study ID No. RR 90-045B. Prepared by ICI Americas, Inc. 49 p.
- 92125115 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00033035 and Related MRIDs 00035663, 00049487, 00070779, 00118001, 00070780, 00070784, 00070785, 00113821. DEVRINOL 50-WP Magnitude of the Residue on Peaches: Laboratory Study ID No. RR 90-019B. Prepared by ICI Americas, Inc. 207 p.
- 92125116 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00120304 and Related MRIDs 00025882. Devrinol Magnitude of the Residue Applied Post-transplant on Tobacco: Laboratory Study ID No. RR 90-087B. Prepared by ICI Americas. 209 p.
- 92125117 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00023230 and Related MRIDs 00027319, 00027320, 00032494, 00035669, 00049484, 00113800, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Tomatoes: Laboratory Study ID No. RR 90-107B. Prepared by ICI Americas, Inc. 456 p.
- 92125118 Adelson, B.; Ott, K. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032359 and Related MRIDs 00070780, 00113821, 00118001, 00025882, 00049482. DEVRINOL Magnitude of the Residue on Pears: Laboratory Study ID No. RR 90-074B. Prepared by ICI Americas Inc. Western Research Center. 215 p.
- 92125119 Adelson, B.; McKay, J. (1990) ICI Americas Inc. Phase 3 Reformat of MRID 00032358 and Related MRIDs 00035666, 00070780, 00113821, 00025882. Devrinol: Magnitude of the Residue on Walnuts: RR 90-054B. Prepared by ICI Americas, Inc. Western Research Center. 85 p.

171-4A2 Nature of the Residue in Plants

MRID

- 4190 Gjerstad, D.H.; South, D.B. (1976) Supporting Data for Application for State Registration of: Modown for Weed Control in Pine Seed- beds. (Unpublished study received Dec 13, 1977 under 2224-50; prepared by Auburn Univ., Dept. of Forestry in cooperation with U.S. Forest Service, State and Private Forestry, Southeastern Area, submitted by Mobil Chemical Co., Industrial Chemicals, Richmond, Va.; CDL:232503-A)
- 25879 Stauffer Chemical Company (19??) Evidence Regarding the Safety of the Pesticide Chemical Devrinol(R). (Unpublished study received Jan 29, 1980 under 476-2108; CDL:099218-A)
- 39765 Murphy, J.J.; Gray, R.A. (1972) Degradation Products of R-7465 in the Environment. (Unpublished study received Dec 14, 1972 under 2F1194; CDL:093519-B)
- 39767 Murphy, J.J.; Gray, R.A. (1972) Plant Uptake of Bound Residue from ?1-14C| Devrinol Treated Soil. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Rich- mond, Calif.; CDL:093519-D)
- 40134 Stauffer Chemical Company (1971?) Comparison of Acid and Enzymatic Hydrolysis of R-7465 Metabolites. (Unpublished study received Aug 20, 1971 under 2F1194; CDL:095554-A)
- 49481 Murphy, J.J.; Didriksen, J.; Gray, R.A. (1970?) Metabolism of Radioactive 2-(alpha-Naphthoxy)-N,N-diethyl propionamide (R- 7465) in Plants and Animals. (Unpublished study received May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-C)
- 113800 Stauffer Chemical Co. (1972) ?Residues of R-7465 in Tomatoes and Other Crops|. (Compilation; unpublished study received May 11, 1972 under 2F1194; CDL:091005-A)
- 113801 Stauffer Chemical Co. (19??) Evidence Regarding the Safety of the Pesticide Chemical Waylay. Summary of studies 091008-B through 091008-L. (Unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-A)
- 113811 Murphy, J.; Didriksen, J.; Gray, R. (1970?) Metabolism of Radio- active ... (R-7465) in Plants and Animals. (Unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemi- cal Co., Richmond, CA; CDL:091008-L)
- 129109 Doane, P.; Spillner, C. (1983) Uptake of 14C Devrinol Soil Residues by Rotation Crops: MRC-83-04. (Unpublished study received Jul 6, 1983 under 476-2108; submitted by Stauffer Chemical Co., Richmond, CA; CDL:071720-B)
- 132824 Stauffer Chemical Co. (1983) The Results of Tests on the Amount and Nature of the Residue, and Analytical Methodology for Devrinol. (Compilation; unpublished study received Dec 1, 1983 under 4F3005; CDL:072186-A)
- 42349801 Hurt, A.; Joseph, R. (1992) Napropamide: Uptake and Metabolism in Apples: Lab Project Number: 90JH142. Unpublished study prepared by ICI Agrochemicals. 69 p.
- 42349802 Webb, J.; Allin, R.; Joseph, R. (1992) Napropamide: Uptake and Metabolism in Tomatoes: Lab Project Number: 90JH193. Unpublished study prepared by ICI Agrochemicals. 56 p.
- 42393901 Emburey, S.; Joseph, R. (1992) Napropamide: Uptake and Metabolism in Cabbage: Lab Project

Number: 90JH192. Unpublished study prepared by ICI Agrochemicals. 73 p.

171-4A3 Nature of the Residue in Livestock

MRID

- 42775801 Webb, J.; Allin, R.; Joseph, R. (1993) Napropamide: Metabolism of Orally Administered Multiple Doses in the Lactating Goat: Lab Project Number: 91JH354: RJ1388B. Unpublished study prepared by ICI Agrochemicals (Jealotts Hill, Berkshire). 122 p.
- 42775802 Hurt, A.; Downey, C.; Joseph, R. (1993) Napropamide: Metabolism of Orally Administered Multiple Doses in the Laying Hen: Lab Project Number: 92JH005: RJ1408B. Unpublished study prepared by ICI Agrochemicals (Jealotts Hill, Berkshire). 140 p.

830.1550 Product Identity and composition

MRID

- 46105001 Malte, A. (2003) Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, and, Discussion of Formulation of Impurities: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by MIDC (B-27/29). 58 p.
- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1600 Description of materials used to produce the product

MRID

- 46105001 Malte, A. (2003) Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, and, Discussion of Formulation of Impurities: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by MIDC (B-27/29). 58 p.
- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1620 Description of production process

MRID

- 46105001 Malte, A. (2003) Product Identity and Composition, Description of Materials Used to Produce the

Product, Description of Production Process, Description of Formulation Process, and, Discussion of Formulation of Impurities: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by MIDC (B-27/29). 58 p.

- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1650 Description of formulation process

MRID

- 46105001 Malte, A. (2003) Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, and, Discussion of Formulation of Impurities: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by MIDC (B-27/29). 58 p.
- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.

830.1670 Discussion of formation of impurities

MRID

- 46105001 Malte, A. (2003) Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, and, Discussion of Formulation of Impurities: Gharda Napropamide Technical. Project Number: NAPRO/101. Unpublished study prepared by MIDC (B-27/29). 58 p.
- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1700 Preliminary analysis

MRID

- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1750 Certified limits

MRID

- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.
- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.1800 Enforcement analytical method**MRID**

- 46142701 Tillman, A. (2003) Devrinol 2-EC Selective Herbicide: Devrinol 2-EC Ornamental Herbicide: Product Identity, Composition and Analysis (Group A). Project Number: UPI/2003/016, RAD86/21, RAD86/22. Unpublished study prepared by United Phosphorus Inc. 65 p.
- 46338601 Malte, A. (2003) Preliminary Analysis (830.1700), Ceterified Limits (830.1750), and, Analytical Methods to Verify Certified Limits (830.1800): Gharda Napropamide Technical. Project Number: NAPRO/101, GCLQA/SAL/FB/0115. Unpublished study prepared by Gharda Chemicals Ltd. 71 p.
- 46459101 Tillman, A. (2003) Group A: Product Identity and Composition of Devrinol Technical. Project Number: UPI/2003/19, RRC/87/48, 3793. Unpublished study prepared by Jai Research Foundation. 321 p.

830.6302 Color**MRID**

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6303 Physical state**MRID**

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6304 Odor**MRID**

- 46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6314 Oxidizing or reducing action

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6315 Flammability

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6316 Explodability

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6317 Storage stability of product

MRID

46285601 Wo, C. (2003) Storage Stability and Corrosion Characteristics - Interim Report - 12 Month: Devrinol EXP-B1952-1. Project Number: P800UPI, 11972. Unpublished study prepared by Product Safety Labs. 21 p.

830.6319 Miscibility

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.6320 Corrosion characteristics

MRID

46285601 Wo, C. (2003) Storage Stability and Corrosion Characteristics - Interim Report - 12 Month: Devrinol EXP-B1952-1. Project Number: P800UPI, 11972. Unpublished study prepared by Product Safety Labs. 21 p.

830.6321 Dielectric breakdown voltage

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.7000 pH of water solutions or suspensions

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.7200 Melting point/melting range

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.7300 Density/relative density

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.7550 Partition coefficient (n-octanol/water), shake flask method

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

830.7950 Vapor pressure

MRID

46105003 Malte, A. (2003) Physical Chemical Properties: Gharda Napropamide Technical. Unpublished study prepared by Gharda Chemicals Ltd. 266 p.

850.1010 Aquatic invertebrate acute toxicity, test, freshwater daphnids

MRID

46478704 Stewart, K.; Tapp, J.; Sankey, S.; et. al. (1989) Napropamide: Determination of Chronic Toxicity to Daphnia magna. Project Number: BL3709/B, S051/C/FT55/89. Unpublished study prepared by Imperial Chemical Industries, Ltd. 26 p.

870.1100 Acute oral toxicity

MRID

46574101 Durando, J. (2005) Acute Oral Toxicity Up and Down Procedure in Rats: Devrinol 2EC Selective Herbicide. Project Number: 17016, P320/UDP. Unpublished study prepared by Product Safety Laboratories. 16 p.

870.1200 Acute dermal toxicity

MRID

46574102 Durando, J. (2005) Acute Dermal Toxicity Study in Rats - Limit Test: Devrinol 2EC Selective Herbicide. Project Number: 17476, P322. Unpublished study prepared by Product Safety Laboratories. 15 p.

870.1300 Acute inhalation toxicity

MRID

46494901 Sobotka, F. (2005) Acute Toxicity Study: Selected Studies to Fulfill Guideline Series 870 in Accordance with 40CFR Parts 158.340. Project Number: 10965. Unpublished study prepared by Indian Institute of Toxicology. 37 p.

46574103 Durando, J. (2005) Acute Inhalation Toxicity Study in Rats - Limit Test: Devrinol 2EC Selective Herbicide. Project Number: 17017, P330. Unpublished study prepared by Product Safety Laboratories. 22 p.

870.2400 Acute eye irritation

MRID

46302201 Merkel, D. (2002) Primary Eye Irritation Study in Rabbits (Devrinol EXP-B1952-1). Project Number: 11969. Unpublished study prepared by Product Safety Labs, Food Products Laboratory and New Jersey Laboratories. 17 p.

870.2500 Acute dermal irritation

MRID

46302202 Merkel, D. (2002) Devrinol EXP-B1952-1: Primary Skin Irritation Study in Rabbits. Project Number: 11970, P326. Unpublished study prepared by Product Safety Labs, Food Products Laboratory and New Jersey Laboratories. 16 p.

46494902 Sobotka, F. (2005) Acute Toxicity Study: Selected Studies to Fulfill Guideline Series 870 in Accordance with 40CFR Parts 158.340. Project Number: 10966. Unpublished study prepared by Indian Institute of Toxicology. 26 p.

870.2600 Skin sensitization

MRID

46553301 Durando, J. (2005) Dermal Sensitization Study in Guinea Pigs (Buehler Method): Devrinol 2EC Selective Herbicide. Project Number: P328, 17018. Unpublished study prepared by Product Safety Laboratories. 23 p.

Non-Guideline Study

MRID

- 2523 Collins, W.K.; Hawks, S.N., Jr.; Kittrell, B.U.; Robertson, R.L. (1973) Response of Flue-Cured Tobacco to Paarlans in Tank Mixes with Certain Insecticides and/or Nematicides in 1973. (Unpublished study received Jul 22, 1974 under 1471-79; prepared by North Carolina State Univ., Agricultural Extension Service, Dept. of Crop Science and Entomology Dept., submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:024956-B)
- 2531 Worsham, A.D.; Rodriguez, E.; Lemons, R. (1972) Annual Report of Tobacco Weed Control Research in 1971. (Unpublished study received Jun 5, 1974 under 1471-79; prepared by North Carolina State Univ., Dept. of Crop Science, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:024954-E)
- 2575 Ashton, F.M.; Tisdell, T.; Neff, B. (1970) Evaluation of Herbicides for Vegetable Crops--1970. (Unpublished study received Jun 6, 1972 under 2F1278; prepared by Univ. of California--Davis, Dept. of Botany, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:092108-AG)
- 2580 Keaton, J.A. (1971) University Research Report: January 11, 1970. (Unpublished study received Jun 6, 1972 under 2F1278; prepared in cooperation with North Carolina State Univ., Dept. of Horticultural Science, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:092108-AN)
- 2633 Wilson, H.P. (1972) 1972 Weed Science Research Summary: Report No. 36933. (Unpublished study received May 6, 1976 under 3125-277; prepared by Virginia Truck and Ornamentals Research Station, Eastern Shore Branch, Dept. of Plant Physiology, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-H)
- 2635 Phatak, S.C. (1972) Screening Herbicides for Transplant Tomatoes: Report No. 37106. (Unpublished study received May 6, 1976 under 3125-277; prepared by Horticultural Experiment Station, Canada, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-J)
- 2637 Heeney, H.B.; Warren, V. (1972) Bay 94337 in Combination with Other Herbicides on Tomato Transplants: Report No. 37128. (Unpublished study received May 6, 1976 under 3125-277; prepared by C.D.A. Research Station, Canada, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-L)
- 2646 Agamalian, H. (1973) Report of Planned Work Accomplished: Selective Herbicides in Vegetables (Tomatoes): Report No. 38169. (Unpublished study received May 6, 1976 under 3125-277; prepared by Univ. of California, (Agricultural) Extension (Service), submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-Z)
- 2651 Squire, S.W. (1972) Herbicides on Transplanted Tomatoes, 1972: Report No. 38596. (Unpublished study received May 6, 1976 under 3125-277; prepared by Campbell Soup Co., Ltd., (Canada), submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AE)
- 2659 Schweers, V.H. (1973) Fresh Market Transplant Tomatoes: Weed Control Trial--Hotcapped: Report No. 39493. (Unpublished study received May 6, 1976 under 3125-277; prepared by Univ. of California, (Agricultural Extension Service), Tulare County Farm Advisor in cooperation with Majarian Brothers, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AM)
- 2666 Putnam, A.R.; Love, A.P.; Pagano, G.; Rice, R.P., Jr. (1974) Horticultural Report: Number 22:

- Weed Control Research--1973: Report No. 40067. (Unpublished study received May 6, 1976 under 3125- 277; prepared by Michigan State Univ., Dept. of Horticulture, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AI)
- 2675 Barrentine, W.L. (1973) Herbicide Evaluation for Weed Control in Selected Vegetable Crops: Report No. 41300. (Unpublished study received May 6, 1976 under 3125-277; prepared by ?Mississippi State Univ. of Applied Arts and Sciences|, Delta Branch Experiment Station, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BF)
- 2677 Squire, S.W. (1973) Herbicides on Transplanted Tomatoes, 1973: Report No. 42287. (Unpublished study received May 6, 1976 under 3125-277; prepared by Campbell Soup Co., Ltd., ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BJ)
- 2678 Phatak, S.C. (1973) Metribuzin Programs and Mixtures with Other Herbicides for Transplant Tomatoes: Report No. 42296. (Unpublished study received May 6, 1976 under 3125-277; prepared by Horticultural Experiment Station, ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals, Kansas City, Mo.; CDL: 224187-BK)
- 2682 Squire, S.W. (1973) Herbicides for Seeded Tomatoes, 1973: Report No. 42319. (Unpublished study received May 6, 1976 under 3125- 277; prepared by Campbell Soup Co., Ltd., ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BQ)
- 2686 Heeney, H.B.; Warren, V. (1974) Metribuzin in Combination with Other Herbicides on Tomatoes: Report No. 42562. (Unpublished study received May 6, 1976 under 3125-277; prepared by Smithfield Experimental Farm, ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL: 224187-BU)
- 2688 Heeney, H.B.; Warren, V. (1973) Metribuzin in Combination with Other Herbicides on Tomato Transplants: Report No. 42591. (Unpublished study received May 6, 1976 under 3125-277; prepared by OMAF, Smithfield Experimental Farm, ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BW)
- 2691 Heeney, H.B.; Warren, V. (1973) Weed Control in Direct Seeded Tomatoes: Report No. 42616. (Unpublished study received May 6, 1976 under 3125-277; prepared by Smithfield Experimental Farm, (Canada), submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BZ)
- 2693 Phatak, S.C.; Bouw, W.J. (1974) Metribuzin and Mixtures for Field-Seeded Tomatoes: Report No. 42628. (Unpublished study received May 6, 1976 under 3125-277; prepared by Horticultural Experiment Station, ?Canada|, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-CB)
- 2761 Stauffer Chemical Company (1975) Tillam 6-E/Paarlan 6-E Tank-Mix Residue Data on Tobacco. (Unpublished study received Jul 19, 1976 under 476-1615; prepared in cooperation with Morse Laboratories, Inc.; CDL:225188-B)
- 3251 Nickeson, R.L. (1973) Chemagro Herbicide Evaluation Form: Report No. 40293. (Unpublished study received May 6, 1976 under 3125-277; prepared by Campbell Institute for Agricultural Research, submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-AX)

- 3255 Squire, S.W. (1973) Observation Herbicides for Seeded Tomatoes, 1973: Report No. 42317. (Unpublished study received May 6, 1976 under 3125-277; prepared by Campbell Soup Co., Ltd., [Canada], submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BO)
- 3256 Squire, S.W. (1973) Observation Herbicides on Seeded Tomatoes, 1973: Report No. 42318. (Unpublished study received May 6, 1976 under 3125-277; prepared by Campbell Soup Co., Ltd., [Canada], submitted by Mobay Chemical Corp., Agricultural Chemicals Div., Kansas City, Mo.; CDL:224187-BP)
- 3410 South, D.; Crowley, R.H.; Gjerstad, D.H. (1976) Recent herbicide weed control results in pine seedbeds. Proceedings of the Southern Weed Science Society 29(?):300-308. (Also~In~unpublished submission received Oct 8, 1976 under 2224-50; submitted by Mobil Chemical Co., Industrial Chemicals, Richmond, Va.; CDL: 226306-A)
- 3411 Gjerstad, D.H.; South, D.B. (1975) Supporting Data for Application for Registration of: Amex-820, Devrinol, Modown, Devrinol 50WP / Modown 80WP--Tank Mix, Enide 50WP / Modown 80WP--Tank Mix: For Weed Control in Pine Seedbeds. (Unpublished study received Oct 8, 1976 under 2224-50; prepared by Auburn Univ., Dept. of Forestry in cooperation with U.S. Forest Service, State and Private Forestry, Southeastern Area, submitted by Mobil Chemical Co., Industrial Chemicals, Richmond, Va.; CDL:226306-C)
- 3528 Currin, R.E.; Pitner, J.B.; Benton, D.A.; Stephens, R.L.; Ford, Z.T. (1977) Tobacco Herbicide Evaluation--1977. (Unpublished study received Feb 9, 1978 under 2224-50; prepared by [Clemson Univ.], Pee Dee Experiment Station, submitted by Mobil Chemical Co., Industrial Chemicals, Richmond, Va.; CDL:232880-C)
- 3542 Stewart, R.E.; Weatherly, H.G. (1978) Evaluation of Six Herbicides for Weed Control in Pacific Coast Forest Nurseries. (Unpublished study received Apr 11, 1978 under WA 78/12; prepared by U.S. Forest Service, Div. of Timber Management Research, a Forestry Sciences Laboratory, submitted by ?; CDL:235638-B)
- 12044 IR-4 Project at Rutgers, the State University (1973) 1973 Herbicide Evaluation on Rabbiteye Blueberries. (Unpublished study received Dec 19, 1975 under 6E1719; CDL:095364-H)
- 12078 Appleby, A.P. (1974) Winter and Summer Annual Weed Control. (Unpublished study received Dec 3, 1975 under 6F1713; submitted by E.I. du Pont de Nemours & Co., Inc., Wilmington, Del.; CDL: 095184-U)
- 12109 Ahrens, J.F. (1971) Summary of Herbicide Trials in Apple Orchards and in Strawberry Plantings--1970. (Unpublished study received Jan 18, 1973 under 100-437; prepared by Univ. of Connecticut, Agricultural Experiment Station, Valley Laboratory in cooperation with Chevron Chemical Co., submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-D)
- 12117 Foy, C.L.; Witt, H.L. (1971) Fruit: Evaluation of Herbicides for Weed Control in Apple Seedlings--Blacksburg, Virginia. (Unpublished study received Jan 18, 1973 under 100-437; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-L)
- 12143 Skroch, W.A.; Hunt, I. (1958?) Weed Control in Bearing Peaches. (Unpublished study received Jan 18, 1973 under 100-437; prepared by North Carolina State Univ., Dept. of Horticultural Science, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:000242-AN)

- 12151 Foy, C.L.; Witt, H.L. (1971) Fruit: Evaluation of Herbicides for Weed Control in Bearing Peaches--One Year after Treatment. (Un- published study received Jan 18, 1973 under 100-437; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Ciba-Geigy Corp., Greens- boro, N.C.; CDL:000242-AW)
- 12357 Daniell, J.W. (19??) Pecan herbicides. Pecan South ? (?):10-12. (Also~In~unpublished submission received Jan 11, 1978 under 352- 317; submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:096709-N)
- 12359 Aitken, J.B. (1973) Pecan Herbicides Evaluation. (Unpublished study received Jan 11, 1978 under 352-317; prepared by Clemson Univ., Sandhill Experiment Station, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:096709-Q)
- 12361 Aitken, J.B. (1975) Weed Control System in Young Pecan Trees. (In- complete study; unpublished study received Jan 11, 1978 under 352-317; prepared by Clemson Univ., Sandhill Experiment Station, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:096709-S)
- 12362 Aitken, J.B. (1976) Herbicides in Pecans. (Incomplete study; un- published study received Jan 11, 1978 under 352-317; prepared by Clemson Univ., Sandhill Experiment Station, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:096709-T)
- 12411 Fisher, B.B.; Sorensen, C., Jr. (1970) Peach Weed Control Trial. (Unpublished study received Oct 17, 1973 under 352-374; prepared by Univ. of California, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-K)
- 12413 Aitken, J.B. (1971) Chemical Weed Control Research in Horticultural Crops, 1971. (Unpublished study received Oct 17, 1973 under 352-374; prepared by Univ. of Florida, Agricultural Research and Education Center at Quincy, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-M)
- 12414 Aitken, J.B. (1972) Chemical Weed Control Research in Horticultural Crops, 1972. (Unpublished study received Oct 17, 1973 under 352-374; prepared by Univ. of Florida, Agricultural Research and Education Center at Quincy, submitted by E.I. du Pont de Nemours & Co., Wilmington, Del.; CDL:026721-N)
- 17897 McFarlane, W. (1972) Almond Weed Control Trial: Al. Fr. 70-12. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AO)
- 17898 Fischer, B.B. (1973) Annual Weed Control in Young Almonds. (Unpub- lished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AP)
- 17899 Elmore, C.L.; Holmberg, D.M.; Roncoroni, E.J.; et al. (1972) Annual Weed Control in Almonds- -2nd Year Evaluation. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AR)
- 17900 Jensen, ? (1972) ?Efficacy of Various Herbicides on Almonds|. (Un- published study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AS)
- 17901 Foy, C.L.; Witt, H.L. (1972) Residual Herbicides (Winter Applica- tion) For Weed Control in

- Bearing Apples--Gore, Virginia. (Un- published study received Aug 1, 1974 under 5G1563; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AT)
- 17902 Foy, C.L.; Witt, H.L. (1972) Residual Herbicides (Spring Applica- tion) for Weed Control in Bearing Apples--Gore, Virginia. (Un- published study received Aug 1, 1974 under 5G1563; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AU)
- 17903 Klosterboer, A. (19??) Field Screening of Herbicides in Texas Cit- rus. (Unpublished study including letter dated Jul 6, 1973 from C.D. Hobbs to C.E. Moore, received Aug 1, 1974 under 5G1563; prepared by Texas A & I Univ., Citrus Institute, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AX)
- 17904 Eli Lilly and Company (1973) Peach Weed Control Trial. (Unpub- lished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AY)
- 17905 Fischer, B.B. (1973) Annual Weed Control in Peach Trees. (Unpub- lished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-AZ)
- 17906 Eli Lilly and Company (1973) Peach Weed Control Trial Evaluation. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BA)
- 17909 Foy, C.L.; Witt, H.L. (1972) Residual Herbicides (Winter Applica- tion) for Weed Control in Bearing Peaches--Gore, Virginia. (Un- published study received Aug 1, 1974 under 5G1563; prepared by Virginia Polytechnic Institute and State Univ., Dept. of Plant Pathology and Physiology, submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BE)
- 17910 Elmore, C.L.; Morehead, G.W.; Roncoroni, E.J.; et al. (1973) Weed Control in Pears--2nd Year Evaluation. (Unpublished study re- ceived Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL: 094565-BF)
- 17914 Schweers, V.; Sibbett, S.; LaRue, J.; et al. (1972) Weed Control in Prunes, Plums and Nectarines. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BK)
- 17915 Schweers, V.H.; LaRue, J.; Lange, A. (1973) Weed Control in Decid- uous Trees. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BL)
- 17916 Elmore, C.L.; Holmberg, D.; Roncoroni, E.; et al. (1972) Annual Weed Control in Walnuts. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL:094565-BM)
- 17917 Elmore, C.L.; Holmberg, D.M.; Roncoroni, E.J. (1973) Retreatment of Hartley and Ashley Walnuts in Yolo County. (Unpublished study received Aug 1, 1974 under 5G1563; submitted by Elanco Products Co., Div. of Eli Lilly and Co., Indianapolis, Ind.; CDL: 094565-BO)

- 21655 Ryker, R.A. (1979) Western Forest Tree Nursery Herbicide Study, Rocky Mountain--Great Basin Segment: Progress Report for 1978. (Unpublished study received Sep 18, 1979 under CO 79/26; prepared by U.S. Forest Service, Intermountain Forest and Range Experiment Station, submitted by Mobil Chemical Co., Richmond, Va.; CDL:241002-D)
- 21656 Stewart, R.E.; Owstan, P.W.; Weatherly, H.G. (1978) Evaluation of six herbicides for weed control in pacific coast forest nurseries. Pages B.127-133, In Proceedings of the Western Forest Nursery Council and Intermountain Nurseryman's Association; Aug 1978, Eureka, California. U.S. Forest Service, (Also unpublished submission received Sep 18, 1979 under CO 79/26; submitted by Mobil Chemical Co., Richmond, Va.; CDL:241002-E)
- 21657 Trappe, J.M. (1977) Progress Report: Effects of Three Herbicides on Mycorrhiza Development of Douglas-Fir and Ponderosa Pine Seedlings in Western Nurseries. (Unpublished study received Sep 18, 1979 under CO 79/26; prepared by U.S. Forest Service, Pacific Northwest Forest and Range Experiment Station, Forestry Sciences Laboratory, submitted by Mobil Chemical Co., Richmond, Va.; CDL:241002-G)
- 23229 Stauffer Chemical Company (1974) Tomato Phytotoxicity: Devrinol + Tillam--Tomatoes in California. (Unpublished study received Dec 17, 1974 under 476-2108; CDL:101113-E)
- 23874 Stauffer Chemical Company (1973) Citrus Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-A)
- 23875 Stauffer Chemical Company (1974) Devrinol & Devrinol + Paraquat-- Grape Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-B)
- 23876 Cannon, J.L.; Smith, V.; McAfee, K.H. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4 Lbs.A.I./A. on Grapefruit, Lemons and Tangerines in California/Arizona and Oranges in Arizona. (Unpublished study received Dec 17, 1974 under 476-2150; prepared in cooperation with Lemoniera Co. and Reedley College, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 028423-C)
- 23878 Stauffer Chemical Company (1974) Devrinol + Simazine--Almond Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-E)
- 23879 Stauffer Chemical Company (1974) Devrinol--Citrus Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL: 028423-F)
- 23880 Stauffer Chemical Company (1973) Grape Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-G)
- 23881 Stauffer Chemical Company (1973) Peach Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-H)
- 23882 Stauffer Chemical Company (1973) Plum (Prunes) Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL: 028423-I)
- 23884 Stauffer Chemical Company (1973) Devrinol + Simazine Performance Summary. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028423-K)
- 23933 kin, G.; Brendler, R.; Schweers, V.H.; et al. (1972) Devrinol-- Transplanted Tomatoes-- California: Tomato Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with C.&S. Ananian and Majarian Brothers, submitted by Stauffer

- Chemical Co., Richmond, Calif.; CDL:121774-B)
- 24932 Owston, P.W.; Weatherly, H.G. (1979) Semi-operational Trials of Three Herbicides in Pacific Coast Forest Nurseries. (Unpublished study received Sep 18, 1979 under CO 79/26; prepared by U.S. Forest Service, Pacific Northwest Forest and Range Experiment Station, Forestry Sciences Laboratory, submitted by Mobil Chemical Co., Richmond, Va.; CDL:241002-F)
- 25306 Layton, J.; Maltby, R.; Barnes, J.; et al. (1974) Microencapsulated Eptam Weed Control Summary. (Unpublished study received Aug 7, 1975 under unknown admin. no.; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225855-B)
- 25405 Ciba-Geigy Corporation (1973) ?Weed Control Using Simazine and Other Herbicides on Apples, Grapes, and Peaches|. (Unpublished study received Jul 9, 1974 under 100-526; CDL:023041-A)
- 25407 Kappos, S.; Leonardini, P.W.; Tooldian, G.; et al. (1972) Index of Crop Tolerance Reports for Devrinol on Deciduous Fruit. (Unpublished study received Jun 1, 1972 under 2F1194; prepared in co-operation with various growers in the state of California, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091007-A)
- 25408 Kappos, S.; Dickel, C.P.; McAfee, K.H.; et al. (1972) Index of Performance Reports Supporting Weed Additions to Devrinol 50-WP Label. (Unpublished study received Nov 6, 1972 under 2F1194; prepared in cooperation with various growers in the state of California, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091007-B)
- 25881 Stauffer Chemical Company (1979) The Results of Tests on the Amount and Nature of the Residue, and Analytical Methodology for Devrinol(R). Summary of studies 099218-D through 099218-M. (Unpublished study received Jan 29, 1980 under 476-2108; CDL: 099218-C)
- 25891 Stauffer Chemical Company (1979) Reasonable Grounds in Support of the Petition: Devrinol^(R)I. Summary of studies 099218-E through 099218-M, 099218-P and 099218-R. (Unpublished study received Jan 29, 1980 under 476-2108; CDL:099218-N)
- 25892 Stauffer Chemical Company (1978) Evidence Regarding the Safety of the Pesticide Chemical Devrinol^(R)I to Fish and Wildlife. Summary of studies 099218-P through 099218-S. (Unpublished study received Jan 29, 1980 under 476-2108; CDL:099218-O)
- 25896 Heitmuller, T. (1976) Acute Toxicity of Devrinol to Embryos of Eastern Oysters (?~Crassostrea virginica~?), to Pink Shrimp (?~Penaeus duorarum~?), and to Fiddler Crabs (~?Uca pugilator~?). (Unpublished study received Jan 29, 1980 under 476-2108; prepared by Bionomics, EG&G, Inc., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-S)
- 25897 Cunningham, B.C.; Goodman, N.; Rockhold, D.R. (1979) Effect of Devrinol^(R)I Selective Herbicide (2-(alpha-Napthoxy)-N,N-diethyl-propionamide) on Soil Microorganisms: WRC 79-24. (Unpublished study received Jan 29, 1980 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:099218-T)
- 26648 Chappell, ?; Parochetti, J.V.; Watson, M.; et al. (1967) Summary Analysis of Field Test Data for Tillam 6E Applied Pre-transplant by Incorporation To Expand the Tobacco Registration from North Carolina to the Entire United States. (Unpublished study received Feb 5, 1968 under 8F0628; prepared in cooperation with Canada, Dept. of Agriculture, Experiment Farm, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:090823-A)

- 26724 Benson, A.; Baxter, M.; Cates, M.D.; et al. (1974) ?Devrinol 50 WP Use on Tomatoes|. (Unpublished study received Sep 7, 1976 under 476-2150; prepared in cooperation with Univ. of Illinois and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-A)
- 26728 Lake, B.H.; Goza, A.; Gerhold, J.F.; et al. (1973) ?Devrinol 50 WP and 2-E Use on Peppers|. (Unpublished study received Sep 7, 1976 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225549-E)
- 27318 Stauffer Chemical Company (19??) Residue Chemistry: Summary of Volume Contents. Summary of studies 225547-A through 225547-J. (Unpublished study received Sep 7, 1976 under 476-2108; CDL: 225547-A)
- 27324 Worsham, A.D.; Newman, R.C.; Olive, R.; et al. (1976) Residue Studies Summary: Tillam + Devrinol on Tobacco. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Wisconsin, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-G)
- 27325 Worsham, A.D. (1975) Information on Tobacco Samples for Smoke Panel Evaluation. (Unpublished study received Sep 7, 1976 under 476-2108; prepared by North Carolina State Univ., Crop Science Dept., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225547-H)
- 27371 Sandoz, Incorporated (1974) Summary Tables of Efficacy and Safety of Solicam 80 WP in Apricots, Nectarines, Peaches, Plums, Prunes, Almonds, and Walnuts. (Unpublished study received Mar 14, 1975 under 11273-EX-9; CDL:224650-E)
- 27372 Sandoz, Incorporated (1974) General Remarks. (Unpublished study received Mar 14, 1975 under 11273-EX-9; CDL:224650-F)
- 28798 Tavenner, H. (1974) Crop Residue Studies Summary for Devrinol 50-WP 4 Lbs.a.i./A on Grapes in the Pacific Northwest. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Oregon State Univ., North Willamette Experiment Station and Snake River Vineyards, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:001019-D)
- 28823 Dumlao, S.; Vierra, M. (1970) ?Efficacy Data for Prefar on Various Crops|: Test No. H-66-Se-70. (Unpublished study including FSDS nos. H-152-SE-70, H-117-SE-70 and H-172-SE-70, received Jan 25, 1972 under 476-2004; prepared in cooperation with Purex Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 003867-F)
- 30954 Maltby, R.; Skiles, R.; Duerkson, C.J.; et al. (1974) ?Efficacy of Devrinol and Other Herbicides on Ornamentals|. (Unpublished study received Aug 5, 1975 under 476-2173; prepared in cooperation with Univ. of California--Davis and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221820-A)
- 31350 Agamalian, H. (1973) Herbicides for Lima Beans. (Unpublished study including submitter summary, received Jul 11, 1973 under 707-98; submitted by Rohm & Haas Co., Philadelphia, Pa.; CDL:120403-U)
- 31353 Lange, A.H.; Megallanos, D.; Brendler, R.A. (1971) Field Trial Progress Report 7107: Herbicide Residue Trial, Ventura College. (Unpublished study including submitter summary, received Jul 11, 1973 under 707-98; prepared by Univ. of California, Agricultural Extension Service, submitted by Rohm & Haas Co., Philadelphia, Pa.; CDL:120403-X)

- 31751 Layton, J.; Stevenson, V.C.; Sheets, A.; et al. (1976) ?Weed Control in Strawberries with Devrinol 2-E and Devrinol 50 WP|. (Unpublished study received Sep 7, 1976 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-C)
- 31756 Wright, J.; Maltby, R.; Andrews, H.; et al. (1974) ?Weed Control in Tobacco with Devrinol|. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Tennessee, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 225548-H)
- 31758 Wright, J.; Maltby, R.; Dennis, S.; et al. (1975) ?Weed Control in Tobacco with Devrinol + Tillam Tank Mix|. Summary of studies 225548-H and 225548-I. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Virginia Polytechnic Institute, Dept. of Plant Physiology, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-J)
- 31759 Gerhold, J.; Worsham, A.D.; Jeffery, L.; et al. (1974) ?Weed Control in Tobacco with Devrinol + Tillam Tank Mix|. Summary of studies 225548-H and 225548-I. (Unpublished study received Sep 7, 1976 under 476-2108; prepared in cooperation with Univ. of Kentucky, Agronomy Dept., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:225548-K)
- 31942 Stauffer Chemical Company (1973) Crop Tolerance Summary for Devrinol 50-W on Figs. (Unpublished study received Mar 21, 1975 under 476-2108; CDL:101096-B)
- 31944 Kemper?sic|, H.M.; Rose, E.; Fisher, B.; et al. (1975) Crop Tolerance Summary for Devrinol 50-W on Pistachios. (Unpublished study received Mar 21, 1975 under 476-2108; prepared in cooperation with Univ. of California, Agricultural Extension Service, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 101096-D)
- 31945 Lange, A.H.; Stevenson, G.; Schlesselman, J. (1974) Crop Tolerance Summary for Devrinol 50-W on Walnuts. (Unpublished study received Mar 21, 1975 under 476-2108; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:101096-E)
- 32298 Rohm and Haas Company (1975) Biological Efficacy Data. (Unpublished study received Jul 2, 1975 under 707-EX-79; CDL:210025-)
- 32354 Stauffer Chemical Company (19??) The Results of Tests on the Amount and Nature of the Residue, and Analytical Methodology: Devrinol^(R)I. (Unpublished study received on unknown date under 4F1447; CDL:093855-A)
- 32493 Brookman, D.J.; Ja, B.Y. (1973) Analysis of 50W and 2E Formulations of Devrinol^(R)I. Method no. WRC 73-25 dated Apr 5, 1973. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:008951-B)
- 32551 Clemens, T.; Rose, E.; Cannon, J.L.; et al. (1974) Supplementary Crop Tolerance Data for Devrinol 50-WP on Pecans in Arizona and California. (Unpublished study received Oct 1, 1974 under 4F1447; prepared in cooperation with Farmers Investment Co., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL: 093856-D)
- 32554 Leach, J.; Clemens, T.; Waits, E.; et al. (1974) Devrinol 50-WP Performance Summary. (Unpublished study received Oct 1, 1974 under 4F1447; prepared in cooperation with Glenn Curtis Co. and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093856-G)
- 32567 Stauffer Chemical Company (1974) Devrinol 50W on Grapes in the Pacific Northwest: Grape Phytotoxicity. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028421-D)

- 32569 Deichler, ?; Jenkins, ? (1974) Devrinol 50W on Grapes in the Pacific Northwest: Barnyardgrass Control. (Unpublished study received Dec 17, 1974 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028421-F)
- 32570 Stauffer Chemical Company (1973) ?Phytotoxicity: Devrinol|. (Un- published study received Dec 17, 1974 under 476-2150; CDL: 028421-G)
- 33176 Stauffer Chemical Company (1974) ?Phytotoxicity in Fruits|. (Un- published study received Dec 17, 1974 under 476-2108; CDL: 000836-A)
- 33177 Stauffer Chemical Company (1973) ?Efficacy Summary|. (Unpublished study received Dec 17, 1974 under 476-2108; CDL:000836-D)
- 33959 Kappos, S.; Hardman, N.F.; Riddle, R.; et al. (1974) ?Efficacy of Herbicides on Various Crops|: Test No. H-8-RGH-72. (Unpub- lished study including test nos. H-9-RGH-72, H-10-RGH-72, H-11- RGH-72..., received Dec 17, 1974 under 476-2150; prepared in cooperation with Luchessa Brothers and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:028312-A)
- 33962 Stauffer Chemical Company (1974) Tomato Phytotoxicity: Devrinol + Tillam--Tomatoes in California. (Unpublished study received Dec 17, 1974 under 476-2150; CDL:028312-F)
- 34224 Zaput, P.; Leach, J.; Hamilton, K.C.; et al. (1974) Devrinol 50W-- Paraquat 2E. (Unpublished study received Dec 17, 1974 under 476-2108; prepared in cooperation with Univ. of Arizona, submit- ted by Stauffer Chemical Co., Richmond, Calif.; CDL:000836-C)
- 35661 Simons, R. (19??) Chemical Stability of Devrinol^(R)I 4-F. (Unpub- lished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-A)
- 35662 Foster, L.C.; Kahn, B.B.; Lisowski, G.T.; et al. (1980) Determina- tion of Napropamide in Devrinol(R) 4F Formulations by Gas Chromatography. Method no. RRC 80-05 dated May 22, 1980. (Un- published study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-B)
- 35670 De Guzman, D.; Dorman, D.; Currin, R.E., III; et al. (1979) Devri- nol^(R)I Selective Herbicide: Summary of Crop Residue Data on Tobacco. (Unpublished study received Jun 9, 1980 under 476-2199; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:242620-L)
- 35671 Stauffer Chemical Company (1979) ?Devrinol 4F: Crop Tolerance and Weed Control Summaries|. (Unpublished study received Jun 9, 1980 under 476-2199; CDL:242620-M)
- 35674 Stauffer Chemical Company (1978) Acute Oral Toxicity--Rats: 14-Day Test Period. (Unpublished study received Jun 9, 1980 under 476- 2199; CDL:242620-P)
- 35679 Stauffer Chemical Company (1978) Acute Dermal Toxicity--Rabbits: 14-Day Test Period. (Unpublished study received Jun 9, 1980 under 476-2199; CDL:242620-Y)
- 35680 Stauffer Chemical Company (1978) Primary Dermal Irritation--Rab- bits: 72 Hour Test Period. (Unpublished study received Jun 9, 1980 under 476-2199; CDL:242620-Z)
- 35681 Stauffer Chemical Company (1978) Primary Eye Irritation--Rabbits: 7-Day Test Period. (Unpublished study received Jun 9, 1980 under 476-2199; CDL:242620-AA)
- 38278 Rice, R.E.; Dibble, J.E.; Jones, R.A.; et al. (1974) Insecticides and timing sprays for control of

- San Jose scale. California Agriculture 28(4):3. (Also~In~unpublished submission received Jun 26, 1974 under 100-501; submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:094034-V)
- 39768 Miller, J.; Crandall, ?; Phillips, M.; et al. (1972) Crop Residue Report: Soil: FSDS No. B-0493. (Unpublished study including FSDS nos. B-0495, B-0494, B-0496..., received Dec 14, 1972 under 2F1194; prepared in cooperation with U.S. Dept. of Agriculture and others, submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-E)
- 39769 Riggs, R.L.; Humphreys, R.; MacLaren, G. (1972) Waylay (R-7465) Run-Off Study: Soil, Water, Silt, Fish Residues. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-F)
- 39770 Williamson, T.B.; Thomas, V.M.; Freiberg, A.H. (1972) Effect of Devrinol^(R)I ?2-(alphaNaphthoxy)N,N-diethylpropionamide| on the Growth of Certain Beneficial Soil Microorganisms. (Unpub- lished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-G)
- 39774 Sleight, B.H., III; Macek, K.J. (1972) Exposure of Fish to 14C- Labeled Devrinol: Accumulation, Distribution and Elimination of Residues. (Unpublished study including letter dated Nov 10, 1972 from K.J. Macek to George Meyding, received Dec 14, 1972 under 2F1194; prepared by Bionomics, Inc., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-K)
- 39776 Kamienski, F.X.; Bullock, C.H.; MacLaren, G.; et al. (1971) R-7465 Feed Study--Quail Tissue Residues: Toxicology Lab Report T-1664. (Unpublished study received Dec 14, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:093519-M)
- 40136 Heinritz, D.W.; Below, J.F. (1971) The Determination of R-7465 in Technical Material and in Wettable Formulations: RR 68-14R. Method dated Mar 22, 1968. (Unpublished study received Aug 20, 1971 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:095554-C)
- 40138 Stauffer Chemical Company (1971) Chemical Stability of Waylay 50- WP. (Unpublished study received Aug 20, 1971 under 2F1194; CDL:095554-E)
- 40139 Stauffer Chemical Company (19??) Reasonable Grounds in Support of the Petition: ?Waylay|. (Unpublished study received Aug 20, 1971 under 2F1194; CDL:095554-F)
- 42790 Phillips, R.; Monaco, T.J.; Lange, A.H.; et al. (1971) ?Efficacy Experiments with Waylay in Tree Fruits, Nuts, Grapes, Tomatoes|. (Reports by various sources; unpublished study received Jun 2, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091009-A)
- 49479 Stauffer Chemical Company (1971) Summary: ?Waylay|. Summary of studies 091006-B through 091006-N. (Unpublished study re- ceived May 5, 1972 under 2F1194; CDL:091006-A)
- 49491 MacLaren, G.E. (1971) Determination of R-7465 Residues in Soil: WRC 71-30. Method dated May 18, 1971. (Unpublished study re- ceived May 5, 1972 under 2F1194; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:091006-M)
- 49492 Stauffer Chemical Company (1971) Crop Residue Report: ?R-7465 50W|: FSDS No. B-2228. (Compilation; unpublished study including FSDS no. B-2601, received May 5, 1972 under 2F1194; CDL: 091006-N)
- 49493 Stauffer Chemical Company (19??) Waylay^(TM)I Environmental Stud- ies. Summary of studies

- 091006-P through 091006-S. (Unpublished study received May 5, 1972 under 2F1194; CDL:091006-O)
- 55024 Li, R.T. (1980) Determination of Napropamide in Devrinol^(R)I Selective Herbicide 2G and 5G Formulations by Gas Chromatography. Method no. WRC 80-13 dated Dec 1, 1980. (Unpublished study received Dec 30, 1980 under 476-2202; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:244052-A)
- 55026 Stauffer Chemical Company (1980) ?Efficacy of Herbicides in Weed Control on Apples and Other Crops|. (Unpublished study received Dec 30, 1980 under 476-2202; CDL:244052-C)
- 57803 Stauffer Chemical Company (1976) Chemical Stability Data: Devrinol 2-E. (Unpublished study received May 27, 1977 under 476-2174; CDL:230294-C)
- 57804 Stauffer Chemical Company (19??) Devrinol 2-E--Fish and Wildlife Studies. Summary of studies 230293-B and 230293-C. (Unpublished study received May 27, 1977 under 476-2174; CDL:230293-A)
- 61723 Stauffer Chemical Company (1975) ?Devrinol: Herbicidal Efficacy Trials|. (Compilation; unpublished study received Apr 27, 1977 under 476-2175; CDL:229651-A)
- 61726 Hudek, R.D. (1977) Letter sent to G.S. Kurimoto dated Jan 17, 1977: Devrinol 50 W long term storage. (Unpublished study received Apr 27, 1977 under 476-2175; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229649-D)
- 65356 Allochuku, G.C. (1976) Determination of Devrinol(R) in Devrinol 10-G Formulations by Gas Chromatography. Method no. RRC 76-13 dated Mar 4, 1976. (Unpublished study received Mar 28, 1977 under 476-2184; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:229230-C)
- 65357 Stauffer Chemical Company (1976?) Summary of Toxicology Data. Summary of studies 229229-B and 229229-C. (Unpublished study received Mar 28, 1977 under 476-2184; CDL:229229-A)
- 65361 Stauffer Chemical Company (1975) Summary of Performance Data. (Compilation; unpublished study received Mar 28, 1977 under 476-2184; CDL:229226-A)
- 67871 Stauffer Chemical Company (1980) Summary of Residue Reports for Tillam 6-E^(R)I/Devrinol^(R)I 4-F Tank Mix on Tobacco. (Compilation; unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-F)
- 67874 Stauffer Chemical Company (1980) Tillam^(R)I 6-E/Dyfonate^(R)I 4-E/ Devrinol^(R)I (50-WP or 4-F) Tank Mix and Tillam^(R)I 6-E/Devrinol^(R)I 4-F Tank Mix: Field Performance Summary. (Unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-J)
- 69569 Stauffer Chemical Company (1980) Summary of Residue Reports for Tillam 6-E^(R)I/Devrinol^(R)I/Dyfonate^(R)I Tank Mix on Tobacco. (Compilation; unpublished study received Jan 26, 1981 under 476-1615; CDL:244253-H)
- 70783 Stauffer Chemical Company (1980) ?Efficacy of Devrinol on Trees and Vines|. (Compilation; unpublished study received Dec 11, 1980 under 476-2108; CDL:243859-F)
- 70813 Brookman, D.J.; Ja, B.Y. (1973) Analysis of 50W and 2E Formulations of Devrinol^(R)I. Method no. WRC 73-25 dated Apr 5, 1973. (Unpublished study received Oct 16, 1973 under 476-2150; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:221951-B)

- 72402 Stauffer Chemical Company (1980) ?Devrinol on Ornamentals, Fruit Trees and Strawberries: Crop Tolerance & Weed Control Summary|. (Unpublished study received Mar 2, 1981 under 476-2205; CDL: 244467-C)
- 79045 Stauffer Chemical Company (19??) Evidence Regarding the Safety of the Pesticide Chemical Devrinol^(R)I. (Unpublished study received Jul 22, 1981 under 476-2188; CDL:070204-A)
- 79046 Stauffer Chemical Company (19??) Reasonable Grounds in Support: ?Devrinol|. (Unpublished study received Jul 22, 1981 under 476-2188; CDL:070204-B)
- 79333 Stauffer Chemical Company (1981) ?Efficacy of Devrinol in Various Crops|. (Compilation; unpublished study received Jun 24, 1981 under 476-2108; CDL:245345-A)
- 81612 Stauffer Chemical Company (1978?) Reports and References Regarding the Safety of the Pesticide Chemical Devrinol^(R)I. Summary of studies 098861-B, 098861-C, 098862-B and 098862-C. (Unpublished study received Aug 1, 1979 under 9E2244; CDL:098861-A)
- 88058 Stauffer Chemical Company (1974) Storage Stability: Tillam/Devrinol 4:1-E. (Unpublished study received Jan 25, 1977 under 476-2182; CDL:227694-E)
- 88059 Allochuku, G.C. (1976) Assay of Tillam/Devrinol 4-1E by Gas Chromatography. Method no. RRC 76-12 dated Mar 10, 1976. (Unpublished study received Jan 25, 1977 under 476-2182; submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227694-F)
- 88060 Stauffer Chemical Company (1976) ?Residue Data for Various Combinations of Tillam and Devrinol|. (Compilation; unpublished study received Jan 25, 1977 under 476-2182; CDL:227695-A)
- 88061 Worsham, A.D. (1975) Information on Tobacco Samples for Smoke Panel Evaluation: Herbicide Research. (Unpublished study, including submitter summary, received Jan 25, 1977 under 476-2182; prepared by North Carolina State Univ., Crop Science Dept., submitted by Stauffer Chemical Co., Richmond, Calif.; CDL:227695-B)
- 88075 Stauffer Chemical Company (1975) ?Efficacy Data for Crop Tolerance and Weed Control for Devrinol-tillam 1:4-E|. (Compilation; unpublished study received Jan 25, 1977 under 476-2182; CDL: 227698-A)
- 88390 Neas, I. (1975) Letter sent to A. Doug Worsham dated Oct 2, 1975: ?Smoke panel evaluation for herbicide treated tobacco|. ?Submitter| 02363. (Unpublished study received Apr 5, 1976 under 7182-EX-17; prepared by R.J. Reynolds Industries, Inc., submitted by 3M Co., St. Paul, Minn.; CDL:227717-I)
- 88391 Glock, E. (1975) Letter sent to A.D. Worsham dated Oct 30, 1975: Flue-cured tobacco herbicide tests--1974 crop: North Carolina State University: ?Submitter| 02704. (Unpublished study received Apr 5, 1976 under 7182-EX-17; prepared by American Brands, Inc., submitted by 3M Co., St. Paul, Minn.; CDL: 227717-J)
- 97398 Stauffer Chemical Company (1980) ?Taste Tests: Tobacco Treated with Devrinol|. (Compilation; unpublished study received Jun 9, 1980 under 476-2199; CDL:242620-V)
- 112722 Stauffer Chemical Co. (1978) Devrinol: Three Generation Reproduction Study: T-6334. (Compilation; unpublished study received Apr 6, 1981 under 9E2244; CDL:099978-D)

- 113804 Bleiberg, M.; Woodard, G. (1970) Evaluation of Acute Pharmacodynamic Properties of R-7465. (Unpublished study received Jun 2, 1972 under 2F1194; prepared by Woodard Research Corp., submitted by Stauffer Chemical Co., Richmond, CA; CDL:091008-D)
- 113805 Stauffer Chemical Co. (1969) ?Toxicity of R-7465 to Rabbits; Toxicology Lab Report T-1389. (Compilation; unpublished study received Jun 2, 1972 under 2F1194; CDL:091008-E)
- 113812 Brookman, D.; Ja, B. (1973) Analysis of 50W and 2E Formulations of Devrinol: WRC 73-25. (Unpublished study received on unknown date under 4F1447; submitted by Stauffer Chemical Co., Richmond, CA; CDL:093858-A)
- 113813 Meyding, G. (1973) Letter sent to C. Smith dated Apr 3, 1973: Devrinol 50-WP. (Unpublished study received on unknown date under 4F1447; submitted by Stauffer Chemical Co., Richmond, CA; CDL:093858-B)
- 113816 Stauffer Chemical Co. (1975) ?Study: Specific Herbicide Residues on Tobacco|. (Compilation; unpublished study received on unknown date under unknown admin. no.; CDL:223372-A)
- 5004454 Holt, H.A.; Wickham, S.H.; Wichman, J.R. (1976) Forest nursery weed control results. Pages 175-177, ~In~Proceedings, North Central Weed Control Conference. Vol. 31. Lincoln, Nebr.: North Central Weed Control Conference.
- 40251600 Stauffer Chemical Co. (1987) Submission of Toxicology Data as Part of Generic Data Base for Devrinol. Transmittal of 1 study.
- 40362900 Stauffer Chemical Co. (1987) Submission of Product Chemistry and Toxicological Data for the Chemical, Devrinol Technical. Transmittal of 4 studies.
- 40838600 ICI Americas Inc. (1988) Submission of Fate Data in Support of Registration of Devrinol Technical Selective Herbicide (EPA Reg.No. 10182-255). Transmittal of 1 study.
- 41067800 ICI Agricultural Products Group (1989) Submission of Data To Support Registration of Devrinol Technical Selective Herbicide: Product Chemistry Data. Transmittal of 1 study.
- 41105900 ICI Americas Inc. (1989) Submission of Data To Support Registration of Devrinol Technical Selective Herbicide: Aerobic Soil Metabolism Study. Transmittal of 1 study.
- 41156600 ICI Americas Inc. (1989) Submission of Data To Support Registration of Devrinol Technical Selective Herbicide: Toxicology Data. Transmittal of 2 studies.
- 41453400 ICI Americas, Inc. (1990) Submission of Toxicological Data to Support the Amended Registration for Devrinol 50-DF Selective Herbicide. Transmittal of 1 study.
- 41462000 Rohm and Haas Co. (1990) Submission of data in support of reregistration of Pronamide: Confined rotation crop study. Transmittal of 1 study.
- 41575300 ICI Americas Inc. (1990) Submission of residue data to support the registration of Napropamide for agricultural use. Transmittal of 10 studies.
- 41582200 ICI Americas Inc. (1990) Submission of Toxicity Data in Support of Technical Napropamide Registration. Transmittal of 1 study.
- 41610200 ICI Americas Inc. (1990) Submission of Product Chemistry Data and Toxicity Data to Support the Napropamide FIFRA 88 Accelerated Reregistration. Transmittal of 10 Studies.

- 41667100 ICI Americas, Inc. (1990) Submission of toxicity data to support the registration of Napropamide. Transmittal of 1 study.
- 41863200 ICI Americas Inc. (1991) Submission of Environmental Fate Data to Support the Reregistration of Napropamide. Transmittal of 2 Studies.
- 41901800 ICI Americas Inc. (1991) Submission of Data to Support the Reregistration of Napropamide: Environmental Fate Data. Transmittal of 1 Study.
- 41943300 ICI Americas, Inc. (1991) Submission of supplemental product chemistry information for Devrinol herbicide. Transmittal of 1 study.
- 42006700 ICI Americas Inc. (1991) Submission of toxicity data in support of reregistration of napromamide. Transmittal of 4 studies.
- 42027700 ICI Americas Inc. (1991) Submission of toxicity data in support of reregistration of napropamide. Transmittal of 3 studies.
- 42081300 ICI Americas, Inc. (1991) Submission of toxicity data in support of registration of napromamide. Transmittal of 1 study.
- 42181000 ICI Ag. Products (1992) Submission of toxicity data to support the registration of Devrinol 50 DF (Napropamide). Transmittal of 1 study.
- 42189100 ICI Americas, Inc. (1992) Submission of toxicity data in support of reregistration of Napropamide. Transmittal of 2 studies.
- 42231500 ICI Americas Inc. (1992) Submission of FIFRA 88 Phase 3 Committed Data To Support Accelerated Reregistration of Napropamide: Toxicology Study. Transmittal of 1 study.
- 42256500 Interregional Research Project No. 4 (1992) Submission of residue data in support of proposed tolerance for Napropamide. Transmittal of 1 study.
- 42349800 ICI Americas, Inc. (1992) Submission of residue data in support of the reregistration of Napropamide. Transmittal of 2 studies.
- 42393900 ICI Agricultural Products (1992) Submission of residue data in support of the reregistration of Napropamide. Transmittal of 1 study.
- 42656200 Zeneca (1993) Submission of toxicity and environmental data in support of the reregistration for Napropamide. Transmittal of 2 studies.
- 42657400 Zeneca (1993) Submission of toxicity data in support of the reregistration for napropamide. Transmittal of 1 study.
- 42699700 Zeneca Inc. (1993) Submission of environmental fate data in support of the Phase 4 requirement for Napropamide. Transmittal of 1 study.
- 42707200 Zeneca Inc. (1993) Submission of environmental fate data in support of the napropamide reregistration. Transmittal of 1 study.
- 42758900 Zeneca Inc. (1993) Submission of metabolism data in support of the reregistration for napropamide. Transmittal of 3 studies.

- 42764200 Zeneca Inc. (1993) Submission of supplemental environmental fate data in support of reregistration for Napropamide. Transmittal of 1 study.
- 42775800 Zeneca Ag Products (1993) Submission of residue (animal metabolism) data to support Phase 3 reregistration requirements for Napropamide. Transmittal of 2 studies.
- 42794500 Zeneca Inc. (1993) Submission of environmental fate data in support of the phase 3 data for napropamide. Transmittal of 1 study.
- 42845900 Zeneca Ag Products (1993) Submission of supplemental residue data in support of reregistration for napropamide. Transmittal of 1 study.
- 43068800 Zeneca Inc. (1993) Submission of Supplemental Toxicology Data in Support of Napropamide Reregistration. Transmittal of 1 Study.
- 43175300 Zeneca Inc. (1994) Submittal of Environmental Fate Data in Support of Reregistration of Napropamide. Transmittal of 1 study.
- 43182400 Zeneca Ag Products (1994) Submittal of Additional Comments on Avian Toxicity Study in Support of Reregistration for Napropamide. Transmittal of 1 study.
- 43249400 ZENECA Inc. (1994) Submission of Residue Chemistry Data for Napropamide in Support of Reregistration. Transmittal of 5 studies.
- 43345100 Zenaca Ag Products (1994) Submission of Residue Data in Support of Napropamide Reregistration. Transmittal of 9 Studies.
- 43419900 Zeneca Inc. (1993) Submittal of Environmental Fate Data in Support of Napropamide Reregistration. Transmittal of 1 study.
- 43506700 Zeneca Ag Products (1994) Submission of Toxicity Data in Support of the Reregistration of Napropamide. Transmittal of 1 Study.
- 43514400 Zeneca Ag Products (1995) Submission of Environmental Fate Data in Support of Napropamide Reregistration. Transmittal of 1 Study.
- 43659500 Ciba-Geigy Corp. (1995) Submission of Pesticide Residues in the Environment Data in Support of FIFRA 6(a)(2) Requirements for over 20 Organic Pesticides. Transmittal of 2 Studies.
- 43659501 MacCoy, D.; Crepeau, K.; Kuivila, K. (1995) Dissolved Pesticide Data for the San Joaquin River at Vernalis and the Sacramento River at Sacramento, California, 1991-94: Open File Report 95-110. Prepared by U.S. Geological Survey in cooperation with the U.S. EPA and the California Regional Water Quality Control Board; available from U.S. Government Printing Office. 31 p.
- 43659502 Crepeau, K.; Domagaiski, J.; Kuivila, K. (1994) Methods of Analysis and Quality-Assurance Practices of the U.S. Geological Survey Organic Laboratory, Sacramento, California-- Determination of Pesticides in Water by Solid-Phase Extraction and Capillary-Column Gas Chromatography/Mass Spectrometry: Open File Report 94-362. Prepared by the U.S. Geological Survey; available from U.S. Government Printing Office. 21 p.
- 43742400 Zeneca Ag Products (1995) Submission of Environmental Fate Data in Support of Napropamide Reregistration. Transmittal of 2 Studies.
- 43843400 Interregional Research Project No. 4 (1995) Submission of Residue Chemistry Data in Support of

- the Petition for Tolerance for Napropamide on Oriental Radish. Transmittal of 1 Study.
- 43875000 Zeneca Ag Products (1995) Submission of Toxicity Data in Support of the Reregistration of Napropamide. Transmittal of 1 Study.
- 43928600 Platte Chemical Co. (1996) Submission of Product Chemistry and Toxicity Data in Support of the Application for Registration of Napropamide-Oxadiazon 4-2 Granules. Transmittal of 7 Studies.
- 44006500 Zeneca Ag Products (1996) Submission of Product Chemistry Data in Support of Registration Amendment of DEVRINOL Technical. Transmittal of 2 Studies.
- 44020100 Zeneca Ag Products (1996) Submission of Residue Data in Support of the Reregistration of Napropamide. Transmittal of 2 Studies.
- 44152200 Platte Chemical Co. (1996) Submission of Product Chemistry Data in Support of the Registration of Napropamide-Oxadiazon 4-2 Granules. Transmittal of 1 Study.
- 44409300 Zeneca Ag Products (1997) Submission of Product Chemistry Data in Support of the Registration of Devrinol Technical Selective Herbicide. Transmittal of 2 Studies.
- 45074200 Zeneca Ag Products (2000) Submission of Environmental Fate Data in Support of Registration of Napropamide. Transmittal of 2 Studies.
- 46105000 Gharda USA Inc. (2003) Submission of Product Chemistry and Toxicity Data in Support of the Application for the Registration of Gharda Napropamide Technical. Transmittal of 3 Studies.
- 46142700 United Phosphorus, Inc. (2003) Submission of Product Chemistry Data in Support of the Amended Registrations of Devrinol 2-EC Selective Herbicide and Devrinol 2-EC Ornamental Herbicide. Transmittal of 1 Study.
- 46285600 United Phosphorus, Inc. (2004) Submission of Product Chemistry Data in Support of the Registrations of Devrinol 2EC Ornamental Herbicide and Devrinol 2EC Selective Herbicide. Transmittal of 1 Study.
- 46302200 United Phosphorus, Inc. (2004) Submission of Toxicity Data in Support of the Amended Registrations of Devrinol 2-EC Selective Herbicide and Devrinol 2-EC Ornamental Herbicide. Transmittal of 2 studies.
- 46308700 United Phosphorus, Inc. (2004) Submission of Product Chemistry Data in Support of the Amended Registrations of Devrinol 2-EC Selective Herbicide and Devrinol 2-EC Ornamental Herbicide. Transmittal of 1 Study.
- 46308701 Tillman, A. (2004) Devrinol 2-EC Selective Herbicide, Devrinol 2-EC Ornamental Herbicide: Justification for Change in Hazard Classification. Project Number: UPI/2004/02. Unpublished study prepared by United Phosphorus Inc. 37 p.
- 46338600 Gharda USA, Inc. (2004) Submission of Product Chemistry Data in Support of the Application for Registration of Gharda Napropamide Technical. Transmittal of 1 Study.
- 46427000 Gharda USA, Inc. (2004) Submission of Product Chemistry Data in Support of the Application for Registration of Napropamide Technical. Transmittal of 3 Studies.
- 46427001 Sonawane, K. (2004) Physical and Chemical Characteristics of Napropamide Technical: UV-VIS Absorption Spectra. Project Number: C/NAAO/019, GLP/PC/0401, GLP/PC/01. Unpublished

- study prepared by Gharda Chemicals Ltd. 22 p.
- 46427002 Sonawane, K. (2004) Physical and Chemical Characteristics of Napropamide Technical: Dissociation Constant. Project Number: C/NAO/020, GLP/PC/0401, GLP/PC/02. Unpublished study prepared by Gharda Chemicals Ltd. 30 p.
- 46427003 Sonawane, K. (2004) Physical and Chemical Characteristics of Napropamide Technical: Accelerated Storage Stability. Project Number: C/NAO/021, GLP/PC/03, GPLP/PC/0401. Unpublished study prepared by Gharda Chemicals Ltd. 31 p.
- 46459100 United Phosphorus, Inc. (2005) Submission of Product Chemistry, Residue, Environmental Fate and Toxicity Data in Support of the Reregistration of Napropamide. Transmittal of 12 Studies.
- 46459102 White, G. (2003) Spectral Examination of Napropamide: Final Report. Project Number: J/14368, FOR/02/024. Unpublished study prepared by: G.C. Laboratories, Ltd. 34 p.
- 46459103 Lurvey, E. (1993) Napropamide: Magnitude of Residue on Basil. Project Number: 03439, 90/FLR/050, 90/FL/045. Unpublished study prepared by Interregional Research Project No. 4, University of Florida and Zeneca Inc. 147 p.
- 46459104 Shaw, D. (2001) Napropamide: Aerobic Soil Route and Rate of Degradation. Project Number: UPH/027, UPH/027/013239. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 75 p.
- 46459106 McKay, J. (1989) Devrinol 50-WP Field Dissipation Study: Simcoe, Ontario, Canada: Final Report. Project Number: WRC/89/50, WRC/73/56. Unpublished study prepared by ICI Americas Inc. 139 p.
- 46459109 Tapp, J.; Sankey, S.; Caunter, J.; et. al. (1989) Napropamide: Determination of the 28 Day LC50 to Rainbow Trout (*Salmo gairdneri*). Project Number: BL/B/3624, S051/A. Unpublished study prepared by Imperial Chemical Industries, Ltd. 24 p.
- 46459111 Jenkins, C. (2002) Napropamide Higher Plant (*Lemna minor*) Growth Inhibition Test. Project Number: UPH022/013214. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 39 p.
- 46459112 Jenkins, C. (2002) Napropamide: Algal Growth Inhibition Assay (*Anabaena*). Project Number: UPH021/013213. Unpublished study prepared by Huntingdon Life Sciences, Ltd. 34 p.
- 46459113 Balluff, M. (2003) Seedling Emergence Dose Response Test for Non-Target Plants Following Multiple Rate Application of Devrinol 45FL in the Greenhouse Under Controlled Climactic Conditions in Spain, 2002. Project Number: 20023053/S1/FNTP. Unpublished study prepared by Arbeitsgemeinschaft GAB Biotechnologie. 64 p.
- 46459114 Balluff, M. (2003) Seedling Emergence Dose Response Test for Non-Target Plants Following Multiple Rate Application with Soil Incorporation of Devrinol 45FL in the Greenhouse Under Controlled Climactic Conditions in Spain, 2003. Project Number: 20023053/S3/FNTP. Unpublished study prepared by Arbeitsgemeinschaft GAB Biotechnologie. 57 p.
- 46459115 Schmitzer, S. (2003) Laboratory Testing for Toxicity (Acute Contact and Oral) of Devrinol 450 SC on Honey Bees (*Apis mellifera* L.): Final Report. Project Number: 17073035. Unpublished study prepared by Institut fuer Biologische Analytik und Consulting IBACON. 43 p.
- 46459116 Gough, H.; Pilling, E. (1995) Napropamide: Acute Contact Toxicity to Honey Bees (*Apis mellifera*) of a 50% Wettable Powder Formulation. Project Number: TMJ3457B. Unpublished study prepared by Jealott's Hill Res. Station. 11 p.

- 46462000 United Phosphorus, Inc. (2005) Submission of Risk Data in Support of the Reregistration of Napropamide. Transmittal of 1 Study.
- 46462001 Tillman, A. (2005) Registrant's Error Comments on EPA's Preliminary Risk Assessments for the Reregistration Eligibility Decision for Napropamide. Project Number: UPI/2005/01. Unpublished study prepared by United Phosphorus Inc. 34 p.
- 46478700 United Phosphorus, Inc. (2005) Submission of Environmental Fate and Toxicity Data in Support of the Reregistration of Napropamide. Transmittal of 4 Studies.
- 46478701 McKay, J. (1989) Devrinol 50-WP Field Dissipation Study: Rodney, Ontario, Canada: Final Report. Project Number: WRC/89/55, 006031. Unpublished study prepared by ICI Americas, Inc. 163 p.
- 46478702 Simmons, N. (1990) Napropamide: Soil Dissipation Studies (West Germany 1988-89). Project Number: RJ0860B. Unpublished study prepared by ICI Agrochemicals. 119 p.
- 46478703 Long, K.; Roberts, G. (1995) Napropamide: Degradation of 14-(Carbon)-Labelled Material in Natural Sediment-Water Systems. Project Number: AA0900/A, BL5425/B. Unpublished study prepared by Jealott's Hill Res. Station. 62 p.
- 46494900 Gharda Chemical Ltd. (2005) Submission of Toxicity Data in Support of the Application for Registration of Gharda Napropamide Technical. Transmittal of 2 Studies.
- 46553300 United Phosphorus, Inc. (2005) Submission of Toxicity Data in Support of the FIFRA 6(a)(2) Data Requirements for Devrinol 2-EC Selective Herbicide and Devrinol 2-EC Ornamental Herbicide. Transmittal of 1 Study.
- 46574100 United Phosphorus, Inc. (2005) Submission of Toxicity Data in Support of the Amended Registrations of Devrinol 2-EC Selective Herbicide and Devrinol 2-EC Ornamental Herbicide. Transmittal of 3 Studies.
- 92125000 ICI Americas Inc. (1990) Reregistration Phase 3 Response: Diethyl-2-(1-naphthalenyloxy)propanamide.
- 92125999 ICI Americas Inc. (1990) Reregistration Phase 3 Response: Diethyl-2-(1-naphthalenyloxy)propanamide. Correspondence and Supporting Material.

Appendix E. Generic Data Call-In

The Generic Data Call-In will be posted at a later date. See Chapter V of the napropamide RED for a list of studies.

Appendix F. Product Specific Data Call-In

A Product Specific Data-Call-In will be posted at a later date.

Appendix G. EPA's Batching of Napropamide products 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 NAPROPAMIDE as the active ingredient, the Agency has batched products which can be considered similar for purposes 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.

Thirteen products were found which contain Napropamide as the active ingredient. These products have been placed five batches and a no batch group in accordance with the active and inert ingredients and type of formulation.

Batching Instructions:

No Batch: Each product in this Batch should generate their own data.

NOTE: The technical acute toxicity values included in this document are for informational purposes only. The data supporting these values may or may not meet the current acceptance criteria.

Batch 1	EPA Reg. No.	Percent Active Ingredient
	33658-22	97
	70506-35	95.7

Batch 2	EPA Reg. No.	Percent Active Ingredient
	70506-36	50
	70506-38	50

Batch 3	EPA Reg. No.	Percent Active Ingredient
	70506-31	43.2
	70506-37	43.2

Batch 4	EPA Reg. No.	Percent Active Ingredient
	70506-63	24.1
	70506-64	24.1

Batch 5	EPA Reg. No.	Percent Active Ingredient
	70506-33	2
	70506-39	2

No Batch	EPA Reg. No.	Percent Active Ingredient
	34704-771	Napropamide: 4.0 Oxadiazon: 2.0
	70506-27	21.8
	70506-34	10

Appendix H. List of Registrants Sent this Data Call-In

A list of registrants sent this data call-in will be posted at a later date.