

United States
Environmental Protection
Agency

Office of Prevention, Pesticides
And Toxic Substances
(7508C)

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March 2000



Status of Chemicals in Special Review

STATUS OF CHEMICALS IN SPECIAL REVIEW

MARCH 2000

Special Review and Reregistration Division (7508C)
Office of Pesticide Programs
U. S. Environmental Protection Agency
Washington, D.C. 20460

STATUS OF CHEMICALS IN SPECIAL REVIEW

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CHAPTER ONE

INTRODUCTION

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GENERAL INFORMATION

PURPOSE:

"Status of Chemicals in Special Review" describes the status of pesticides that are now undergoing or have completed the pesticide Special Review program mandated by the federal pesticide law, FIFRA (the Federal Insecticide, Fungicide, and Rodenticide Act), and administered by EPA.

AVAILABILITY:

Electronic copies of the 1998 "Status of Chemicals in Special Review" and many other related pesticide regulatory documents are available on the Internet, on the EPA Office of Pesticide Programs home page. Please see:

<http://www.epa.gov/pesticides>

Printed copies of "Status of Chemicals in Special Review" are available from:

National Center for Environmental Publications and Information (EPA/NCEPI)
P.O. Box 42419
Cincinnati, Ohio 45242-2419
Telephone: (800) 490-9198
Fax: (513) 489-8695

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Telephone: (703) 487-4650
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COMMENTS:

The "Status of Chemicals in Special Review" is updated approximately once a year by EPA's Office of Pesticide Programs. Your comments and suggestions are welcome. Please contact:

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CHAPTER TWO

SPECIAL REVIEW

CHAPTER TWO: SPECIAL REVIEW

This Chapter is organized as follows. The first section explains the Special Review process, including the criteria that EPA uses to initiate a Special Review, the steps the Agency takes in conducting a Special Review, and risk reduction alternatives to the conventional Special Review process. The next section provides an "At a Glance" summary of the dates when Special Review decision documents were published in the Federal Register. The third section

is a comprehensive reference list of all chemicals which have been or are currently in the Special Review program. The chemicals are in alphabetical order within categories of Special Review. The last section lists the chemicals in identical sequence and, in addition, presents the details of Special Review criteria met or exceeded, and outcomes of the reviews.

THE SPECIAL REVIEW PROCESS

The Special Review process is set in motion when EPA has reason to believe that the use of a pesticide may result in unreasonable adverse effects to people or the environment. The criteria for initiating a Special Review, set forth in 40 CFR Part 154.7, are:

1. Acute toxicity to humans or domestic animals.
2. Potential chronic or delayed toxic effects in humans.
3. Potential hazards to non-target organisms.
4. Risk to the continued existence of any threatened or endangered species.
5. Risk of destruction or other adverse modification of a critical habitat of any threatened or endangered species.
6. Any other adverse effect to humans or the environment which may outweigh the benefits that justify initial or continued registration.

As required by the regulations, the producers of a pesticide, or "registrants," receive private notification that the Agency is considering issuing a Notice of Special Review. This private notification

commences the pre-Special Review phase of the process. The registrant has 30 days to dispute the validity of the Agency's concerns.

If, after private notification to the registrants, the Agency tentatively determines that use of the pesticide does not pose a significant risk, a Federal Register (FR) notice is issued which explains the reasons for the Agency's decision. This notice also announces the availability of the public docket, which includes the pre-Special Review notification and all written information received in response to the notification. The FR notice also solicits public comment, after which the Agency makes a final decision on whether to initiate a Special Review.

If the Agency determines that a significant risk may be associated with a pesticide, a Notice of Special Review (Position Document 1) will be published in the FR. This notice describes the Special Review criterion of concern, the assumptions and data used in the analysis, and the strength of the conclusions. The notice will also announce the availability of the pre-Special Review public docket, solicit public comment, and request additional information on the pesticide.

After issuance of the Notice of Special Review, the Agency may meet with interested parties to discuss the risk concerns and available options to reduce the potential risks to health or the environment.

Commencement of the Special Review process is accompanied by an Agency-conducted, comprehensive risk/benefit analysis of each use of the pesticide subject to Special Review. Potential risks are evaluated by considering factors such as: 1) adverse effects to health or the environment; 2) magnitude of exposure of humans and other non-target organisms; and 3) size of the population at risk. Benefits of use are evaluated by assessing the availability, efficacy, and cost of alternative control methods, and impact on users, consumers, and other parties (except the registrant) if the pesticide is cancelled.

If, after issuance of a Position Document 1, the risks are determined to be lower than originally believed and acceptable, the Agency may decide that continuation of the Special Review is not warranted. This new risk determination may result from further in-depth risk/benefit analyses or risk reduction actions taken on behalf of the registrants. In these instances after a Position Document 1 has been issued but prior to issuing a Position Document 2/3, the Agency ends the Special Review by publishing a Notice of Decision to Terminate the Special Review (Position Document 2) in the FR.

If the Special Review is not concluded by publishing a Position Document 2, a Notice of Preliminary Determination (Position Document 2/3) is then published in the FR for public comment. If the registrants voluntarily amend their registrations in a manner which would reduce the risks of the pesticide use to acceptable levels, the notice explains the Agency's previous risk concerns and voluntary resolutions made by the registrants to alleviate potential risks. If the registrants do not voluntarily amend the conditions of registrations in order to reduce risks to an acceptable level, the notice would include the regulatory measures the Agency believes are required to reduce risks of the pesticide use(s) to acceptable levels and a proposed notice of intent to cancel, deny, or reclassify any registrations which do not comply with these measures.

The Preliminary Determination is then submitted to the FIFRA Scientific Advisory Panel (SAP) for comment on the Agency's scientific rationale. At the same time, the Agency submits the proposed notice to the United States Department of Agriculture (USDA) for comment, especially on the benefits issues and agricultural impacts.

After evaluating all comments received from the USDA, the SAP, and the public on the proposed action, the Agency will modify the proposal where appropriate prior to issuance as a final action. A Notice of Final Determination (Position Document 4) is published in the FR, along with a Notice of Intent to Cancel, Deny, or Reclassify Registration, if required to implement the determination. Any such notice becomes effective by operation of law, unless the registrant makes the necessary corrections or a hearing is timely requested by a person adversely affected by the notice.

The ultimate goal of the Special Review process is to reduce the risks posed by a pesticide to an acceptable level while taking into consideration the benefits provided by the use of that pesticide. Several alternatives to the conventional process are available that also achieve risk reduction but in a more accelerated manner. They include:

- Position Document 1/2/3 -- A Position Document 1/2/3 may be used when the Agency has sufficient information at the outset of a Special Review to fully assess both the risks and benefits. The Position Document 1/2/3 bypasses the Position Document 1 stage and provides a full discussion of the risks, benefits, and proposed decision at the same time.
- Notice of Intent to Cancel (NOIC) -- Under FIFRA section 6(b), the Agency may issue a NOIC when it has been determined that a pesticide poses unreasonable adverse effects. Those uses or registrations posing the risks are cancelled and removed from the market.
- Suspension Order/Emergency Suspension Order -- Under FIFRA section 6(b), the Agency may issue a suspension order or emergency suspension order to quickly remove a pesticide from the market when it poses an imminent hazard.
- Negotiated Settlements -- At any time, a registrant may reach an agreement with the Agency to modify the terms and conditions of a pesticide registration, in order to reduce risk to an acceptable level. The modifications may include, but are not limited to, cancelling uses, changing use patterns, changing application methods and/or rates, and imposing protective measures.

These alternatives are not intended to replace the conventional, intensive Special Review process. In many cases, they are used concurrently with the conventional process to achieve expeditious risk reduction of critical concerns while the overall review continues. In other cases, the alternative processes are used to quickly reduce risk concerns associated with the use of a pesticide before it is placed in the formal Special Review process.

SPECIAL REVIEW DECISION DATES AT A GLANCE

Date published in Federal Register

Chemical	Pre-Special Review terminated	Notice of Special Review PD1	Proposed conclusion of Special Review PD2	Proposed regulatory position PD2/3	Final regulatory action
1,3-Dichloropropene		10/08/86	01/12/00		
2,4,5-T/Silvex		04/21/78		07/17/79	12/13/79 (PD 4)
2,4,5-Trichlorophenol (TCP)		08/02/78			04/29/87 (PD 2/3/4)
2,4-D [also 2,4-DB and 2,4-DP] ¹	03/23/88 (proposed)				
Acrylonitrile (3 products cancelled)					06/19/78 (6(f)) ²
Alachlor		01/09/85		10/08/86	12/31/87 (PD 4)
Aldicarb		07/11/84		06/29/88	
Aldrin					10/18/74
Amitraz		04/06/77		01/12/79	06/07/79 (PD 4)
Amitrole		06/15/84	01/22/93		
Arsenic Trioxide (some uses)					09/13/77 (6(f))
Atrazine		11/23/94			
Benomyl		12/06/77		08/30/79	10/20/82 (PD 4)
Benzene	07/31/85				
BHC					07/21/78 (6(f))
Cacodylic Acid and Salts	05/12/82				
Cadmium		10/26/77		10/10/86	04/10/91 (PD 4)
Captafol		12/09/84	08/31/88		
Captan		08/18/80		06/21/85	02/24/89 (PD 4)
Carbaryl	12/12/80				
Carbofuran (granular)		10/16/85		01/25/89	12/11/91 (PD 4)
Carbon Tetrachloride		10/15/80			11/12/86 (6(f))
Chloranil					01/19/77 (6(f))
Chlordane					04/08/88
Chlordane/Heptachlor					04/08/88
Chlordecone (Kepone)					07/27/77
Chlordimeform					02/08/89 (6(f))
Chlorinated Isocyanurates	05/20/88				
Chlorobenzilate		05/26/76		07/11/78	02/13/79 (PD 4)
Chloroform		04/06/76	01/05/83		

1. The Agency issued a Federal Register Notice proposing not to initiate the Special Review. A final decision is yet to be made.

2. Publication of a 6(f) Notice of Receipt of Request to Cancel Registrations may eliminate the need for continuance of a Special Review action if all of the uses posing the risks of concern are voluntarily cancelled by the registrant. The Agency will grant approval for the cancellation request and therefore, preclude the need for an intensive review since cancellation of the uses will eliminate the risks. This type of action can occur prior to issuance of a PD1 or Grassley-Allen notification.

SPECIAL REVIEW DECISION DATES AT A GLANCE

Date published in Federal Register

Chemical	Pre-Special Review terminated	Notice of Special Review PD1	Proposed conclusion of Special Review PD2	Proposed regulatory position PD2/3	Final regulatory action
Coal Tar and Creosote (non-wood use)		10/18/78		08/22/84	10/16/85 (PD 4)
Copper Acetoarsenite					04/07/77
Copper Arsenate					04/07/77
Creosote (wood use)		10/18/78		02/19/81	07/13/84 (PD 4)
Cyanazine		04/10/85		01/17/87	01/13/88 (PD 4)
Cyanazine		11/23/94	03/01/96		07/25/96
Cyhexatin	09/25/87				
Daminozide (food use)		07/18/84		05/24/89	11/14/89 (PD 4)
Daminozide (non-food use)		07/18/84		05/24/89	10/08/92 (PD 4)
DBCP (Dibromochloropropane)		09/22/77			01/09/85
DDD (TDE) (Dichlorodiphenyl dichloroethane)					03/18/71
DDT (Dichlorodiphenyl trichloroethane)	07/07/72				
Diallate		05/31/77		06/09/80	06/23/82 (PD 4)
Diazinon		01/15/86		01/15/86	10/01/86 (PD 4)
Dichlorvos (DDVP)		02/24/88		09/28/95	
Dicofol		03/21/84		10/10/84	05/29/86 (PD 4)
Dieldrin					10/18/74
Difflubenzuron (Dimilin)	03/26/79				
Dimethoate		09/12/77		11/19/79	01/19/81 (PD 4)
Dinocap		01/09/85		10/29/86	02/06/89 (PD 4)
Dinoseb					10/14/86
EBDCs		08/10/77			10/27/82
EBDCs		07/17/87		12/20/89	02/13/92 (PD 4)
Endrin		07/27/76		11/02/78	07/25/79 (PD 4)
EPN (Ethyl (p-nitrophenyl)thiobenzene phosphonate)		09/19/79	07/24/87		
Erbon					10/04/80
Ethalfuralin		01/04/84		01/04/84	01/04/84 (PD 4)
Ethylene Dibromide (EDB)		12/14/77		12/10/81	10/07/83 (PD 4)

SPECIAL REVIEW DECISION DATES AT A GLANCE

Date published in Federal Register

Chemical	Pre-Special Review terminated	Notice of Special Review PD1	Proposed conclusion of Special Review PD2	Proposed regulatory position PD2/3	Final regulatory action
Ethylene Oxide		01/27/78			
Fluoroacetamide (Compound 1081)		12/01/76	02/28/80		
Goal (Oxyfluorfen)					06/23/82
Heptachlor					04/08/88
Inorganic Arsenicals (some non-wood uses)		10/18/78		01/02/87	06/30/88 (PD 4)
Inorganic Arsenicals (arsenic acid)		10/18/78		10/07/91	12/08/93 (PD 4)
Inorganic Arsenicals (wood use)		10/18/78		02/19/81	07/13/84 (PD 4)
Lindane		02/18/77		07/03/80	10/19/83 (PD 4)
Lindane	03/18/94 (Proposed)				07/26/95
Linuron		09/26/84	01/27/89		
Maleic Hydrazide		10/28/77	01/05/82		
Mercury (indoor paint uses)					06/29/90 (6(f))
Mercury (exterior paint uses)					07/10/91 (6(f))
Metam-Sodium					09/21/94 (NOIC)
Methanearsonates	06/28/83				
Mevinphos					04/05/95 (NOIC)
Calcium Acid Methanearsonate (CAMA),	06/28/83				
Monosodium Methanearsonate (MSMA), Disodium	06/28/83				
Methanearsonate (DMSA))	06/28/83				
Mirex					12/29/76
Monocrotophos	07/15/88				
Monuron					08/16/77 (6(f))
Naled	06/30/83				
Nitrofen (TOK)	09/15/83				
OBPA (10,10'-Oxybisphenoxarsine)	04/09/79				
OMPA (Octamethylpyrophosphoramide)					05/28/76 (6(f))
Oxydemeton-methyl		10/05/87			
Paraquat Dichloride	10/23/82				

SPECIAL REVIEW DECISION DATES AT A GLANCE

Date published in Federal Register					
Chemical	Pre-Special Review terminated	Notice of Special Review PD1	Proposed conclusion of Special Review PD2	Proposed regulatory position PD2/3	Final regulatory action
Parathion					12/13/91 (6(f))
PCNB (Pentachloronitrobenzene)		10/13/77	04/19/82		.
Pentachlorophenol (non-wood use)		10/18/78		12/12/84	01/21/87 (PD 4)
Pentachlorophenol (wood use)		10/18/78		02/19/81	07/13/84 (PD 4)
Perthane					06/20/80 (6(f))
Phenarsazine Chloride					11/21/77 (6(f))
Piperonyl Butoxide	05/12/82				
Pronamide		05/20/77		01/15/79	10/26/79 (PD 4)
Propoxur	01/15/95 (Proposed)				02/28/96
Ronnel					01/22/86 (6(f))
Rotenone	07/15/81				
S,S,S-Tributyl Phosphorotrithioate	05/12/82				
Safrole					06/10/77 (6(f))
Simazine		11/23/94			
Simazine (swimming pool uses)					07/06/94 (NOIC)
Sodium Arsenite (fungicide)		10/18/78		01/02/87	06/19/91 (6(f))
Sodium Fluoroacetate (Compound 1080)		12/01/76		11/11/82	07/31/85 (PD 4)
Sporicidin					07/14/93 (6(f))
Strobane					06/28/76 (6(f))
Strychnine/Strychnine Sulfate		01/13/77		11/05/80	10/19/83 (PD 4)
Terbutryn	05/12/82				
Thiophanate-Methyl		12/07/77		10/11/79	10/20/82 (PD 4)
Toxaphene		05/27/77			11/29/82 (PD 2/3/4)
TPTH (Triphenyltin hydroxide)		01/09/85			
Triallate	12/15/80				
Tributyl Phosphorotrithioite	05/12/82				
Tributyltins (antifoulant use)		01/08/86		10/07/87	10/04/88 (PD 4)
Trichlorfon	06/30/83				
Trifluralin				08/30/79 (PD 1/2/3)	08/04/82 (PD 4)
Trysben					02/09/78 (6(f))
Wipeout					08/05/93 (NOIC)

REFERENCE LISTS OF PESTICIDES IN SPECIAL REVIEW

The five alphabetical lists below (repeated with more detailed information in the next section) provide information as follows:

1. **Special Reviews in Process** lists chemicals which are now formally in Special Review or which are in pre-Special Review, i.e., chemicals for which it is public knowledge that they are being considered for formal Special Review.
2. **Special Reviews Completed** lists chemicals which have Special Review final determinations;
3. **Final Determinations on Pre-Special Reviews/Deferred to Reregistration** lists chemicals returned to the registration or reregistration process after a pre-Special Review determination; or for which a determination has been deferred to the reregistration process;
4. **Final Actions/Voluntary Cancellations** lists chemicals which have had final actions such as voluntary cancellations or Notice of Intent to Cancel (NOIC) issued prior to any formal Special Review action; and
5. **Cancellations Issued Prior to RPAR/Special Review Process** lists chemicals cancelled prior to the RPAR and Special Review processes. RPAR stands for Rebuttable Presumption Against Registration, the name used for Special Review prior to 1986.

1. Special Reviews in Process	Page
Aldicarb	20
Atrazine (Triazines)	20
2,4-D [also 2,4-DB and 2,4-DP] ¹	21
1,3-Dichloropropene (Telone)	21
Dichlorvos (DDVP)	21
Ethylene Oxide	22
Oxydemeton-methyl	23
Propazine (Triazines)	23
Simazine (Triazines)	24
TPTH (Triphenyltin hydroxide)	24
Triazines	25
Tributyltins (antifoulant use)	25

¹ EPA issued a Federal Register Notice proposing not to initiate the Special Review. A final decision is yet to be made and will be based on the classification of 2,4-D as a category D carcinogen.

2. Special Reviews Completed	Page
Alachlor	26
Amitraz	26
Amitrole	26
Benomyl	27
Cadmium	27
Captafol	27
Captan	28
Carbofuran (granular)	28
Carbon Tetrachloride	29
Chlorobenzilate	29
Chloroform	29
Coal Tar and Creosote (non-wood use)	29
Creosote (wood use)	30
Cyanazine	30
Daminozide	31
DBCP (Dibromochloropropane)	31
Diallate	32
Diazinon	32
Dicofol	33
Dimethoate	33
Dinocap	33
Dinoseb	34
EBDCs (Ethylene bisdithiocarbamates: Maneb, Mancozeb, Metiram, Nabam, Zineb, Amobam)	35
Endrin	36
EPN (Ethyl (p-nitrophenyl)thiobenzene phosphonate)	36
Ethalfuralin	36
Ethylene Dibromide (EDB)	37
Fluoroacetamide	37
Goal (Oxyfluorfen)	38
Inorganic Arsenicals (wood use)	38
Inorganic Arsenicals (non-wood use)	39
Lindane	40
Linuron	40
Maleic Hydrazide	40
PCNB (Pentachloronitrobenzene)	41

2.	Special Reviews Completed (continued)	Page
	Pentachlorophenol (non-wood use)	41
	Pentachlorophenol (wood use)	42
	Pronamide	42
	Sodium Fluoroacetate (Compound 1080)	42
	Strychnine/Strychnine Sulfate	43
	2,4,5-T/Silvex	43
	Thiophanate-Methyl	44
	Toxaphene	44
	2,4,5-Trichlorophenol (TCP)	44
	Trifluralin	45
3.	Final Determinations on Pre-Special Reviews/Deferred to Reregistration	
	Cacodylic Acid and Salts	46
	Carbaryl	46
	Chlorinated Isocyanurates	46
	Diflubenzuron (Dimilin)	46
	Lindane	47
	Methanearsonates (includes Amine Methanearsonate, Calcium Acid Methanearsonate (CAMA), Monosodium Methanearsonate (MSMA), Disodium Methanearsonate (DMSA))	47
	Naled	47
	OBPA (10,10'-Oxybisphenoxarsine)	47
	Paraquat Dichloride	48
	Parathion (Ethyl)	48
	Phorate	48
	Piperonyl Butoxide	48
	Propoxur	48
	Rotenone	49
	Terbufos	49
	Terbutryn	49
	Triallate	50
	S,S,S-Tributyl Phosphorotrithioate	50
	Tributyl Phosphorotrithioite	50
	Trichlorfon	50

4. Final Actions/Voluntary Cancellations**Page**

Acrylonitrile	51
Arsenic Trioxide	51
Benzene	51
BHC	51
Captafol	51
Carbon Tetrachloride	52
Chloranil	52
Chlordane	52
Chlordimeform	52
Copper Acetoarsenite	52
Copper Arsenate	53
Cyhexatin	53
Endrin	53
EPN (Ethyl(p-nitrophenyl)thiobenzene phosphonate)	53
Erbon	53
Heptachlor	54
Mercury	54
Metam-sodium	54
Methazole	54
Mevinphos	55
Monocrotophos	55
Monuron	55
Nitrofen (TOK)	55
OMPA (Octamethylpyrophosphoramide)	55
Parathion (Ethyl)	56
Perthane	56
Phenarsazine Chloride	56
Ronnel	56
Safrole	56
Simazine (Swimming Pool Uses)	56
Sodium Arsenite	57
Sporocidin	57
Strobane	57
Trysben	57
Wipe Out	57

5.	Cancellations Issued Prior to RPAR/Special Review Process	Page
	Aldrin/Dieldrin	58
	Chlordane/Heptachlor	58
	Chlordecone (Kepone)	58
	DDD (TDE) (Dichlorodiphenyl dichloroethane)	58
	DDT (Dichlorodiphenyl trichloroethane)	59
	Mirex	59

STATUS OF INDIVIDUAL PESTICIDE REVIEWS

1. Special Reviews in Process

Pesticide and Review Criteria Possibly Met or Exceeded

Current Status

ALDICARB

Monica Alvarez (703-308-8026)

- | | |
|--|--|
| <ul style="list-style-type: none"> • Acute Toxicity • Ground Water Contamination | <ul style="list-style-type: none"> • PD 1 published 49 FR 28320 on 7/11/84; comment period closed 9/11/84: NTIS# PB90-259904. • PD 2/3 published 53 FR 24630 on 6/29/88; comment period closed 9/29/88: NTIS# PB90-261611. • Registrant voluntarily removes use on potatoes from label after high residues are found (April 1990). • Registrant agreed to dietary risk reduction measures on 1/30/92 that included voluntary cancellation of the use on bananas through non-payment of annual maintenance fees and registration amendments to remaining uses posing dietary risk concern (potatoes, sweet potatoes, oranges, and grapefruits). • Use on potatoes is allowed back after new application methods demonstrate significantly lower residues (Sept 1995). • PD 4 to be published concurrent with Reregistration Eligibility Decision (RED) in 2001. |
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ATRAZINE

Pam Noyes (703-308-8065)

Refer to Triazines

1. Special Reviews in Process (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Current Status

2,4-D [also 2,4-DB and 2,4-DP]

Robert McNally (703-308-8085)

- Carcinogenicity
 - Chemical is in pre-Special Review status.
 - Proposed decision not to initiate Special Review published 53 FR 9590 published on 3/23/88.
 - Industry Task Force on 2,4-D Research Data agreed to risk reduction measures in September, 1992 that included an exposure reduction plan effected through modifications to technical and manufacturing use labels and implementation of a user education program.
 - New rodent carcinogenicity data submitted December '95. Peer review concluded July '96 classified 2,4-D as a category D carcinogen, that is, unclassifiable as to carcinogenicity.
 - Final decision forth coming and will be based on the classification of 2,4-D as a category D carcinogen.

1,3-DICHLOROPROPENE (TELONE)

Phil Budig (703-308-8029)

- Carcinogenicity
 - PD 1 published 51 FR 36161 on 10/8/86; comment period closed 12/8/86: NTIS# PB92-114206.
 - Registrant agreed to implement risk reduction measures at meetings held in September, 1992 and December, 1995. The registrant will also maintain its education/product stewardship program.
 - PD 2 published 65 FR 1869 on 1/12/00 proposing to close out Special Review; comment period closes 3/12/00.
 - RED published December 1998.
 - PD 4 to be published Summer 2000.

DICHLORVOS (DDVP)

Kimberly Lowe (703-308-8059)

- Carcinogenicity
- Cholinesterase Inhibition
 - Decision Document published 47 FR 45075 on 10/13/82: NTIS# PB87-181335.
 - PD 1 published 53 FR 5542 on 2/24/88: NTIS# PB92-114297.
 - PD 2/3 published 60 FR 50337 on 9/28/95.
 - PD 4 to be issued concurrent with the RED in 2000 or 2001.

1. Special Reviews in Process (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Current Status

ETHYLENE OXIDE

Kimberly Lowe (703-308-8059)

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| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Reproductive Effects | <ul style="list-style-type: none"> • PD 1 published 43 FR 3801 on 1/27/78; comment period closed 5/15/78: NTIS# PB80-213903. • Petition to revoke Section 409 on spice uses received 12/16/87 (52 FR 47753). Position denied (55 FR 35347), but revocation proposal later published 7/1/94 (59 FR 33941) in response to court ruling in Les v. Reilly. The Food Quality Protection Act of 1996 overturned the 1994 proposal. Residues of EtO on ground spices are now under FDA's jurisdiction while EPA still regulates those on raw and whole spices. • In 1996, EtO registrants requested label changes to further reduce exposures. All labels carry the new restrictions effective July 31, 1997. • The Special Review determinations on worker risk will be concurrent with publication of the Reregistration Eligibility Decision (RED) in FY 2001. |
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1. Special Reviews in Process (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Current Status
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OXYDEMETON-METHYL

Robert McNally (703-308-8085)

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| <ul style="list-style-type: none">• Reproductive effects | <ul style="list-style-type: none">• PD 1 published 32 FR 37248 on 10/5/87; comment period closed 1/5/88: NTIS# PB91-206581.• Peer Review Committee (PRC) for Developmental and Reproductive Toxicity met on May 7, 1992 to discuss and evaluate the weight-of-the-evidence of oxydemeton-methyl with reference to its potential for reproductive and developmental toxicity. The committee concluded that oxydemeton-methyl causes reproductive effects in rats.• Proposed Notice of Voluntary Cancellation of remaining products published 59 FR 11601 on 3/11/94. During the comment period, the registration was supported by another registrant. Therefore, final notice was not issued and the chemical remains in Special Review.• Settlement agreement of September 30, 1994, established a strict timeframe for submission of outstanding data and temporarily deleted corn, field; popcorn; sorghum; safflower; citrus; onions; pears; turnips; and snapbeans from the ODM labels. These uses may only be reinstated if EPA's dietary and worker risk assessments, at the time of the ODM RED document, indicate that there are no risk concerns associated with these uses.• The ODM Special Review status will be addressed concurrent with the publication of the interim RED in 2000. |
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PROPAZINE

Pam Noyes (703-308-8065)

Refer to Triazines.

1. Special Reviews in Process (continued)

**Pesticide and Review Criteria
Possibly Met or Exceeded****Current Status**

SIMAZINE

Pam Noyes (703-308-8065)

Refer to Triazines.

TPTH (Triphenyltin Hydroxide)

Phil Budig (703-308-8029)

- Developmental Toxicity
 - Carcinogenicity
- PD 1 published 50 FR 1107 on 1/9/85; comment period closed 2/22/85: NTIS# PB85-175487.
 - Data call-in for additional data issued 5/88, 9/90 and 7/93.
 - Registrants have implemented risk mitigation measures including use deletions, requirements for mechanical transfer systems for liquid formulations and water soluble bags for wettable powder formulations, along with additional protective personal equipment and engineering controls as part of special review and reregistration eligibility decision agreements.
 - RED published November 1999.
 - PD 2 to be issued in spring 2000 proposing to close out the Special Review.

1. Special Reviews in Process (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Current Status

TRIAZINES

Pam Noyes (703-308-8065)

- Carcinogenicity (dietary and occupational)
- Ground and Surface Water Contamination
- Grassley-Allen notifications issued for atrazine on 8/17/88, 8/24/89, and 2/8/94. Notifications issued for simazine and cyanazine on 2/8/94, and for propazine on 8/18/95.
- PD 1 published in 59 FR 60412 on 11/23/94; comment period closed 3/23/95. Combined Special Review initiated for atrazine, simazine and cyanazine due to chemical, toxicological and fate similarities. Ecological risks are a concern, but not included as a Special Review trigger.
- PD 2 for cyanazine published in 61 FR 8186 on 3/1/96 proposing to terminate Special Review of cyanazine only. Notice of Final Determination to Terminate the Special Review of Cyanazine published in 61 FR 39024 on 7/25/96.
- Cyanazine registrations are cancelled, effective 12/31/99. Existing stocks provisions allow use through 12/31/02.
- Revised atrazine risk assessment is scheduled for completion in Summer 2000.
- SAP on draft atrazine carcinogenicity hazard assessment and characterization, originally set for January 2000, is being rescheduled due to inclement weather.
- Simazine risk assessment and Special Review decision on all the triazines will be completed after the atrazine work.

TRIBUTYL TINS (antifoulant use)

Jill Bloom (703-308-8019)

Mark Hartman (703-308-0734)

- Acute and Chronic Toxicity to Non-Target Organisms
- PD 1 published 51 FR 778 on 1/8/86; comment period closed 2/24/86: NTIS# PB87-186763.
- PD 2/3 published 52 FR 37510 on 10/7/87: NTIS# PB88-161203.
- PD 4 published 53 FR 39022 on 10/4/88: NTIS# PB90-261629. Partial conclusion of Special Review; requires compliance with release rates and prohibitions, modified labeling, and restricted use classification. Final determination regarding the release of organotin is pending the results of long-term environmental monitoring study.
- EPA concluded in Report to Congress 6/97 that concentrations of TBT in the aquatic environment have dropped but are still too high. EPA recommended further restrictions.
- EPA cooperating in international effort for global phase-out.

2. Special Reviews Completed

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

ALACHLOR

- Carcinogenicity
 - PD 1 published 50 FR 1115 on 1/9/85; comment period closed 4/9/85: NTIS# PB85-175503.
 - PD 2/3 published 51 FR 36166 on 10/8/86; comment period closed 12/8/86: NTIS# PB92-111889.
 - PD 4 on dietary and applicator risks published 52 FR 49480 on 12/31/87 required restricted use, label warning, closed systems for large-scale mixer/loaders. NTIS# PB92-114248.
 - Groundwater concerns will be handled through a regulatory proposal, the State Management Plan (SMP) rule, under FIFRA section 3.
 - RED published December 1998.

AMITRAZ

- Carcinogenicity
 - PD 1 published 42 FR 18299 on 4/6/77; comment period closed 7/18/77: NTIS# PB80-212046.
 - PD 2/3 published 44 FR 2678 on 1/12/79; comment period closed 2/12/79: NTIS# PB80-211436.
 - PD 4 published 44 FR 32736 on 6/7/79, 44 FR 59938 on 10/7/79 (correction): NTIS# PB80-211428. Conditional registration approved for pears but not for apples.
 - Tolerance for pears approved 12/6/79.
 - RED published November 1996.

AMITROLE

- Carcinogenicity
 - PD 1 published 49 FR 20546 on 6/15/84; comment period closed 7/11/84: NTIS# PB87-187175.
 - Preliminary determination to terminate the Special Review published 57 FR 46488 on 10/8/92 based on Agency decision that benefits of use outweigh risks. Final determination published 58 FR 5858 on 1/22/93.
 - RED published August 1996.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

BENOMYL

- Reduction in Non-target Organisms
 - Mutagenicity
 - Developmental Toxicity
 - Reproductive Effects
 - Hazard to Wildlife
- PD 1 published 42 FR 61788 on 12/6/77; comment period closed 1/23/78: NTIS# PB80-216856.
 - PD 2/3 published 44 FR 51166 on 8/30/79; comment period closed 9/28/79: NTIS# PB87-119087.
 - PD 4 published 47 FR 46747 on 10/20/82: NTIS# PB83-148189. Requires use of either cloth or commercially available disposable dust masks by mixer/loaders of benomyl intended for aerial application and that registrants of benomyl products conduct field monitoring studies to identify residues that may enter aquatic sites after use on rice.
 - Registrant completed field monitoring study and submitted to Agency 11/84. Study not accepted. New study required by Registration Standard issued 6/87.

CADMIUM

- Carcinogenicity
 - Mutagenicity
 - Developmental Toxicity
 - Acute and chronic kidney toxicity
- PD 1 published 42 FR 56574 on 10/26/77; comment period closed 2/10/78: NTIS# PB87-181376.
 - PD 2/3 published 51 FR 36524 on 10/10/86; comment period closed 11/24/86: NTIS# PB90-261603.
 - PD 4 published 52 FR 31076 on 8/19/87: NTIS# PB87-228490. Golf course fairway and home lawn uses cancelled. Golf course green and tee area uses modified.
 - 6(f) notice published 55 FR 31227 on 8/1/90. Last remaining cadmium chloride registration for use on golf course tees and greens was voluntarily cancelled.
 - Proposed decision to terminate the Special Review published 55 FR 49697 on 11/30/90. Final decision published 56 FR 14522 on 4/10/91.

CAPTAFOL

- Carcinogenicity
 - Acute and Chronic Wildlife Effects
- PD 1 published 49 FR 1103 on 12/9/84; comment period closed 1/31/85: NTIS# PB85-175495. Press release published on 1/3/85.
 - All registrations voluntarily cancelled as of 5/15/87.
 - Proposed decision to terminate Special Review published 52 FR 27576 on 7/22/87.
 - Final decision published 53 FR 33535 on 8/31/88.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

CAPTAN

- Carcinogenicity
 - PD 1 published 45 FR 54938 on 8/18/80; comment period closed 12/1/80: NTIS# PB81-109449.
 - PD 2/3 published 50 FR 25885 on 6/21/85; comment period closed 8/5/85: NTIS# PB87-118014.
 - PD 4 published 54 FR 8116 on 2/24/89: NTIS# PB90-261579. Certain food use registrations cancelled.
 - RED published September 1999.

CARBOFURAN (granular)

- Wildlife Effects
 - PD 1 on granular formulations published 50 FR 41938 on 10/16/85; comment period closed 12/2/85: NTIS# PB87-186771.
 - PD 2/3 published 54 FR 3744 on 1/25/89; comment period closed 3/27/89: NTIS# PB90-261587.
 - 6(f) notice published 55 FR 42266 on 10/18/90. Granular formulations of eight uses voluntarily cancelled.
 - Settlement agreement to phase out most uses was reached on 5/14/91.
 - 6(f) notice implementing label changes for settlement agreement published 56 FR 33286 on 7/19/91.
 - PD 4 concluding Special Review published 56 FR 64621 on 12/11/91.
 - Final notice extending limited use on rice until August 1996, and not extending use on corn and sorghum, published 60 FR 11090 on 3/1/95.
 - FIFRA Section 24(c) Special Local Needs registrations were granted in 1996, allowing use of no more than 250,000 lbs. active ingredient per year on rice in several states during 1997 and 1998.
 - An acute dietary risk concern under FQPA is being resolved through negotiated risk mitigation with registrant.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

CARBON TETRACHLORIDE

- Carcinogenicity
 - Toxic Effect
on Liver
and Kidneys
- PD 1 published 45 FR 68534 on 10/15/80; comment period closed 11/24/80: NTIS # PB81-121782.
 - Voluntary cancellation of many products published 50 FR 42997 on 10/23/85.
 - Cancellation of remaining products published 54 FR 41004 on 11/12/86.
 - Proposed exemption revocation published 52 FR 38200 on 10/14/87.
 - Expiration date of 7/31/90 for the tolerance exemption on grains published 54 FR 6126 on 2/8/89.

CHLOROBENZILATE

- Carcinogenicity
 - Testicular Effects
- PD 1 published 41 FR 21517 on 5/26/76; comment period closed 7/28/76: NTIS# PB92-114313.
 - PD 2/3 published 43 FR 29824 on 7/11/78; comment period closed 8/10/78: NTIS# PB80-213887.
 - PD 4 published 44 FR 9547 on 2/13/79: NTIS# PB80-213929. All uses except citrus cancelled.

CHLOROFORM

- Carcinogenicity
- PD 1 published 41 FR 14588 on 4/6/76; comment period closed 7/23/76. (NTIS# not available).
 - The Agency determined that applicator exposure had been reduced to a minimum as a result of label amendments. Also, registrants were required to submit data to establish tolerances of permissible residues on raw agricultural commodities.

COAL TAR AND CREOSOTE (non-wood use)

- Carcinogenicity
 - Mutagenicity
- PD 1 published 43 FR 48154 on 10/18/78; comment period closed 12/4/78: NTIS# PB80-213879.
 - PD 2/3 published 49 FR 33328 on 8/22/84; comment period closed 10/20/84: NTIS# PB87-178851.
 - PD 4 published 50 FR 41943 on 10/16/85: NTIS# PB87-180485. Cancellation of all uses except gypsy moth egg masses; deferral on coal tar neutral oil (CTNO) use pending receipt of additional data.
 - Cancellation of all remaining uses published 5/15/86.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

CREOSOTE (wood use)

- Carcinogenicity
- Mutagenicity
- PD 1 published 43 FR 48154 on 10/18/78; comment period closed 2/12/79: NTIS# PB80-213879.
- PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956.
- At 4/14/83 public meeting, proposed conclusion presented; comment period closed 5/13/83.
- PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes including a restricted use classification.
- Subsequently, two FR notices published: 49 FR 43772 on 10/31/84, and 50 FR 4269 on 1/30/85.

CYANAZINE

Pam Noyes (703-308-8065)

- Developmental Toxicity
- Carcinogenicity (dietary and non-dietary)
- Ground and Surface Water Contamination
- PD 1 published 50 FR 6560 on 4/10/85; Toxicity comment period closed 5/27/85: NTIS# PB87-117982.
- PD 2/3 published 52 FR 589 on 1/17/87; comment period closed 3/9/87: NTIS# PB87-181400.
- PD 4 published 53 FR 795 on 1/13/88. Required label warning and protective clothing: NTIS# PB90-261595.
- Hearing requested 2/88. Settlement reached 5/88 revising hazard warning statement and extending existing stocks provision.
- Grassley-Allen notification issued on 2/8/94 for carcinogenicity, ground/surface water contamination, and ecological effects.
- PD 1 published in 59 FR 60412 on 11/23/94. Registrants voluntarily amended terms and conditions of cyanazine registrations on 8/25/95 that included: annual reductions in maximum application rates, requirement for closed cab application equipment, and voluntary cancellation of all products, effective 12/31/99. Use of existing stocks permitted through 12/31/02.
- PD 2 published in 61 FR 8186 on 3/1/96 proposing to terminate the Special Review of cyanazine based on the amended terms and conditions of registration. Final determination terminating the cyanazine Special Review published in 61 FR 30924 on 7/25/96.
- Cancellation order published in 65 FR 771 on 1/6/00 confirming cancellation of all cyanazine registrations effective 12/31/99.
- See also Triazines.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

DAMINOZIDE

- Carcinogenicity
 - PD 1 published 49 FR 29136 on 7/18/84; comment period closed 8/31/84: NTIS# PB92-114222.
 - Draft PD 2/3/4 issued 9/12/85.
 - Data Call-in Notice issued 2/10/86.
 - PD 2/3 proposing to cancel food uses only published 54 FR 22558 on 5/24/89: NTIS# PB92-114214.
 - Registrant voluntarily halted sale of daminozide food use products on 6/2/89.
 - Proposed tolerance revocation published 54 FR 37277 on 9/7/89.
 - PD 4 announcing close of Special Review for food uses, and impending risk assessment for workers published 54 FR 47492 on 11/14/89: NTIS# PB92-114198.
 - Final tolerance revocation published 55 FR 10218 on 3/19/90.
 - PD 4 announcing close of Special Review for non-food uses published 57 FR 46436 on 10/8/92. Determination made to retain non-food uses without requiring label modifications. Agency also revised dietary risks and concluded that the risks posed in 1989 were unreasonable and the Agency's decision at that time concerning dietary risks will not be changed.

DBCP (Dibromochloropropane)

- Carcinogenicity
- Reproductive Effects
- Mutagenicity
- Ground Water
 - PD 1 published 42 FR 48026 on 9/22/77; comment period closed 11/7/77: NTIS# PB87-181368.
 - Suspension order and notice of intent to cancel all food uses published Contamination 42 FR 57543 on 11/3/77.
 - Amended notice of intent to cancel and PD 2/3/4 published 43 FR 40911 on 9/13/78: NTIS# PB80-213853.
 - Notice of intent to suspend all products published 44 FR 43335 on 7/24/79.
 - Suspension order for all uses except pineapples published 44 FR 65161 on 10/29/79.
 - Notice of intent to cancel all uses published 44 FR 65170 on 11/9/79.
 - Withdrawal of the notice of intent to cancel use on pineapples published 46 FR 19592 on 3/31/81.
 - Proposed intent to cancel use on pineapples published 49 FR 1556 on 1/12/84; comment period closed 3/12/84.
 - Press release published on 1/3/85.
 - Final PD 4 published 50 FR 1122 on 1/9/85. Cancellation of remaining registrations. (NTIS# not available).

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

DIALATE

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| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity | <ul style="list-style-type: none"> • PD 1 published 42 FR 27669 on 5/31/77; comment period closed 9/9/77: NTIS# PB80-212863. • PD 2/3 published 45 FR 38437 on 6/9/80; comment period closed 7/9/80: NTIS# PB80-216849. • PD 4 published 47 FR 27109 on 6/23/82: NTIS# PB87-118006. Restricted use to certified applicators wearing protective clothing. |
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DIAZINON

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| <ul style="list-style-type: none"> • Avian Hazard | <ul style="list-style-type: none"> • PD 1/2/3 published 51 FR 1842 on 1/15/86; comment period closed 3/3/86; extended to 3/28/86 (51 FR 8813): NTIS# PB87-101853. • PD 4 published 51 FR 35034 on 10/1/86: NTIS# PB90-261645. Cancellation of golf course and sod farm uses. • Amendment to PD 4 published 52 FR 5656 on 2/25/87. • Registrant-requested hearing confirmed PD 4 decision in 4/88. • Registrants appealed; PD 4 remanded to the Administrator on 6/2/89. • 6/19/90 press release announced the Administrator's Remand Decision upholding the 1988 final decision to cancel all use on golf courses and sod farms. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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DICOFOL

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| <ul style="list-style-type: none">• Ecological Effects | <ul style="list-style-type: none">• PD 1 published 49 FR 10569 on 3/21/84; comment period closed 5/5/84: NTIS# PB84-160084.• PD 2/3 published 49 FR 39820 on 10/10/84; comment period closed 11/26/84: NTIS# PB85-134153.• Amendment to PD 2/3 published 50 FR 33008 on 8/15/85.• PD 4 published 51 FR 19508 on 5/29/86: NTIS# PB90-260431. Requires a reduction in the level of DDT contamination, and modified labeling.• RED published November 1998. |
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DIMETHOATE

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| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Fetotoxicity• Reproductive Effects | <ul style="list-style-type: none">• PD 1 published 42 FR 45806 on 9/12/77; comment period closed 1/6/78: NTIS# PB87-181343.• PD 2/3 published 44 FR 66558 on 11/19/79; Effects comment period closed 12/19/79: NTIS# PB80-213846.• PD 4 published 46 FR 5364 on 1/19/81: NTIS# PB81-172413. Denies applications for dust formulations, and requires modified labeling. |
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DINOCAP

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| <ul style="list-style-type: none">• Developmental Toxicity | <ul style="list-style-type: none">• PD 1 published 50 FR 1119 on 1/9/85; comment period closed 2/22/85. (NTIS# not available).• PD 2/3 published 51 FR 39577 on 10/29/86; comment period closed 12/29/86: NTIS# PB87-178844.• PD 4 published 54 FR 5908 on 2/6/89. Requires health hazard label statement and additional protective clothing. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

DINOSEB

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|---|---|
| <ul style="list-style-type: none"> • Developmental Toxicity • Reproductive Effects • Acute Effects | <ul style="list-style-type: none"> • Emergency Suspension Order/Notice of Intent to Cancel published 51 FR 36634 on 10/14/86: NTIS# PB87-225041.
As a result of a Subpart D hearing, the Agency modified the 10/7/86 Suspension Order to permit use of dinoseb on dry peas, lentils, and chick peas in Idaho and Washington during the 1987 and 1988 growing season. A subsequent court order permitted use on the same crops in certain counties in Oregon. A second District Court ruling permitted dinoseb use on caneberries, curcubits, green peas, and snap beans in the States of Idaho, Oregon, and Washington. A final cancellation order was issued on 6/9/88. Besides cancelling all remaining uses, it permitted limited use on certain crops in the Pacific Northwest during the 1988 and 1989 growing seasons. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

EBDCs (Ethylene bisdithiocarbamates: Maneb, Mancozeb, Metiram, Nabam, Zineb, Amobam)

Robert McNally (703-308-8085)

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|--|---|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• PD 1 published 41 FR 40618 on 8/10/77; comment period closed: NTIS# PB87-228482.• Decision Document and Final Determination published 47 FR 47669 on 10/27/82: NTIS# PB87-181350. Requires modified labeling and additional toxicological data. |
| <ul style="list-style-type: none">• Carcinogenicity• Developmental Toxicity | <ul style="list-style-type: none">• PD 1 published 52 FR 27172 on Thyroid Effects on 7/17/87; comment period closed 9/30/87: NTIS# PB87-117990.• The sole Nabam registrant requested voluntary cancellation of all food uses in 3/89.• Registrants announced on 9/6/89 that they will drop all but 13 registered food uses.• PD 2/3 published 54 FR 52158 on 12/20/89 proposing to cancel all uses for zineb and 45 food crop uses of mancozeb, maneb, and metiram. 10 crop uses proposed to be retained. Comment period closed 3/20/90: NTIS# PB90-143025.• Notice published 55 FR 15018 on 4/20/90 reopening comment period on PD 2/3 for 48 of 55 food uses (mancozeb, maneb, and metiram). Comment period for narrative information closed 6/30/90 and for new data on 9/30/90.• Notice published 55 FR 20416 on 5/16/90 proposing to reduce and/or revoke tolerances and food/feed additive regulations.• Notice published 55 FR 40206 on 10/2/90 reopening comment period on 5/16/90 proposal; new comment period closed 1/2/91.• PD 4 published 57 FR 7484 on 3/2/92. The PD 4 announced the Agency's intent to cancel 11 uses. After a hearing settlement, 3 of these 11 uses were retained. EBDC products registered for 45 other food crops continue upon required modifications being made to avoid cancellation. Industrial uses of nabam continue. Home garden uses of mancozeb on turf and fruit are cancelled. Other homegarden uses remain registered subject to certain conditions. All registrations of zineb were previously voluntarily cancelled by the registrant. |

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

ENDRIN

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Developmental Toxicity • Reduction in Endangered and Non-Target Species | <ul style="list-style-type: none"> • PD 1 published 41 FR 31316 on 7/27/76; comment period closed 11/4/76: NTIS# PB81-112690. • PD 2/3 published 43 FR 51132 on 11/2/78; comment period closed 12/4/78: NTIS# PB87-119921. • PD 4 published (including cancellations) 44 FR 43631 on 7/25/79: NTIS# PB81-109480. • PD 4 follow-up notice sent 8/28/80. • Cancellations by Velsicol of one technical and two end-use products effective 11/23/84. • Velsicol's last end-use product was voluntarily cancelled as of 8/1/85. • All but one remaining uses were voluntarily cancelled effective 9/12/85. |
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EPN (Ethyl (p-nitrophenyl)thiobenzene phosphonate)

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| <ul style="list-style-type: none"> • Neurotoxicity • Hazard to Aquatic Organisms | <ul style="list-style-type: none"> • PD 1 published 44 FR 54384 on 9/19/79; comment period closed 12/29/79; NTIS# PB80-216815 • Determination to conclude RPAR published in 48 FR 39494 on 8/31/83. Mosquito larvicide use cancelled. New label requirements imposed for all other uses to reduce exposure to applicators and non-target organisms, and reassess tolerances, chronic toxicity and reentry. • Proposed Decision Not To Initiate Special Review published 52 FR 27453 on 7/21/87. • Final Decision Not to Initiate Special Review published 52 FR 48574 on 12/23/87. • All registrations voluntarily cancelled as of 7/24/87. |
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ETHALFLURALIN

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| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • PDs 1, 2/3, and 4 published 49 FR 511 on 1/4/84; comment period closed 12/1/85: NTIS# PB92-114263. Benefits of conditional registration exceeded risks. Submission of additional data required by 12/1/85. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

ETHYLENE DIBROMIDE (EDB)

- Carcinogenicity
 - Mutagenicity
 - Reproductive Effects
- PD 1 published 42 FR 63134 on 12/14/77; comment period closed 4/3/78: NTIS# PB80-109456.
 - PD 2/3 published 45 FR 81586 on 12/10/81; comment period closed 3/9/82: NTIS# PB81-157851.
 - PD 4 published 48 FR 45956 on 10/7/83: NTIS# PB85-238004.
 - Emergency Suspension published 49 FR 4452 on 2/6/84: NTIS# PB85-235919. Uses to fumigate grain and grain milling equipment were suspended. Proposed tolerances for EDB in grains published 49 FR 6697 on 2/22/84.
 - Proposed tolerances for EDB in citrus and papayas published 49 FR 8407 on 3/6/84.
 - Amendment to Notice of Intent to Cancel registrations of pesticide products containing EDB published 49 FR 14182 on 4/10/84.
 - Final tolerances for EDB in grains published 49 FR 17144 on 4/23/84.
 - Final revocation of tolerances and establishment of interim tolerances for EDB in citrus and papaya published 49 FR 22082 on 5/25/84.
 - Proposed revocation of tolerances for miscellaneous commodities published 49 FR 32085 on 8/10/84.
 - Interim tolerance for EDB in mangoes was published 9/29/86. Tolerance expired 9/30/87.
 - Papaya registration voluntarily cancelled as of 3/87.
 - Use on citrus for export terminated at end of 1988/1989 harvest season.
 - Only remaining uses are vault fumigation, and quarantine fumigation of nursery stock.

FLUOROACETAMIDE

- Acute Toxicity to Mammalian and Avian Species
 - Reduction in Endangered Species and Non-Target
 - Acute Toxicity without Antidote
- PD 1 published 41 FR 52792 on 12/1/76: NTIS# PB80-216823.
 - PD 2 published 45 FR 13189 on 2/28/80: NTIS# PB80-216831.
 - Chemical returned to registration process with the restriction that it be used only in sewers.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

GOAL (Oxyfluorfen)

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| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • PD 1/2/3 published 46 FR 23490 on 4/27/81; comment period closed 5/11/81: NTIS# PB82-185133. • PD 4 published 47 FR 27118 on 6/23/82: NTIS# PB82-172289. • Decision made to continue use of the herbicide subject to certain restrictions (on PCE) pertaining to formulation of product. |
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INORGANIC ARSENICALS (wood use)

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Developmental
Toxicity | <ul style="list-style-type: none"> • PD 1 published 43 FR 48267 on 10/18/78; comment period closed 2/12/79: NTIS# PB87-181327. • PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956. • At 4/14/83 public meeting proposed conclusion presented; comment period closed 5/15/83. • PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes, including a restricted use classification. • Subsequently, two FR notices were published: 49 FR 43772 on 10/31/84, and 50 FR 4269 on 1/30/85. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

INORGANIC ARSENICALS (non-wood use)

- Carcinogenicity
 - Mutagenicity
 - Developmental Toxicity
- PD 1 published 43 FR 42867 on 10/18/78; comment period closed 2/12/79: NTIS# PB87-181327.
 - PD 2/3 published 52 FR 132 on 1/2/87; comment period closed 2/17/87. Following uses were not included: 1) calcium arsenate use as turf herbicide, 2) lead arsenate use as grapefruit growth regulator, 3) sodium arsenite use as grape fungicide, and 4) arsenic acid use as dessicant: NTIS# PB92-114297.
 - PD 4 excluding above 4 uses published 53 FR 24787 on 6/30/88. a) Registrants of ant bait formulations filed hearing request on 7/29/88. Use of sodium arsenate as ant bait cancelled on 7/26/89 upon completion of hearing. b) All registrations cancelled except for arsenic trioxide use as insecticide and mole/gopher control: NTIS# PB92-114305.
 - PD 2/3 for remaining four uses published 56 FR 50576 on 10/7/91; however, three of the remaining four uses had already been voluntarily cancelled: a) lead arsenate - 9/87; b) calcium arsenate - 2/89; c) sodium arsenite - 11/90 (56 FR 28154 on 6/19/91).
 - Lead/calcium arsenate tolerance revocation proposals published 55 FR 33332 on 8/15/90. Final revocations published 56 FR 13593 on 4/3/91.
 - PD 4 published 58 FR 64579 on 12/8/93. Concluded the Special Review for the remaining non-wood uses of inorganic arsenicals: lead arsenate growth regulator on citrus, calcium arsenate herbicide on turf, sodium arsenite fungicide on grapes and arsenic acid desiccant on okra for seed and cotton.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

LINDANE

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|--|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Developmental Toxicity • Reproductive Effects • Other Chronic Effects • Acute Toxicity | <ul style="list-style-type: none"> • PD 1 published 42 FR 9816 on 2/18/77; comment period closed on 6/20/77: NTIS# PB80-213861. • PD 2/3 published 45 FR 45362 on 7/3/80; comment period closed 9/15/80: NTIS# PB87-165080. • PD 4 published 48 FR 48512 on 10/19/83: NTIS#PB87-165098. The decision cancelled the indoor use of smoke fumigation devices and the use of dog dips to treat pests other than mites. All other uses will continue with use restrictions and label modifications. • Negotiated settlement on dog dips published 49 FR 26282 on 6/27/84. A settlement on smoke bombs published 50 FR 5425 on 2/8/85 to end sale of product by 5/31/86 for registrant and by 11/30/86 for retailer. • Due to international concerns about persistent organochlorine pesticides (POPs), an international consortium of lindane producers has promised to limit its use, starting with their U.S. registration. Most uses of the major U.S. registrant's lindane product may be voluntarily cancelled. Other registrants also may limit use of their lindane products in this country. |
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LINURON

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • PD 1 published 49 FR 37843 on 9/26/84; (rebutted) comment period closed 11/10/84: NTIS# PB85-174654. • Preliminary Decision to Conclude Special Review published 53 FR 31262 on 8/17/88. • Final Determination to Conclude published 54 FR 4072 on 1/27/89. No regulatory action warranted. |
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MALEIC HYDRAZIDE

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| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Reproductive Effects | <ul style="list-style-type: none"> • PD 1 published 42 FR 56920 on 10/28/77; comment period closed 12/14/77: NTIS# PB80-216740. • Decision Document published 47 FR 498 on 1/5/82: NTIS# PB82-240300. This action returned maleic hydrazide and salts (K-MH, DEA-MH) to the registration process. • All required data have been submitted to the Agency. • Registrants decided not to perform similar tests on DEA-MH. Thus, DEA-MH was suspended 11/81. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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PCNB (Pentachloronitrobenzene)

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| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• PD 1 published 42 FR 61894 on 10/13/77; comment period closed 2/6/78: NTIS# PB80-216799.• Special Review was terminated through negotiated agreement with registrants to reduce levels of the HCB contaminant and to make label changes to reduce exposure. Published 47 FR 18177 on 4/19/82. |
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PENTACHLOROPHENOL (non-wood use)

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|--|---|
| <ul style="list-style-type: none">• Carcinogenicity• Developmental
Toxicity | <ul style="list-style-type: none">• PD 1 published 43 FR 48443 on 10/18/78: NTIS# PB87-109464.• PD 2/3 published 49 FR 48367 on 12/12/84; comment period closed 2/14/86: NTIS# PB87-119095. Special Review on oil well, cooling tower, and pulp and paper uses deferred until exposure data are received. Data call-in issued 8/4/88.• PD 4 published 52 FR 2282 on 1/21/87: NTIS# PB87-204707. Non-deferred uses cancelled.• Amendment to PD 4 (clarifying uses) published 53 FR 5524 on 2/24/88.• PD 4 published 58 FR 7848 on 2/9/93 announcing termination of the Special Review for non-wood use. Registrants either voluntarily cancelled registrations or allowed registrations to be cancelled because of non-payment of required annual registration maintenance fees. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

PENTACHLOROPHENOL (wood use)

- Carcinogenicity
 - Fetotoxicity
 - Developmental Toxicity
- PD 1 published 43 FR 48443 on 10/18/78; comment period closed 2/12/79: NTIS# PB81-109464.
 - PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956.
 - At 4/14/83 public meeting proposed conclusion presented; comment period closed 5/13/83.
 - PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes including a restricted use classification.
 - Subsequently, two FR notices were published: 49 FR 43772 on 10/31/84 and 50 FR 4269 on 1/30/85.
 - Amendment to PD 4 published 51 FR 1334 on 1/10/86.
 - Amendment to amended PD 4 published 52 FR 140 on 1/2/87.

PRONAMIDE

- Carcinogenicity
- PD 1 published 42 FR 32302 on 5/20/77; comment period closed 8/29/77: NTIS# PB81-109472.
 - PD 2/3 published 44 FR 3083 on 1/15/79; comment period closed 2/14/79: NTIS# PB80-213911.
 - PD 4 published 44 FR 61640 on 10/26/79: NTIS# PB81-112716. The following actions were taken: Cancellation of registration of products allowing hand spray applications, except for use on ornamentals and nursery stock; cancellation of registrations of products unless the registrant modifies the terms and conditions to allow certain uses of wettable powder products only by or under direct supervision of certified applicators; modification of labeling of wettable powder products to include specific general precautions, directions as to protective clothing to be worn, dilution instructions for wettable powder products, and watering instructions for granular products used on turf; and Agency revision of the lettuce tolerance from 2 ppm to 1 ppm from required residue data that was submitted.

SODIUM FLUOROACETATE (Compound 1080)

- Reduction in Non-Target and Endangered Species
- PD 1 published 41 FR 52792 on 12/1/76; comment period closed
 - No Antidote 3/15/77: NTIS# PB80-216823.
 - PD 2/3 signed on 11/11/82; re-signed on 6/29/83; published 48 FR 50935 on 11/4/83: NTIS# PB87-182226. Issuance of PD delayed to coincide with document addressing predator issues.
 - SAP reviewed PD 2/3 and issued a final report on 7/3/84, following 6/12/84 SAP meeting.
 - PD 4 published 50 FR 31012 on 7/31/85: NTIS# PB87-116471. Modified labeling and certain bait concentration reductions required.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

STRYCHNINE/STRYCHNINE SULFATE

- Reduction in Non-target and Endangered Species
 - PD 1 published 42 FR 2713 on 1/13/77; comment period closed 3/15/77: Endangered NTIS# PB80-216807.
 - PD 2/3 published 45 FR 73602 on 11/5/80; comment period closed 9/30/81: NTIS# PB81-123960.
 - PD 4 published 48 FR 48522 on 10/19/83: NTIS# PB87-182234. Decision cancelled use of strychnine for control of prairie dogs and several other rodents and small mammals. All other uses will require label modifications.
 - Notice published 52 FR 6762 on 3/4/87 withdrawing partial cancellation of strychnine active ingredient pesticides for prairie dog, ground squirrel, and meadow mouse control if certain modifications of terms and conditions of registration are made. Terms and conditions include: establishment of a State program for exclusive distribution and monitoring of strychnine for use on prairie dogs; compliance with Black-Footed Ferret Survey Guidelines; and use of certain label statements.

2,4,5-T/SILVEX

- Carcinogenicity
- Fetotoxicity
- Developmental Toxicity
 - 2,4,5-T PD 1 published 43 FR 17116 on 4/21/78; comment period closed 6/5/78: NTIS# PB80-212665.
 - 2,4,5-T: PD 2/3 published 44 FR 41536 on 7/17/79; comment period closed 8/16/79: NTIS# PB87-117685.
 - Silvex: PD 1/2/3 published 44 FR 41536 on 7/17/79; comment period closed 8/16/79: NTIS# PB80-213895.
 - Emergency Suspension Order and Notice of Intent to Cancel published 44 FR 15874 on 3/15/79. 2,4,5-T: NTIS# PB80-225923; Silvex: PB80-226376.
 - 2,4,5-T/Silvex--PD 4 published 44 FR 72316 on 12/13/79: NTIS# PB87-181384.
 - Cancellation hearings began 3/14/80.
 - On 10/11/84, the Administrative Law Judge gave Union Carbide 30 days to determine if they wanted to defend 2,4,5-T/Silvex uses. Union Carbide and remaining companies withdrew from the hearing and all registrations were cancelled on 1/2/85.

2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

THIOPHANATE-METHYL

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|---|--|
| <ul style="list-style-type: none"> • Mutagenicity • Carcinogenicity • Reduction in Non-target Species (Rebutted) | <ul style="list-style-type: none"> • PD 1 published 42 FR 61970 on 12/7/77; comment period closed 3/27/78: NTIS# PB80-216856. • PD 2/3 published 44 FR 58798 on 10/11/79; comment period closed 11/12/79: NTIS# PB87-119087. • PD 4 published 47 FR 46747 on 10/20/82: NTIS# PB83-148189. No regulatory action warranted. |
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TOXAPHENE

- | | |
|--|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Population Reduction in Non-Target Animal Species • Acute Toxicity to Aquatic Organisms • Chronic Effects to Wildlife | <ul style="list-style-type: none"> • PD 1 published 42 FR 26860 on 5/27/77; comment period closed 6/13/77: 5/27/77; comment period closed NTIS# PB80-216732. • PD 2/3/4 published 47 FR 53784 on 11/29/82: NTIS# PB83-144204. Cancellation of registrations for most uses and continued registration of certain uses under specific terms and conditions. The continued uses are: corn, cotton, and small grain for specific insect infestation (emergency use only); pineapples and bananas for specific insects in Puerto Rico and the Virgin Islands only; and scabies treatments of cattle and sheep. |
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2,4,5-TRICHLOROPHENOL (TCP)

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Fetotoxicity | <ul style="list-style-type: none"> • PD 1 published 43 FR 34026 on 8/2/78; comment period closed 11/17/78: NTIS# PB81-103111. • Action temporarily deferred pending 2,3,5-T/Silvex proceedings. • 3(c)(2)(B) letter issued on May 7, 1985 requesting updated Confidential Statement of Formula, analysis for dioxin contamination, and teratology data. Most products were voluntarily cancelled in response. • PD 2/3/4 published 52 FR 15549 on 4/29/87: NTIS# PB87-203113. Cancellation of all uses. |
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2. Special Reviews Completed (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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TRIFLURALIN

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|--|---|
| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity | <ul style="list-style-type: none">• PD 1/2/3 published 44 FR 50911 on 8/30/79; comment period closed 11/13/79: NTIS# PB80-213937.• PD 4 published 47 FR 33777 on 8/4/82: NTIS# PB82-263252. Registration allowed to continue if total N-nitrosamine contamination is kept below 0.5 ppm for technical products, and below a figure based on trifluralin content for formulated products.• RED published April 1996. |
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3. Final Determinations on Pre-Special Reviews/Deferred to Reregistration

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

CACODYLIC ACID AND SALTS

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Developmental Toxicity | <ul style="list-style-type: none"> • Insufficient evidence to issue a Special Review. • Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB91-234278. Returned to the registration process with the stipulation that, pursuant to section 3(c)(2)(B), data on the rate of dermal absorption be submitted, knapsack/hand sprayer applicators treating ditch banks and rights-of-way will wear respirators or masks, and labels recommend masks for home users employing knapsacks or hand sprayers. The data was submitted and the Agency did not impose labeling changes. |
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CARBARYL

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Developmental Toxicity | <ul style="list-style-type: none"> • Decision Document published 45 FR 81869 on 12/12/80: NTIS# PB87-181301. The Agency has returned this compound to the registration process with the stipulation that the following measures be considered: (1) a section 3(c)(2)(B) action that registrants remedy data gaps identified in pre-special review and (2) appropriate label changes be made to minimize exposure to carbaryl. |
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CHLORINATED ISOCYANURATES

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| <ul style="list-style-type: none"> • Kidney Effects | <ul style="list-style-type: none"> • The Agency concluded in the Registration Standard (5/20/88) that chlorinated isocyanurates do not exceed the risk criteria for adverse effects in 40 CFR 154.7. |
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DIFLUBENZURON (Dimilin)

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| <ul style="list-style-type: none"> • Hazard to Wildlife | <ul style="list-style-type: none"> • RPAR action completed and Decision Document issued on 3/26/79: NTIS# PB87-187191. Registrant consented to restricted use. • Agency concluded that existing evidence does not support issuance of a Special Review. |
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3. Final Determinations on Pre-Special Reviews/Deferred to Reregistration (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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LINDANE

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| <ul style="list-style-type: none">• Kidney effects | <ul style="list-style-type: none">• Grassley-Allen preliminary notification issued 9/18/85.• Docket index of material is available for public use.• Proposed Notice Not To Initiate Special Review published 59 FR 12916 on 3/18/94. EPA determined that kidney effects observed are specific to the male rat and are not relevant to human health risk.• Final decision published 60 FR 38329 on 7/26/95. EPA reaffirmed the findings of its proposed decision; but added that it would review the possible endocrine disruption effects of organochlorines as alleged in the literature. |
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METHANEARSONATES

(includes Amine Methanearsonate, Calcium Acid Methanearsonate (CAMA), Monosodium Methanearsonate (MSMA), Disodium Methanearsonate (DMSA))

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| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity | <ul style="list-style-type: none">• On 6/28/83, the pre-Special Review for methanearsonate chemicals was completed and a decision memorandum approved returning these chemicals to the registration process. The existing evidence was inadequate to initiate a Special Review.• 3(c)(2)(B) letter sent 9/26/83 requiring a chronic feeding, oncogenicity, teratology, and applicator exposure studies in order to determine if there are any risk concerns. |
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NALED

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| <ul style="list-style-type: none">• Mutagenicity• Fetotoxicity• Reproductive Effects | <ul style="list-style-type: none">• Chemical returned to the registration process on 6/30/83, based on a review of all available data which indicated that no Effects valid tests or definitive evidence existed which met or exceeded the Special Review risk criteria. |
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OBPA (10,10'-Oxybisphenoxarsine)

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| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Developmental Toxicity | <ul style="list-style-type: none">• Decision Document issued 4/9/79. (NTIS# not available). Returned to the registration process due to lack of Toxicity evidence of oncogenicity in the suspected arsenical compound. |
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3. Final Determinations on Pre-Special Reviews/Deferred to Reregistration (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

PARAQUAT DICHLORIDE

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| <ul style="list-style-type: none"> • Emergency Treatment • Chronic Effects | <ul style="list-style-type: none"> • Decision Document published 47 FR 45075 on 10/23/82: NTIS# PB87-181392. Outlined data gaps and voluntary cancellation of certain non-crop use sites. • RED published August 1997. |
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PARATHION (ETHYL)

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| <ul style="list-style-type: none"> • Acute Human Poisoning | <ul style="list-style-type: none"> • Grassley-Allen letter on acute human toxicity and avian trigger sent on 5/16/86. • Negotiated settlement in September 1991 resulted in voluntary cancellation of all but nine field crop uses. Cancellation order published in 56 FR 65061 on 12/13/91. • OPP reviewing ecological risk associated with the remaining nine uses as part of reregistration. |
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PHORATE

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| <ul style="list-style-type: none"> • Wildlife Adverse Effects | <ul style="list-style-type: none"> • Chemical was in pre-Special Review. • Grassley-Allen preliminary notification issued 12/12/88 for avian effects and 8/2/90 for aquatic effects. • Docket index of material is available for public use. • Chemical is currently being evaluated for reregistration; interim RED anticipated in 2000. |
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PIPERONYL BUTOXIDE

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| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB83-137901. Chemical returned to the registration process and a section 3(c)(2)(B) notice requesting additional data issued on 9/30/82. • Studies received 8/87 and reviewed 4/8/88 by Toxicology Branch. |
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PROPOXUR

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| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • Grassley-Allen preliminary notification issued 3/88. • Docket index of material is available for public use. • Proposed Notice not to Initiate Special Review published 60 FR 3210 on 1/15/95. • Final Notice not to Initiate Special Review published 61 FR 7508 on 2/28/96. |
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3. Final Determinations on Pre-Special Reviews/Deferred to Reregistration (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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ROTENONE

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| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Developmental Toxicity• Reproductive Effects• Chronic Effects• Significant Wildlife Population Reductions• Acute Toxicity to Aquatic Wildlife | <ul style="list-style-type: none">• Decision Document published 46 FR 36745 on 7/15/81 (NTIS# not available). Chemical returned to the registration process based on a finding of no unreasonable adverse effects. |
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TERBUFOS

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| <ul style="list-style-type: none">• Ecological Adverse Effects | <ul style="list-style-type: none">• Chemical was in pre-Special Review.• Grassley-Allen preliminary notification issued 12/12/88 for avian effects and 8/2/90 for aquatic effects.• Docket index of material is available for public use.• Chemical is currently being evaluated for reregistration; interim RED anticipated in 2000. |
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TERBUTRYN

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|---|--|
| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Reproductive Effects | <ul style="list-style-type: none">• Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB91-206573.• Chemical returned to the registration process. Registrants agreed to change label to reduce applicator risk to acceptable levels. |
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3. Final Determinations on Pre-Special Reviews/Deferred to Reregistration (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

TRIALATE

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| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity | <ul style="list-style-type: none"> • Decision Document published 45 FR 92349 on 12/15/80: NTIS# PB90-259920. The Agency determined that, in light of the low level of exposure, the chemical should be returned to the registration process stipulating that a section 3(c)(2)(B) action be initiated to obtain necessary toxicity data to evaluate its hazards. • 3(c)(2)(B) was issued on 6/15/84 to include the data needs. |
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S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE

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| <ul style="list-style-type: none"> • Neurotoxicity | <ul style="list-style-type: none"> • Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB87-186789. • Returned to the registration process based on a finding of no unreasonable adverse effects. Registrants agreed to protective clothing requirement. |
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TRIBUTYL PHOSPHOROTRITHIOATE

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|---|--|
| <ul style="list-style-type: none"> • Neurotoxicity | <ul style="list-style-type: none"> • Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB87-186797. • Returned to the registration process based on a finding of no unreasonable adverse effects. Registrants agreed to protective clothing requirement. |
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TRICHLORFON

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Developmental Toxicity • Reproductive Effects | <ul style="list-style-type: none"> • Chemical returned to the registration process on 6/30/83 based on a review of all available data which indicated that no valid tests or definitive evidence existed which met or exceeded the Special Review risk criteria. |
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4. Final Actions/Voluntary Cancellations

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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ACRYLONITRILE

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|--|---|
| <ul style="list-style-type: none">• Carcinogenicity• Developmental Toxicity• Neurotoxicity | <ul style="list-style-type: none">• 43 FR 26310 (6/19/78). Three products only. |
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ARSENIC TRIOXIDE

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|---|--|
| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Developmental Toxicity | <ul style="list-style-type: none">• 42 FR 45944 (9/13/77). Some uses were cancelled. |
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BENZENE

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|--|--|
| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Blood Disorders | <ul style="list-style-type: none">• All products voluntarily cancelled on 7/31/85. |
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BHC

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|---|---|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• 43 FR 31432 (7/21/78). NTIS# PB80-216781. |
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CAPTAFOL

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|---|---|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• All products voluntarily cancelled 5/15/87. |
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4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

CARBON TETRACHLORIDE

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Toxic Effects on Liver and Kidneys | <ul style="list-style-type: none"> • 50 FR 42997 (10/23/85). Many products cancelled. |
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CHLORANIL

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • 42 FR 3702 (1/19/77). |
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CHLORDANE

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|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • 53 FR 11798 4/8/88 announced cancellation of many termiticide products and termination of sale, distribution, and use (except by homeowners) as of 4/15/88. • Primary registrant agreed 8/11/87 to cancel some registrations and not to market any remaining registrations in the U.S. unless air-monitoring studies showed no detectable, air-borne residues. Conditions of the study requirements were not met; thus, the remaining two registrations were terminated per agreement on 8/11/94. |
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CHLORDIMEFORM

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| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • Proposed decision not to initiate Special Review due to voluntary cancellation of all products published 53 FR 36422 on 9/19/88. • Final decision published 54 FR 6242 on 2/8/89 allowed use of existing stocks by end users until 10/1/89. |
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COPPER ACETOARSENITE

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity • Developmental Toxicity | <ul style="list-style-type: none"> • 42 FR 18422 (4/7/77). |
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4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
COPPER ARSENATE	
• Carcinogenicity (Basic)	• 42 FR 18422 (4/7/77).
CYHEXATIN	
• Developmental Toxicity	• All products voluntarily cancelled 9/25/87.
ENDRIN	
• Reduction in Endangered Species and Non- Target Species	• Cancellation of all uses except one effective 9/12/85.
EPN (Ethyl(p-nitrophenyl)thiobenzene phosphonate)	
• Neurotoxicity • Hazard to Aquatic Organisms	• All products voluntarily cancelled on 7/24/87.
ERBON	
• Carcinogenicity • Developmental Toxicity • Fetotoxicity	• 45 FR 58770 (10/4/80).

4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

HEPTACHLOR

- Carcinogenicity
 - 53 FR 11798 (4/8/88) announced cancellation of many termiticide products and termination of sale, distribution, and use (except homeowner products) as of 4/15/88. All remaining products are withdrawn or suspended under section 3(c)(2)(B).
 - Major registrant Velsicol agreed on 8/11/87 to cancel some termiticide products and withdraw all others unless indoor air monitoring studies showed no detectable levels. Conditions of the study requirements were not met; thus, the remaining termiticide registrations were terminated per agreement on 8/11/94.
 - The final remaining registered product for use in underground junction boxes to control fire ants was voluntarily cancelled on 7/29/99, allowing use of existing stocks through 1/15/00.

MERCURY

- Acute to Subchronic Human Inhalation Exposure Toxicity
 - 6(f) notice published 55 FR 26754 on 6/29/90. Negotiated settlement resulted in cancellation of all indoor paint uses.
 - 6(f) notice published 56 FR 105 on 5/31/91. Negotiated settlement resulted in cancellation of all exterior paint uses. (Cancellation orders published 56 FR 31403 and 56 FR 31404 on 7/10/91.)

METAM-SODIUM

- Acute Dermal Toxicity
- Inhalation Hazard
- Developmental Toxicity
 - Notice of Intent to Cancel was published 59 FR 48430 on 9/21/94. A hearing was requested.
 - The FY95 expected output is a settlement of this litigation to include a change in classification of the products that were subject to FY94 NOIC to restricted use products and a FR notice announcing classification of the sewer use products as restricted use products and terminating the cancellation activity.

METHAZOLE

- Ocular effects
 - Voluntary cancellation/Cancellation order published 58 FR 4167 on 1/3/93. Cancellation order restricts sale and distribution of existing stocks until additional data review is completed. Final decision expected by 5/93.
 - Voluntary Cancellation/Cancellation Order published 58 FR 4167 on 1/13/93. Cancellation order amendment published 58 FR 30166 on 5/26/93 allowing conditional distribution, sale and use of existing stocks until 12/31/93. Second amendment to be published 59 FR 15410 on 4/1/94 extending stocks provision date until 12/31/94.

4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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MEVINPHOS

- | | |
|---|--|
| <ul style="list-style-type: none">• Acute Worker Risk | <ul style="list-style-type: none">• All uses voluntarily cancelled July 1, 1994 allowing the distribution and sale through 12/31/94 and use until 2/28/95.• Cancellation published 59 FR 38973 on 8/1/94.• Existing stock provisions modified on 1/13/95 to allow distribution, sale, and use through 11/30/95.• Recall process of all mevinphos products, including products in the hands of growers, will commence on 12/1/95.• Amendment to cancellation published 60 FR 17351 on 4/5/95. |
|---|--|

MONOCROTOPHOS

- | | |
|---|--|
| <ul style="list-style-type: none">• Avian Effects | <ul style="list-style-type: none">• All products voluntarily cancelled on 7/15/88. |
|---|--|

MONURON

- | | |
|---|---|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• 42 FR 41320 (8/16/77). Some products cancelled. |
|---|---|

NITROFEN (TOK)

- | | |
|---|--|
| <ul style="list-style-type: none">• Developmental Toxicity• Carcinogenicity• Mutagenicity | <ul style="list-style-type: none">• All products voluntarily cancelled on 9/15/83. |
|---|--|

OMPA (Octamethylpyrophosphoramidate)

- | | |
|---|--|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• 41 FR 21859 (5/28/76). |
|---|--|

4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

PARATHION (ETHYL)

- | | |
|--|---|
| <ul style="list-style-type: none"> • Acute Human Poisoning • Avian | <ul style="list-style-type: none"> • Negotiated settlement agreement resulted in voluntary cancellation of all but nine field crop uses. 6(f) Notice published 56 FR 65061 on 12/13/91. Amendment permitting limited use of existing stocks of cancelled products published 57 FR 3500 on 1/29/92. |
|--|---|

PERTHANE

- | | |
|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • 45 FR 41694 (6/20/80). Many products cancelled. |
|---|---|

PHENARSAZINE CHLORIDE

- | | |
|--|---|
| <ul style="list-style-type: none"> • None | <ul style="list-style-type: none"> • 42 FR 59776 (11/21/77). |
|--|---|

RONNEL

- | | |
|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • 51 FR 2953 (1/22/86). Many products cancelled. |
|---|--|

SAFROLE

- | | |
|---|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Mutagenicity | <ul style="list-style-type: none"> • 42 FR 11039 (2/25/77). • 42 FR 16844 (3/30/77). • 42 FR 29957 (6/10/77). |
|---|--|

SIMAZINE (Swimming Pool Uses)

- | | |
|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Chronic Effects
(Reduction in body weight gain, hematological effects) | <ul style="list-style-type: none"> • Notice of Cancellation of 17 product registrations published 59 FR 18120 on 4/15/94. • Notice of Cancellation of 1 product registration published 59 FR 27016 on 5/25/94. • Notice of Intent to Cancel for 4 product registrations published 59 FR 34614 on 7/6/94 because of unreasonable adverse effects on the environment. The Notice of Intent to Cancel became the final cancellation order 30 days following its publication in the <i>Federal Register</i>. |
|---|---|

4. Final Actions/Voluntary Cancellations (continued)

Pesticide and Review Criteria Possibly Met or Exceeded	Final Determination
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SODIUM ARSENITE

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|---|---|
| <ul style="list-style-type: none">• Carcinogenicity• Mutagenicity• Developmental Toxicity | <ul style="list-style-type: none">• 43 FR 48267 (10/18/78). Two products cancelled. |
|---|---|

SPOROCIDIN

- | | |
|--|---|
| <ul style="list-style-type: none">• Ineffective Sterilant Claims | <ul style="list-style-type: none">• Stop Sale, Use and Removal Orders were issued in December 1991 due to product inefficacy and misbranding. The registrant requested voluntary cancellation and a 6(f) notice was published 58 FR 37931 on 7/14/93. |
|--|---|

STROBANE

- | | |
|---|--|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• 41 FR 26607 (6/28/76). |
|---|--|

TRYSBEN

- | | |
|---|--|
| <ul style="list-style-type: none">• Carcinogenicity | <ul style="list-style-type: none">• 43 FR 5782 (2/9/78). |
|---|--|

WIPE OUT

- | | |
|---|--|
| <ul style="list-style-type: none">• Ineffective Sterilant | <ul style="list-style-type: none">• Notice of Intent to Cancel published 58 FR 41779 on 8/5/93 due to sterilant product's false efficacy label claims. Registrant requested hearings, but withdrew from litigation in July 1997.• Wipe Out (#58994-1) cancelled for non-payment of registration maintenance fee on 7/28/97. |
|---|--|

5. Cancellations Issued Prior to RPAR/Special Review Process

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

ALDRIN/DIELDRIN

- | | |
|--|--|
| <ul style="list-style-type: none"> • Carcinogenicity • Bio-accumulation • Hazard to Wildlife • Other Chronic Effects | <ul style="list-style-type: none"> • 37 FR 37246 (10/18/74). Cancellation of all but termiticide use. |
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CHLORDANE/HEPTACHLOR

- | | |
|--|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Reductions in Non-target and Endangered Species | <ul style="list-style-type: none"> • 43 FR 12372 (3/24/78). Cancellation of all but termiticide use. |
|--|---|

CHLORDECONE (KEPONE)

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|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity | <ul style="list-style-type: none"> • 42 FR 18885 (4/11/77) and 42 FR 38205 (7/27/77). NTIS# PB80-216773. |
|---|---|

DDD (TDE) (Dichlorodiphenyl dichloroethane)

- | | |
|---|---|
| <ul style="list-style-type: none"> • Carcinogenicity • Bio-accumulation • Hazard to Wildlife and Other Chronic Effects | <ul style="list-style-type: none"> • 36 FR 5254 (3/18/71). |
|---|---|

5. Cancellations Issued Prior to RPAR/Special Review Process (continued)

Pesticide and Review Criteria Possibly Met or Exceeded

Final Determination

DDT (Dichlorodiphenyl trichloroethane)

- Carcinogenicity
 - Bio-accumulation
 - Hazard to Wildlife and Other Chronic Effects
- 37 FR 13369 (7/7/72). Cancellation of most uses.

MIREX

- Carcinogenicity
 - Bio-accumulation
 - Hazard to Wildlife and Other Chronic Effects
- 41 FR 56703 (12/29/76).