

Chemicals Evaluated for Carcinogenic Potential

Science Information Management Branch
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BACKGROUND

What is this list?

The List of Chemicals Evaluated for Carcinogenic Potential provides an overview of the compounds evaluated for carcinogenicity by the Health Effects Division of the Office of Pesticide Programs. It also includes evaluations by other groups that HED may use until HED completes its evaluation. This list includes pesticide active ingredients that have been submitted to EPA for registration, reregistration, or special review. The registration of some of these pesticides has been canceled.

As new information becomes available, the list may become out-of-date. Therefore, it should not be used as the sole reference regarding the carcinogenic potential for a pesticide. EPA intends to update the list as new evaluations or re-evaluations are completed.

How does EPA review pesticides for potential carcinogenicity?

The Health Effects Division of the Office of Pesticide Programs performs an independent review of studies conducted in mice and rats to evaluate the carcinogenic potential of pesticides. The results of the independent review are peer-reviewed by the Cancer Assessment Review Committee. This committee recommends a cancer classification. The classification will determine how the Agency regulates the pesticide and will include methods for quantification of human risk. In some cases, EPA also requests review by the FIFRA Scientific Advisory Panel. For some chemicals, other groups of EPA scientists have provided the assessment, and OPP uses these assessments.

What factors does EPA consider in its review of cancer risk?

When assessing possible cancer risk posed by a pesticide, EPA considers how strongly carcinogenic the chemical is (its potency) and the potential for human exposure. The pesticides are evaluated not only to determine if they cause cancer in laboratory animals, but also as to their potential to cause human cancer. For any pesticide classified as a potential

carcinogen, the risk would depend on the extent to which a person might be exposed (how much time and to what quantity of the pesticide). The factors considered include short-term studies, long-term cancer studies, mutagenicity studies, and structure activity concerns. (The term "weight-of-the-evidence" is used in referring to such a review. This means that the recommendation is not based on the results of one study, but on the results of all studies that are available.)

When does EPA review pesticides for potential carcinogenicity?

EPA reviews studies submitted when a pesticide is proposed for registration. Studies are required in two species (mice and rats) and two sexes (males and females). These studies are required for all pesticides used on food and some non-food pesticides that could lead to long-term exposures in humans. These studies may be reviewed again when a pesticide undergoes reregistration and the cancer classification may be re-evaluated, particularly if new studies have been submitted.

Why are there several different cancer classifications in the list?

EPA's guidelines for evaluating the potential carcinogenicity of chemicals have been updated over the years to reflect increased understanding of ways chemicals may cause cancer. The current guidelines call for greater emphasis on characterization discussions for hazard, dose-response assessment, exposure assessment, and risk characterization, as well as the use of mode of action in the assessment of potential carcinogenesis. EPA does not have the resources to re-evaluate every chemical to determine how it would be described under new guidelines, and there is no reason to re-evaluate chemicals unless there is some new information that could change the basic understanding of that chemical.

How have the guidelines changed?

EPA issued its first set of principles to guide evaluation of human cancer potential in 1976. In 1986, EPA

issued updated guidance, which included a letter system (A-E) for designating degree of carcinogenic potential. In the 1986 guidelines, hazard identification and the weight-of-evidence process focused on tumor findings. The human carcinogenic potential of agents was characterized by a six-category alphanumeric classification system (A, B1, B2, C, and D).

In 1996, EPA released "Proposed Guidelines for Carcinogen Risk Assessment," which used descriptive phrases rather than the alphanumeric classification to classify carcinogenic potential. In the 1996 classification structure, increased emphasis was placed on discussing characterization of hazard, dose-response, and exposure assessments. The hazard and weight of evidence process embraced an analysis of all relevant biological information and emphasized understanding the agent's mode of action in producing tumors to reduce the uncertainty in describing the likelihood of harm.

By 1999, the science related to carcinogens had advanced significantly. EPA issued draft guidelines that continued the greater emphasis on

characterization discussions for hazard, dose-response assessment, exposure assessment, risk characterization and the use of mode of action in the assessment of potential carcinogenesis. In addition, the guidelines included consideration of risk to children, as well as addressing other issues such as nuances related to the amount and adequacy of data on a chemical.

How do the different designations compare?

The short answer is that they cannot be directly compared. Each system's designations refer to the reviews and criteria it contains. A substance that is, for example, a "C" in the 1986 system may not be directly translatable to any particular category in the later systems. The designation for any substance must be considered in the context of the system under which it was reviewed.

A list of the descriptors from the various classification systems and their definitions follows.

Carcinogenicity Classification of Pesticides: Derivation and Definition of Terms

CLASSIFICATION–1999 Draft

The most recent EPA guidance for carcinogenicity classification is presented in the July 1999 “Review Draft of the Guidelines for Carcinogen Risk Assessment.” The terms used in this document are listed and described as follows:

CARCINOGENIC TO HUMANS. This descriptor is appropriate when there is convincing epidemiologic evidence demonstrating causality between human exposure and cancer. This descriptor is also appropriate when there is an absence of conclusive epidemiologic evidence to clearly establish a cause and effect relationship between human exposure and cancer, but there is compelling evidence of carcinogenicity in animals and mechanistic information in animals and humans demonstrating similar mode(s) of carcinogenic action. It is used when all of the following conditions are met:

- There is evidence in a human population(s) of association of exposure to the agent with cancer, but not enough to show a causal association, and
- There is extensive evidence of carcinogenicity, and
- The mode(s) of carcinogenic action and associated key events have been identified in animals, and
- The key events that precede the cancer response in animals have been observed in the human population(s) that also shows evidence of an association of exposure to the agent with cancer.

LIKELY TO BE CARCINOGENIC TO HUMANS. This descriptor is appropriate when the available tumor effects and other key data are adequate to demonstrate carcinogenic potential to humans. Adequate data are within a spectrum. At one end is evidence for an association between human exposure to the agent and cancer and strong experimental evidence of carcinogenicity in animals; at the other, with no human data, the weight of experimental evidence shows animal carcinogenicity by a mode or modes of action that are relevant or assumed to be relevant to humans.

SUGGESTIVE EVIDENCE OF CARCINOGENICITY,

BUT NOT SUFFICIENT TO ASSESS HUMAN CARCINOGENIC POTENTIAL. This descriptor is appropriate when the evidence from human or animal data is suggestive of carcinogenicity, which raises a concern for carcinogenic effects but is judged not sufficient for a conclusion as to human carcinogenic potential. Examples of such evidence may include: a marginal increase in tumors that may be exposure-related, or evidence is observed only in a single study, or the only evidence is limited to certain high background tumors in one sex of one species. Dose-response assessment is not indicated for these agents. Further studies would be needed to determine human carcinogenic potential.

DATA ARE INADEQUATE FOR AN ASSESSMENT OF HUMAN CARCINOGENIC POTENTIAL. This descriptor is used when available data are judged inadequate to perform an assessment. This includes a case when there is a lack of pertinent or useful data or when existing evidence is conflicting, e.g., some evidence is suggestive of carcinogenic effects, but other equally pertinent evidence does not confirm a concern.

NOT LIKELY TO BE CARCINOGENIC TO HUMANS. This descriptor is used when the available data are considered robust for deciding that there is no basis for human hazard concern. The judgment may be based on—

- Extensive human experience that demonstrates lack of carcinogenic effect (e.g., phenobarbital).
- Animal evidence that demonstrates lack of carcinogenic effect in at least two well- designed and well-conducted studies in two appropriate animal species (in the absence of human data suggesting a potential for cancer effects).
- Extensive experimental evidence showing that the only carcinogenic effects observed in animals are not considered relevant to humans (e.g., showing only effects in the male rat kidney due to accumulation of ²u-globulin).
- Evidence that carcinogenic effects are not likely by a particular route of exposure
- Evidence that carcinogenic effects are not anticipated below a defined dose range.

CLASSIFICATION–1996

In April 1996, EPA released the “Proposed Guidelines for Carcinogen Risk Assessment.” This scheme varied from the earlier 1986 scheme in that it used descriptors rather than letters to classify carcinogenic potential. The descriptors are:

KNOWN/LIKELY. This category of descriptors is appropriate when the available tumor effects and other key data are adequate to convincingly demonstrate carcinogenic potential for humans.

CANNOT BE DETERMINED. This category of descriptors is appropriate when available tumor effects or other key data are suggestive or conflicting or limited in quantity and, thus, are not adequate to convincingly demonstrate carcinogenic potential for humans. In general, further agent specific and generic research and testing are needed to be able to describe human carcinogenic potential.

NOT LIKELY. This is the appropriate descriptor when experimental evidence is satisfactory for deciding that there is no basis for human hazard concern, as follows (in the absence of human data suggesting a potential for cancer effects).

1986 CLASSIFICATION

The following cancer classification scheme was first introduced in 1986. It was used until 1996.

GROUP A–HUMAN CARCINOGEN. This group is used only when there is sufficient evidence from epidemiologic studies to support a causal association between exposure to the agents and cancer.

GROUP B–PROBABLE HUMAN CARCINOGEN.

This group includes agents for which the weight of evidence of human carcinogenicity based on epidemiologic studies is "limited" and also includes agents for which the weight of evidence of carcinogenicity based on animal studies is "sufficient." The group is divided into two subgroups. **Group B1** is reserved for agents for which there is limited evidence of carcinogenicity from epidemiologic studies. **Group B2** is used for Agents for which there is "sufficient: evidence from animal studies and for which there is "inadequate evidence" or "no data" from epidemiologic studies.

GROUP C–POSSIBLE HUMAN CARCINOGEN.

This group is used for agents with limited evidence of carcinogenicity in animals in the absence of human data.

GROUP D–NOT CLASSIFIABLE AS TO HUMAN

CARCINOGENICITY. This group is generally used for agents with inadequate human and animal evidence of carcinogenicity or for which no data are available.

GROUP E–EVIDENCE OF NON-CARCINOGENICITY

FOR HUMANS. This group is used for agents that show no evidence for carcinogenicity in at least two adequate animal tests in different species or in both adequate epidemiologic and animal studies.

Last update: 5/10/02

List of Chemicals Evaluated for Carcinogenic Potential

Science Information Management Branch
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CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION	Reviewed by (Date)
2,4-D (acid)	94-75-7	030001	Group D--Not Classifiable as to Human Carcinogenicity)	OPP (1/29/97)
2-Benzyl-4-chlorophenol	120-32-1	062201	Group C--Possible Human Carcinogen	OPP (9/5/95)
AC 263222 (Cadre herbicide) Imazapic	81334-60-3	129041	Group E--Evidence of non-carcinogenicity for humans	OPP (9/27/95)
AC 299,263 Imazamox	114311-32-9	129171	Not Likely to be carcinogenic to humans	OPP (2/27/97)
Acephate	30560-19-1	103301	Group C--Possible Human Carcinogen	OPP (5/8/85)
Acetaldehyde	75-07-0	202300	Group B2--Probable Human Carcinogen	CRAVE)† (1/13/88)
Acetamide	60-35-5	n/a	Group C--Possible Human Carcinogen	OPP (5/29/90)
Acetochlor	34256-82-1	121601	Group B2--Probable Human Carcinogen	OPP (1/27/92)
Acetone	67-64-1	044101	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (12/6/89)
Acetophenone	98-86-2	129033	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (11/7/90)
Acibenzolar-S-methyl	135158-54-2	061402	Not likely to be carcinogenic to humans	OPP (12/9/99)
Acifluorfen, sodium	62476-59-9	114402	Group B2--Probable Human Carcinogen	OPP (3/17/88)
Acrinathrin	101007-06-1	129141	Group D--Not Classifiable as to Human Carcinogenicity	OPP (7/15/96)
Acrolein	107-02-8	000701	Group C--Possible Human Carcinogen	CRAVE (12/2/87)
Acrylamide	79-06-1	600008	Group B2--Probable Human Carcinogen	CRAVE (5/25/88)
Acrylonitrile	107-13-1	000601	Group B1--Probable Human Carcinogen	CRAVE (2/11/87)
Alachlor	15972-60-8	090501	Likely to be carcinogenic to humans (high doses); Not Likely to be carcinogenic to humans (low doses)	OPP (6/27/97)
Aldicarb (Temik)	116-06-3	098301	Group E--Evidence of non-carcinogenicity for humans	OPP (9/15/98)
Aldrin	309-00-2	045101	Group B2--Probable Human Carcinogen	CRAVE (3/22/87)
Alkyl dimethyl benzyl ammonium chloride (ADBAC)	68424-85-1	069105	Not Likely to be carcinogenic to humans	OPP (11/18/99)
Alpha-Metolachlor	87392-12-9	108800	No data available	N/A
Aluminum/magnesium phosphide	20859-73-8	066501	No data available	N/A
Aminopyridine, 4-	504-24-5	069203	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (5/30/89)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION	Reviewed by (Date)
Amitraz (Baam)	33089-61-1	106201	Group C--Possible Human Carcinogen	OPP (10/31/90)
Amitrole	61-82-5	004401	Group B2--Probable Human Carcinogen	OPP (11/30/92)
Aniline	62-53-3	251400	Group B2--Probable Human Carcinogen	CRAVE (6/3/87)
Aramite	140-57-8	062501	Group B2--Probable Human Carcinogen	CRAVE (1/10/91)
Arsenic acid Arsenic pentoxide Arsenate, sodium	7778-39-4 1303-28-2 13464-38-5	006801 006802 013505	Group A--Human Carcinogen	IRIS (04/10/1998)
Assert (with 128841)	69969-22-8	128843	Group D--Not Classifiable as to Human Carcinogenicity	OPP (6/11/87)
Asulam	3337-71-1	106901	Group C--Possible Human Carcinogen	OPP (2/17/88)
Atrazine, hydroxyatrazine	1912-24-9	080803	Not Likely to be carcinogenic to humans	OPP (12/13/2000)
Avermectin B1	65195-55-3	122804	Group E--Evidence of non-carcinogenicity for humans)	OPP (6/27/96)
Azafenidin	68049-83-2	119016	Data are inadequate for an assessment of human carcinogenic potential	OPP (10/18/99)
Azinphos-methyl (Guthion)	86-50-0	058001	Not Likely to be carcinogenic to humans	OPP (4/20/98)
Azobenzene	103-33-3	007401	Group B2--Probable Human Carcinogen	CRAVE (2/3/88)
Azoxystrobin	131860-33-8	128810	Not Likely to be carcinogenic to humans	OPP (1/14/97)
Bardac 22 (also 2250, 2280)	7173-51-5	069149	Group E--Evidence of non-carcinogenicity for humans	OPP (8/30/94)
Baygon (Propoxur)	114-26-1	047802	Group B2--Probable Human Carcinogen	OPP (6/17/96)
Bendiocarb	22781-23-3	105201	Not Likely to be carcinogenic to humans	OPP (12/16/97)
Benfluralin	1861-40-1	084301	Not yet evaluated	
Benomyl	17804-35-2	099101	Group C--Possible Human Carcinogen	OPP (09/21/2000)
Benoxacor	98730-04-2	911508	Cannot be determined	OPP (11/20/97)
Bensulide	741-58-2	009801	Not Likely to be carcinogenic to humans	OPP (6/10/97)
Bentazon (Basagran)	25057-89-0	275200	Group E--Evidence of non-carcinogenicity for humans	OPP (11/10/93)
Benzene	71-43-2	008801	Carcinogenic to Humans	IRIS (1/19/00)
Benzoic acid	65-85-0	009101	Group D--Not Classifiable as to Human Carcinogenicity)	CRAVE (3/1/89)
Bifenazate	149877-41-8	000586	Not Likely to be carcinogenic to humans	OPP (8/21/01)
Bifenthrin (Talstar)	82657-04-3	128825	Group C--Possible Human Carcinogen	OPP (4/29/92)
Bioallethrin	584-79-2	004003	Not yet evaluated	OPP (2/12/98)
Biphenyl, 1,1-	92-52-4	017002	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (12/6/90)
Bis(chloroethyl)ether (BCEE)	111-44-4	029501	Group B2--Probable Human Carcinogen	CRAVE (7/23/86)
Bispyribac-Sodium	125401-92-5	078906	Not Likely to be carcinogenic to humans	OPP (8/2/01)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION	Reviewed by (Date)
Borax	1303-96-4	011102	Group E--Evidence of non-carcinogenicity for humans	OPP (11/24/93)
Boric acid	10043-35-3	011001	Group E--Evidence of non-carcinogenicity for humans	OPP (11/24/93)
Boron	7440-42-8	128945	Group E--Evidence of non-carcinogenicity for humans	OPP (11/24/93)
Bromacil	314-40-9	012301	Group C--Possible Human Carcinogen	OPP (1/13/93)
Bromoacetoxy-2-butene, 1,4 (bis) (BBAB)	20679-58-7	035605	No data available	N/A
Bromotrichloromethane	75-62-7	008708	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (1/10/91)
Bromoxynil	1689-84-5	035301	Group C--Possible Human Carcinogen	OPP (3/12/97)
Bromuconazole	116255-48-2	120503	Group E--Evidence of non-carcinogenicity for humans	OPP (4/24/95)
Bronopol	52-51-7	216400	Group E--Evidence of non-carcinogenicity for humans	OPP (6/16/95)
Buprofezin	69327-76-0	275100	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential	OPP (3/15/00)
Butachlor (Machete)	23184-66-9	112301	Likely to be carcinogenic to humans	OPP (2/26/99)
Butylate (Sutan)	2008-41-5	041405	Group E--Evidence of non-carcinogenicity for humans	OPP (11/25/92)
Cacodylic acid	75-60-5	012501	Group B2--Probable Human Carcinogen	OPP (7/27/94)
Cadmium	7440-43-9	n/a	Group B1--Probable Human Carcinogen	CRAVE (11/12/86)
Cadusafos (Ebufos/Rugby)	95465-99-9	128864	Group E--Evidence of non-carcinogenicity for humans	OPP (5/28/92)
Captafol	2939-80-2	081701	Group B2--Probable Human Carcinogen	OPP (5/19/89)
Captan	133-06-2	081301	Group B2--Probable Human Carcinogen	OPP (09/04/98)
Carbaryl	63-25-2	056801	Group C- Possible Human Carcinogen	OPP (12/08/01)
Carbofuran	1563-66-2	090601	Not Likely to be carcinogenic to humans	OPP (6/17/97)
Carbon tetrachloride	56-23-5	016501	Group B2--Probable Human Carcinogen	CRAVE (12/4/86)
Carfentrazone-ethyl	128639-02-1	128712	Not Likely to be carcinogenic to humans	OPP (3/24/98)
Chloramben	133-90-4	029901	Not yet evaluated	
Chlordane	57-74-9	058201	Group B2--Probable Human Carcinogen	CRAVE (4/1/87)
Chlordimeform	6164-98-3	059701	Group B2--Probable Human Carcinogen	OPP (12/20/85)
Chlorethoxyfos	54593-83-8	129006	No data available	N/A
Chlorfenapyr (Pirate)	122453-73-0	129093	Cannot be determined	OPP (1/9/97)
Chlorine Dioxide	10049-04-4	020503	No data available	N/A
Chloroaniline, p-	106-47-8	017203	Group B2--Probable Human Carcinogen	OPP (4/27/95)
Chlorobenzene	108-90-7	056504	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (4/4/90)
Chloroform	67-66-3	020701	Group B2--Probable Human Carcinogen	CRAVE (8/26/87)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION	Reviewed by (Date)
Chlorothalonil	1897-45-6	081901	Likely to be carcinogenic to humans	OPP (10/27/97)
Chlorpropham (CIPC)	101-21-3	018301	Group E--Evidence of non-carcinogenicity for humans	OPP (10/11/94)
Chlorpyrifos	2921-88-2	059101	Group E--Evidence of non-carcinogenicity for humans	OPP (11/23/93)
Chromic Acid	7738-94-5	021101,	Group A--Human Carcinogen by Inhalation	IRIS (09/03/98)
Sodium dichromate	10588-01-9	068304	Group D--Not Classifiable as to Human Carcinogenicity by oral route	IRIS (09/03/98)
Cinch (Cinmethylin)	87818-31-3	128837	Group D--Not Classifiable as to Human Carcinogenicity	OPP (4/7/89)
Clethodim	99129-21-2	121011	No data available	N/A
Clodinafop-propargyl	105512-06-9	125203	Likely to be carcinogenic to humans	OPP (12/7/99)
Clofentezine (Apollo)	74115-24-5	125501	Group C--Possible Human Carcinogen	OPP (4/3/90)
Clomazone	81777-89-1	125401	Not Likely to be carcinogenic to humans	OPP (01/31/01)
Clopyralid	1702-17-6	117403	Not Likely to be carcinogenic to humans	OPP (12/20/99)
Cloransulam-methyl (XDE-565)	147150-35-4	129116	Not Likely to be carcinogenic to humans	OPP (9/30/97)
Cocamide Diethanolamine	68603-42-9	224600	Likely to be carcinogenic to humans	OPP (7/25/01)
Copper (metallic)	7440-50-8	022501	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (9/15/87)
Coumaphos	56-72-4	036501	Group E--Evidence of non-carcinogenicity for humans	OPP (11/22/94)
Creosote	8001-58-9	025004	Group B1--Probable Human Carcinogen	CRAVE (5/13/87)
Cresol, p-Chloro-m-	59-50-7	064206	Group D--Not Classifiable as to Human Carcinogenicity	OPP (11/28/95)
Cryolite (Kryocide)	15096-52-3	075101	Group D--Not Classifiable as to Human Carcinogenicity	OPP (1/26/93)
Cyanazine (Bladex)	21725-46-2	100101	Group C--Possible Human Carcinogen	OPP (7/30/91)
Cyclanilide	113136-77-9	026201	Not Likely to be carcinogenic to humans	OPP (4/9/97)
Cyfluthrin	68359-37-5	128831	Not Likely to be carcinogenic to humans	OPP (2/11/01)
Cyhalofop butyl	2818-16-8	082503	No data available	OPP (8/10/01)
Cyhalothrin/Karate	68085-85-8	128867	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/15/94)
Cyhexatin (TCTH)	13121-70-5	101601	Not likely to be carcinogenic to humans	OPP (8/1/00)
Cymoxanil	57966-95-7	129106	Not Likely to be carcinogenic to humans	OPP (1/21/98)
Cypermethrin & z-Cypermethrin	n/a 52315-07-8	109702 129064	Group C--Possible Human Carcinogen	OPP (9/27/88)
Cyproconazole (SAN 619F)	94361-06-5	128993	Group B2--Probable Human Carcinogen	OPP (12/04/92)
Cyprodinil	121552-61-2	288202	Not Likely to be carcinogenic to humans	OPP (1/14/98)
Cyromazine (Larvadex)	66215-27-8	121301	Group E--Evidence of non-carcinogenicity for humans	OPP (1/6/95)
Dacthal (DCPA)	1861-32-1	078701	Group C--Possible Human Carcinogen	OPP (2/10/95)
Daminozide (Alar)	1596-84-5	035101	Group B2--Probable Human Carcinogen	OPP (7/26/91)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION	Reviewed by (Date)
Dazomet	533-74-4	035602	Group D--Not Classifiable as to Human Carcinogenicity	OPP (12/7/93)
DDD	72-54-8	029101	Group B2--Probable Human Carcinogen	CRAVE (6/24/87)
DDE	72-55-9	n/a	Group B2--Probable Human Carcinogen	CRAVE (6/24/87)
DDT	50-29-3	029201	Group B2--Probable Human Carcinogen	CRAVE (6/24/87)
DEET	134-62-3	080301	Group D--Not Classifiable as to Human Carcinogenicity	OPP (1/4/96)
Desmedipham	13684-56-5	104801	Group E--Evidence of non-carcinogenicity for humans	OPP (7/26/94)
Di(2-ethylhexyl)phthalate	117-81-7	295200	Group B2--Probable Human Carcinogen	CRAVE (10/7/87)
Diazinon	333-41-5	057801	Not Likely to be carcinogenic to humans	OPP (9/21/99)
Dibromochloropropane (DBCP)	96-12-8	011301	Group B2--Probable Human Carcinogen	(CAG)‡
Dibromoethane, 1,2-	106-93-4	042002	Group B2--Probable Human Carcinogen	CRAVE (5/13/87)
Dibutyl phthalate	84-74-2	028001	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/26/87)
Dicamba	1918-00-9	029801	Group D--Not Classifiable as to Human Carcinogenicity	OPP (7/29/96)
Dichlobenil	1194-65-6	027401	Group C--Possible Human Carcinogen	OPP (7/18/95)
dichloro-2-n-octyl-3(2H) isothiazolone, 4,5- [RH-287]	64359-81-5	128101	No data available	N/A
Dichlorobenzamide, 2,6-	2008-88-4	027402	Group D--Not classifiable as to human carcinogenicity	OPP (11/28/95)
Dichlorobenzene, 1,2-	95-50-1	059401	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (12/6/89)
Dichloroethane, 1,2-	107-06-2	042003	Group B2--Probable Human Carcinogen	CRAVE (12/4/86)
Dichloroethylene, 1,1-	75-35-4	600033	Group C--Possible Human Carcinogen	CRAVE (1/7/87)
Dichloromethane	75-09-2	042004	Group B2--Probable Human Carcinogen	CRAVE (04/6/89)
Dichloropropene, 1,3-Telone II	542-75-6	029001	Group B2--Probable Human Carcinogen	OPP (12/8/89)
Dichlorvos (DDVP)	62-73-7	084001	Group C--Possible Human Carcinogen	OPP (8/18/1999)
Diclofop-methyl (Hoelon)	51338-27-3	110902	Likely to be carcinogenic to humans	OPP (5/24/00)
Dicloran	99-30-9	031301	No data available	OPP (07/12/01)
Diclosulam	145701-21-9	129122	Not Likely to be carcinogenic to humans (11/9/99)	N/A
Dicofol (Kelthane)	115-32-2	010501	Group C--Possible Human Carcinogen	OPP (6/24/92)
Dicrotophos (Bidrin)	141-66-2	035201	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential	OPP (7/21/99)
Dieldrin	60-57-1	045001	Group B2--Probable Human Carcinogen	CRAVE (3/5/87)
Diethyl phthalate	84-66-2	128947	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/26/87)
Difenoconazole (Dividend)	119446-68-3	128847	Group C--Possible Human Carcinogen	OPP (7/27/94)

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Difenzoquat methyl sulfate	43222-48-6	106401	Group E--Evidence of non-carcinogenicity for humans	OPP (5/24/94)
Diflubenzuron (Dimilin)	35367-38-5	108201	Group E--Evidence of non-carcinogenicity for humans	OPP (4/27/95)
Diflufenzopyr-sodium	109293-98-3	005107	Not Likely to be carcinogenic to humans	OPP (10/6/98)
Dimethenamid (SAN 582H)	87674-68-8	129051	Group C--Possible Human Carcinogen	OPP (9/15/95)
Dimethipin (Harvade)	55290-64-7	118901	Group C-- Possible Human Carcinogen	OPP (1/5/90)
Dimethoate	60-51-5	035001	Group C--Possible Human Carcinogen	OPP (8/29/91)
Dimethomorph	110488-70-5	268800	Not Likely to be carcinogenic to humans	OPP (5/11/98)
Dimethyl ether	115-10-6	900382	Group D--Not Classifiable as to Human Carcinogenicity	OPP (1/12/94)
Dimethyl phthalate	131-11-3	028002	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/26/87)
Dimethyl Sulfoxide	67-68-5	000177	No data available	OPP (4/27/99)
Dimethylhydantoin, 5,5 -	118-52-5	028501	Not Likely to be carcinogenic to humans	OPP (8/14/2000)
Dinocap (Karathane)	39300-45-3	036001	Group E--Evidence of non-carcinogenicity for humans	OPP (6/22/94)
Dinoseb	88-85-7	037505	Group C--Possible Human Carcinogen	OPP (6/19/86)
Diquat dibromide	85-00-7	032201	Group E--Evidence of non-carcinogenicity for humans	OPP (5/12/94)
Disulfoton (Disyston)	298-04-4	032501	Group E--Evidence of non-carcinogenicity for humans	OPP (4/21/97)
Dithiopyr (MON 7200)	97886-45-8	128994	Group E--Evidence of non-carcinogenicity for humans	OPP (10/13/93)
Diuron	330-54-1	035505	Known/Likely	OPP (12/18/97)
DSMA	144-21-8	013802	Not Likely to be carcinogenic to humans	OPP (7/26/00)
Emamectin	137512-74-4	122806	Not Likely to be carcinogenic to humans	OPP (3/19/98)
Endosulfan	115-29-7	079401	Not likely to be carcinogenic to humans	OPP (1/31/00)
Endrin	72-20-8	041601	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (10/19/88)
Epichlorohydrin	106-89-8	097201	Group B2--Probable Human Carcinogen	CRAVE (10/29/86)
Epoxiconazole	106325-08-0 133855-98-8	123909	Not yet evaluated	OPP (10/16/00)
EPTC	759-94-4	041401	Not Likely to be carcinogenic to humans	OPP (8/31/99)
Esbiol	28434-00-6	004004	Not yet evaluated	OPP (2/12/98)
Esfenvalerate (Asna)	66230-04-4	109303	Group E--Evidence of non-carcinogenicity for humans	OPP (7/1/96)
Ethalfuralin (Sonalan)	55283-68-6	113101	Group C--Possible Human Carcinogen	OPP (9/14/94)
Ethametsulfuron	97780-06-8	129091	Cannot be determined	OPP (10/22/98)
Ethephon	16672-87-0	099801	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/5/94)
Ethion	563-12-2	058401	Group E--Evidence of non-carcinogenicity for humans	OPP (6/20/94)

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Ethiozin (Ebuzin/Tycor)	64529-56-2	128883	Group C--Possible Human Carcinogen (tentative)	OPP (9/12/90)
Ethofenprox (Etofenprox)	80844-07-1	128965	Group C--Possible Human Carcinogen	OPP (5/24/90)
Ethofumesate	26225-79-6	110601	Group D--Not Classifiable as to Human Carcinogenicity	OPP (2/24/94)
Ethoprop (Ethoprophos)	13194-48-4	041101	Likely to be carcinogenic to humans	OPP (10/7/98)
Ethylene diamine	107-15-3	004205	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (7/25/91)
Ethylene oxide	75-21-8	042301	Group B1--Probable Human Carcinogen	OHEA 1985¶
Ethylene thiourea (ETU)	96-45-7	600016	Group B2--Probable Human Carcinogen	OPP (3/19/90)
Febram	128-04-1	034804	Likely to be carcinogenic to humans	OPP (4/6/00)
Fenamiphos (Nemacur)	22224-92-6	100601	Group E--Evidence of non-carcinogenicity for humans	OPP (11/23/93)
Fenarimol	60168-88-9	206600	Not Likely to be carcinogenic to humans	OPP (09/05/01)
Fenbuconazole (Fenethanil)	114369-43-6	129011	Group C--Possible Human Carcinogen	(4/15/96)
Fenbutatin oxide (Vendex)	13356-08-6	104601	Group E--Evidence of non-carcinogenicity for humans	OPP (10/8/92)
Fenhexamid	126833-17-8	090209	Not Likely to be carcinogenic to humans	OPP (03/04/99)
Fenitrothion (Sumithion)	122-14-5	105901	Group E--Evidence of non-carcinogenicity for humans	OPP (7/13/93)
Fenoxaprop-ethyl	66441-23-4	128701	Not yet evaluated	OPP (09/22/97)
Fenoxycarb	72490-01-8	125301	Likely to be carcinogenic to humans	OPP (12/22/97)
Fenpropathrin (Danitol)	39515-41-8	127901	Group E--Evidence of non-carcinogenicity for humans	OPP (3/31/93)
Fenpyroximate	134098-61-6	129131	Not Likely to be carcinogenic to humans	OPP (2/19/97)
Fenthion	55-38-9	053301	Group E--Evidence of non-carcinogenicity for humans	OPP (3/11/96)
Fenvalerate (Pydrin)	51630-58-1	109301	Group E--Evidence of non-carcinogenicity for humans	OPP (7/1/96)
Ferbam	14484-64-1	034801	No data available	OPP (3/16/00)
Fipronil	120068-37-3	129121	Group C--Possible Human Carcinogen	OPP (7/18/95)
Fluazinam	79622-59-6	129098	Not yet evaluated	OPP (2/13/01)
Flucarbazon sodium	181274-17-9	114009	Not likely to be carcinogenic to humans	OPP (7/19/00)
Fludioxonil (Maxim)	131341-86-1	071503	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/19/96)
Flumetsulam (XRD-498)	98967-40-9	129016	Group E--Evidence of non-carcinogenicity for humans	OPP (6/23/93)
Flumiclorac pentyl	87546-18-7	128724	Group E--Evidence of non-carcinogenicity for humans	OPP (9/7/94)
Flumioxazin	103361-09-7 141490-50-8	129034	Not Likely to be carcinogenic to humans	OPP (2/22/01)
Fluometuron	2164-17-2	035503	Group C--Possible Human Carcinogen	OPP (8/28/96)
Fluridone	59756-60-4	112900	Group E--Evidence of non-carcinogenicity for humans	OPP (7/1/85)

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Fluroxypyr (DOWCO 433)	69377-81-7	128959	Not Likely to be carcinogenic to humans	OPP (1/28/98)
Flusilazole (Nustar)	85509-19-9	128835	Not yet evaluated	
Fluthiacet-methyl (Action)	117337-19-6	108803	Likely to be carcinogenic to humans	OPP (12/8/98)
Flutolanil (Moncut)	66332-96-5	128975	Group E--Evidence of non-carcinogenicity for humans	OPP (6/9/94)
Folpet	133-07-3	081601	Group B2--Probable Human Carcinogen	OPP (9/4/86)
Fomesafen (Flex)	72178-02-0	123802	Group C--Possible Human Carcinogen	OPP (8/27/86)
Fonofos (Dyfonate)	944-22-9	041701	Group E--Evidence of non-carcinogenicity for humans	OPP (11/10/93)
Foramsulfuron	173159-57-4	122020	Not Likely to be carcinogenic to humans	OPP (9/19/01)
Forchlorfenur	68157-60-8	128819	No data available	OPP (5/16/00)
Formaldehyde	50-00-0	043001	Group B1--Probable Human Carcinogen	CRAVE (2/3/88)
Formetanate hydrochloride	23422-53-9	097301	Group E--Evidence of non-carcinogenicity for humans	OPP (5/20/96)
Fosetyl-Al (Alette)	39148-24-8	123301	Not Likely	OPP (04/22/99)
Furmecyclox (Xyligen B)	60568-05-0	122601	Group B2--Probable Human Carcinogen	OPP (7/3/85)
Glufosinate ammonium	77182-82-2	128850	Not Likely to be carcinogenic to humans	OPP (5/17/99)
Glyphosate	1071-83-6	417300	Group E--Evidence of non-carcinogenicity for humans	OPP (12/16/91)
Glyphosate trimesium	81591-81-3	128501	Group E--Evidence of non-carcinogenicity for humans	OPP (7/26/94)
Halosulfuron-methyl	100784-20-1	128721	Not Likely to be carcinogenic to humans	OPP (2/26/98)
Haloxypop-methyl (Verdict)	690806-40-2	125201	Group B2--Probable Human Carcinogen	OPP (9/18/89)
Heptachlor	76-44-8	044801	Group B2--Probable Human Carcinogen	CRAVE (4/1/87)
Heptachlor epoxide	1024-57-3	044801	Group B2--Probable Human Carcinogen	CRAVE (4/1/87)
Hexachlorobenzene (HCB)	118-74-1	061001	Group B2--Probable Human Carcinogen	CRAVE (3/1/89)
Hexachlorocyclohexane	608-73-1	008901	Group B2--Probable Human Carcinogen	CRAVE (12/17/86)
Hexachlorocyclopentadiene	77-47-4	027502	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (10/5/89)
Hexachloroethane	67-72-1	045201	Group C--Possible Human Carcinogen	CRAVE (7/23/86)
Hexaconazole (Anvil)	79983-71-4	128925	Group C--Possible Human Carcinogen	OPP (1/21/99)
Hexazinone	51235-04-2	107201	Group D--Not Classifiable as to Human Carcinogenicity	OPP (7/27/94)
Hexythiazox (Savey)	78587-05-0	128849	Group C--Possible Human Carcinogen	OPP (3/16/88)
HOE 107892	135590-91-9	R47618	Not Likely to be carcinogenic to humans	OPP (11/24/98)
Hydramethylnon (Amdro)	67485-29-4	118401	Group C--Possible Human Carcinogen	OPP (3/28/91)

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Hydrogen cyanamide	420-04-2	014002	Group C--Possible Human Carcinogen	OPP (9/15/93)
Hydroprene (Altozar)	41096-46-2	486300	Group D--Not Classifiable as to Human Carcinogenicity	OPP (6/8/95)
Hydroquinone	123-31-9	900191	No classification assigned	N/A
Imazalil	35554-44-0	111901	Likely to be carcinogenic to humans	OPP (12/7/99)
Imazapyr (Arsenal)	81334-34-1	128821	Group E--Evidence of non-carcinogenicity for humans	OPP (10/5/95)
Imidacloprid	105827-78-9	129099	Group E--Evidence of non-carcinogenicity for humans	OPP (11/10/93)
Indoxacarb (DPX-MP062)	173584-44-6	067710	Not likely to be carcinogenic to humans	OPP (7/17/00)
Iprodione (Glycophene)	36734-19-7	109801	Likely to be carcinogenic to humans	OPP (11/19/97)
Iprovalicarb	140923-17-7	098359	Likely to be carcinogenic to humans	OPP (2/6/2002)
Isocyanuric acid	108-80-5	081402	No classification assigned, negative data	OPP (1/30/01)
Isofenphos	25311-71-1	109401	Not Likely to be carcinogenic to humans	OPP (1/13/98)
Isophorone	78-59-1	047401	Group C--Possible Human Carcinogen	OPP (9/2/99)
Isoxaben (EL-107)	82558-50-7	125851	Group C--Possible Human Carcinogen	OPP (1/4/89)
Isoxadifen-ethyl	n/a	823000	Not Likely to be carcinogenic to humans	OPP (01/29/01)
Isoxaflutole	141112-29-0	123000	Likely to be carcinogenic to humans	OPP (8/6/97)
Kathon 886 (Kathon Biocide)	55965-84-9	107106	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/18/95)
KBR 3023 (propidine)	119515-38-7	070705	Not Likely to be carcinogenic to humans	OPP (06/09/99)
Kresoxim-methyl	143390-89-0	129111	Likely to be carcinogenic to humans	OPP (8/19/99)
Lactofen (Cobra)	77501-63-4	128888	Group B2--Probable Human Carcinogen	OPP (4/8/87)
Lindane	58-89-9	009001	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential	OPP (11/29/01)
Linuron	330-55-2	035506	Group C--Possible Human Carcinogen	OPP (4/1/87)
Lithium perfluorooctane sulfonate	29457-72-5	075004	No data available	OPP (7/8/99)
Malathion	121-75-5	057701	Suggestive evidence of carcinogenicity but not sufficient to assess human carcinogenic potential	OPP (6/20/00)
Maleic hydrazide	5716-15-4	051502	Group E--Evidence of non-carcinogenicity for humans	OPP (11/10/93)
Mancozeb	8018-01-7	014504	Group B2--Probable Human Carcinogen	OPP (06/09/99)
Maneb	12427-38-2	014505	Group B2--Probable Human Carcinogen	OPP (06/09/99)
MB46513 (photodegradata of Fipronil)	120067-83-6	600050	Not Likely to be carcinogenic to humans	OPP (12/6/00)
MBC (Carbendazim)	10605-21-7	128872	Group C--Possible Human Carcinogen	OPP (4/7/89)
Mefenoxam	70630-17-0	113502	Not Likely to be carcinogenic to humans	OPP (5/17/00)

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Melamine	108-78-1	777201	Group D--Not classifiable as to human carcinogenicity	OPP (7/29/92)
Mepiquat chloride	24307-26-4	109101	Group E--Evidence of non-carcinogenicity for humans	OPP (6/20/96)
Mercaptobenzothiazole, 2-	149-30-4	051701	Group C--Possible Human Carcinogen	OPP (11/19/92)
Mercury (Inorganic)	7439-97-6	052301	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (1/13/88)
Mesotrione	104206-82-8	122990	Not Likely to be carcinogenic to humans	OPP (4/12/01)
Metalaxyl	57837-19-1	113501	Group E--Evidence of non-carcinogenicity for humans	OPP (12/31/85)
Metam sodium	137-42-8	039003	Group B2--Probable Human Carcinogen	OPP (5/1/95)
Methamidophos (Monitor)	10265-92-6	101201	Group E--Evidence of non-carcinogenicity for humans	OPP (10/6/97)
Methanearsonic Acid	5902-95-4	013806	Not Likely to be carcinogenic to humans	OPP (12/14/00)
Methidathion	950-37-8	100301	Group C--Possible Human Carcinogen	OPP (2/19/88)
Methiocarb (Mesurol)	2032-65-7	100501	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/2/93)
Methomyl	16752-77-5	090301	Group E--Evidence of non-carcinogenicity for humans	OPP (10/26/96)
Methoxychlor	72-43-5	034001	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (10/7/87)
Methoxyfenozide	161050-58-4	121027	Not Likely to be carcinogenic to humans	OPP (7/1/99)
Methyl bromide	74-83-9	053201	Not likely	OPP (6/20/01)
Methyl ethyl ketone (MEK)	78-93-3	044103	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (5/30/89)
Methyl isothiocyanate	6317-18-6	068103	Group B2--Probable Human Carcinogen -- based on metam sodiam data	OPP (2/22/00)
Methyl parathion	298-00-0	053501	Not Likely to be carcinogenic to humans	OPP (12/1/97)
Methylene bis(thiocyanate)	6317-18-6	068102	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/20/96)
Methylphenol, 3-	108-39-4	022102	Group C--Possible Human Carcinogen CRAVE	OPP (10/5/89)
Metiram	9006-42-2	014601	Group B2--Probable Human Carcinogen -- based on ethylene thiourea data	OPP (11/15/99)
Metolachlor	51218-45-2	108801	Group C--Possible Human Carcinogen	OPP (11/16/94)
Metribuzin (Sencor)	21087-64-9	101101	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/16/95)
Mevinphos	7786-34-7	015801	Not yet evaluated	OPP (4/13/99)
MGK Repellent 326	136-45-8	047201	Group C--Possible Human Carcinogen	OPP (6/7/95)
MGK-264	113-48-4	057001	Group C--Possible Human Carcinogen	OPP (2/22/96)
Molinate (Ordram)	2212-67-1	041402	Group C--Possible Human Carcinogen	OPP (6/17/92)

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MON 13900 (Furilazole)	121776-33-8	911596	Likely to be carcinogenic to humans	OPP (9/21/99)
MON 21200 (Genesis)	82697-71-0	128726	Group C--Possible Human Carcinogen	OPP (7/23/96)
MON 4660	71526-07-3	600046	Likely to be carcinogenic to humans	OPP (12/9/99)
MSMA	2163-80-6	013803	Not likely to carcinogenic to humans	OPP (7/26/00)
Myclobutanil (Systane/Rally)	88671-89-0	128857	Group E--Evidence of non-carcinogenicity for humans	OPP (6/16/94)
Naled (Dibrom)	300-76-5	034401	Group E--Evidence of non-carcinogenicity for humans	OPP (8/31/94)
Naptalam (Alanap-1)	132-66-1	030702	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/7/94)
Naptalam, sodium salt	132-67-2	030703	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/7/94)
Niclosamide	518742	077401	No data available	N/A
Nicosulfuron (Accent)	111991-09-4	129008	Group E--Evidence of non-carcinogenicity for humans	OPP (9/1/98)
Nitrapyrin	1929-82-4	069203	Likely to be carcinogenic to humans	OPP (5/5/00)
Nitrobenzene	98-95-3	056501	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (11/8/89)
N-Methyl Neodecanamide (MNDA)	105726-67-8	079052	No data available	N/A
Norflurazon	27314-13-2	105801	Group C--Possible Human Carcinogen	OPP (11/2/90)
Novaluron	116714-46-6	124002	No data available	N/A
Orthophenylphenol & Na salt	90-43-7 132-27-4	064103 064104	Group B2--Probable Human Carcinogen	OPP (8/24/94)
Oryzalin	19044-88-3	104201	Group C--Possible Human Carcinogen	OPP (3/12/86)
Oxadiazon	19666-30-9	109001	Likely to be carcinogenic to humans	OPP (5/1/2001)
Oxadixyl (San 371F)	77732-09-3	126701	Group C--Possible Human Carcinogen	OPP (1/4/89)
Oxamyl (Vydate)	23135-22-0	103801	Group E--Evidence of non-carcinogenicity for humans	OPP (11/5/96)
Oxydemeton-methyl	301-12-2	058702	Not Likely to be carcinogenic to humans	OPP (7/24/97)
Oxyfluorfen (Goal)	42874-03-3	111601	Group C--Possible Human Carcinogen	OPP (9/29/89)
Oxytetracycline	2058-46-0	006308	Group D--Not Classifiable as to Human Carcinogenicity	OPP (12/4/92)
Oxythioquinox (Morestan)	2439-01 2	054101	Group B2--Probable Human Carcinogen	OPP (2/15/96)
Paclobutrazol	76738-62-0	125601	Group D--Not Classifiable as to Human Carcinogenicity	OPP (6/23/94)
Paradichlorobenzene	106-46-7	061501	Group C--Possible Human Carcinogen	OPP (4/27/89)
Paranitrophenol	100-02-7	056301	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/14/96)
Paraquat dichloride	1910-42-5	061601	Group E--Evidence of non-carcinogenicity for humans	OPP (3/15/89)
Parathion (Ethyl parathion)	56-38-2	057501	Group C--Possible Human Carcinogen	OPP (9/11/91)
Pebulate	1114-71-2	041403	Not Likely to be carcinogenic to humans	OPP (12/7/98)

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Pendimethalin	40487-42-1	108501	Group C--Possible Human Carcinogen	OPP (7/24/92)
Pentachloronitrobenzene	82-68-8	056502	Group C--Possible Human Carcinogen	OPP (12/18/92)
Pentachlorophenol	87-86-5	063001	Group B2--Probable Human Carcinogen	OPP (1/3/91)
Permethrin	52645-53-1	109701	Group C--Possible Human Carcinogen	OPP (9/18/89)
Phenmedipham (Betanal)	13684-63-4	098701	Group D--Not Classifiable as to Human Carcinogenicity	OPP (4/28/93)
Phenol	108-95-2	064001	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/2/89)
Phorate (Thimet)	298-02-2	057201	Group E--Evidence of non-carcinogenicity for humans	OPP (12/30/93)
Phosalone	2310-17-0	097701	Not Likely to be carcinogenic to humans	OPP (8/12/99)
Phosmet (Imidan)	732-11-6	059201	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential	OPP (10/27/99)
Phosphamidon	13171-21-6	018201	Group C--Possible Human Carcinogen	OPP (5/31/89)
Phosphine	7803-51-2	066500	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (3/31/92)
Phostebupirim (Bay mat 7484)	96182-53-5	129086	Group E--Evidence of non-carcinogenicity for humans	OPP (4/27/97)
Picloram diethanolamine salt	1918-02-1	005101	Group E--Evidence of non-carcinogenicity for humans	OPP (4/1/94)
triisopropanolamine salt	1918-02-1	005101		
potassium salt	6753-47-5	005102		
triethylamine salt	2545-60-0	005104		
	35832-11-2	005105		
Piperonyl butoxide	51-03-6	067501	Group C--Possible Human Carcinogen	OPP (6/7/95)
Pirimiphos-methyl	29232-93-7	108102	Cannot be determined	OPP (1/29/98)
Poly(hexamethylenebiguanide) (PHMB)	32289-58-0	111801	Not yet evaluated; three positive studies in mouse & rat	OPP (4/18/01)
Polychlorinated biphenyls	1336-36-3	017801	Group B2--Probable Human Carcinogen	CRAVE (4/22/87)
Prallethrin (ETOC)	23031-36-9	128772	Not Likely to be carcinogenic to humans	OPP (9/28/99)
Primisulfuron-methyl	86209-51-0	128973	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/3/90)
Prochloraz	67747-09-5	128851	Group C--Possible Human Carcinogen	OPP (7/1/88)
Procymidone (Sumilex)	32809-16-8	129044	Group B2--Probable Human Carcinogen	OPP (4/5/91)
Prodiamine (Rydex)	29091-21-2	110201	Group C--Possible Human Carcinogen	OPP (7/15/91)
Profenofos (Curacron)	41198-08-7	111401	Group E--Evidence of non-carcinogenicity for humans	OPP (2/6/95)
Prohexadione Calcium	127277-53-6	112600	Group E--Evidence of non-carcinogenicity for humans	OPP (4/14/00)
Prometon	1610-18-0	080804	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/17/92)

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Prometryn	7287-19-6	080805	Group E--Evidence of non-carcinogenicity for humans	OPP (7/25/94)
Pronamide (Kerb)	23950-58-5	101701	Group B2--Probable Human Carcinogen	OPP (5/26/93)
Propachlor	1918-16-7	019101	Likely to be carcinogenic to humans	OPP (10/16/97)
Propamocarb hydrochloride	25606-41-1	119302	Not likely	OPP (5/31/00)
Propanil	709-98-8	028201	Suggestive evidence of carcinogenicity but not sufficient to assess human carcinogenic potential	OPP (8/15/01)
Propargite (Omite)	2312-35-8	097601	Group B2--Probable Human Carcinogen	OPP (7/23/92)
Propazine	139-40-2	080808	Group C--Possible Human Carcinogen	OPP (5/8/97)
Propetamphos	31218-83-4	113601	Not Likely to be carcinogenic to humans	OPP (12/2/98)
Propiconazole (Banner/Tilt)	60207-90-1	122101	Group C--Possible Human Carcinogen	OPP (9/14/92)
Propylene oxide	75-56-9	042501	Group B2--Probable Human Carcinogen	CRAVE (4/5/90)
Prosulfuron (CGA-152005)	94125-34-5	129031	Group D--Not Classifiable as to Human Carcinogenicity	OPP (4/20/95)
PT807-HC1 (Ecolyst)	n/a	069089	Not Likely to be carcinogenic to humans	OPP (10/19/99)
Pymetrozine	123312-89-0	101103	Likely to be carcinogenic to humans	OPP (8/24/99)
Pyraclostrobin	175013-18-0	099100	Not yet evaluated	OPP (9/13/01)
Pyrethrins	8003-34-7	069001	Likely to be carcinogenic to humans	OPP (4/8/99)
Pyridaben	96489-71-3	129105	Group E--Evidence of non-carcinogenicity for humans	OPP (5/11/94)
Pyridate	55512-33-9	128834	No data available	OPP (11/3/97)
Pyrimethanil	53112-28-0	288201	Group C--Possible Human Carcinogen	OPP (2/12/97)
Pyriproxyfen (Sumilarv)	95737-68-1	129032	Group E--Evidence of non-carcinogenicity for humans	OPP (9/15/95)
Pyriithiobac-sodium	123343-16-8	078905	Group C--Possible Human Carcinogen	OPP (9/5/95)
Quinclorac (Facet)	84087-01-4	128974	Group D--Not Classifiable as to Human Carcinogenicity	OPP (8/26/92)
Quizalofop Ethyl	76578-14-8	128711	No data available	
Quizalofop ethyl (Assure)	76578-14-8	128201	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/17/88)
Rimsulfuron (DPX-E9636)	122931-48-0	129009	Group E--Evidence of non-carcinogenicity for humans	OPP (12/9/93)
Rotenone	83-79-4	071003	Group E--Evidence of non-carcinogenicity for humans	OPP (10/5/88)
Selenium and compounds	7782-49-2	072001	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (3/7/90)
Sethoxydim	74051-80-2	121001	No data available	N/A
Silver	7440-22-4	072501	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (9/22/88)
Silvex (2,4,5-TP)	93-72-1	082501	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (12/2/87)
Simazine	122-34-9	080807	Group C--Possible Human Carcinogen	OPP (5/24/90)

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Sodium omadine	15922-78-8	088004	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/16/95)
Spinosad (XDE-105)	131929-60-7	110003	Not Likely to be carcinogenic to humans	OPP (6/17/97)
Sulfentrazone	122836-35-5	129081	Group E--Evidence of non-carcinogenicity for humans	OPP (5/7/96)
Sulfluramid	4151-50-2	128992	No data available	
Sulfosate	81591-81-3	128501	Group E--Evidence of non-carcinogenicity for humans	OPP (7/26/94)
Sulfosulfuron [MON 31500]	141776-32-1	085601	Likely to be carcinogenic to humans	OPP (10/28/98)
Sulfuryl fluoride	2699-79-8	078003	Not Likely to be carcinogenic to humans	OPP (5/24/01)
Sulprofos (Merafos/Bolstar)	35400-43-2	111501	Group E--Evidence of non-carcinogenicity for humans	OPP (3/26/96)
Surfonic AGM-550	n/a	870401	No data available	N/A
TCMTB (Busan 72)	21564-17-0	035603	Group C--Possible Human Carcinogen	OPP (8/28/96)
Tebuconazole (Folicur)	107534-96-3	128997	Group C--Possible Human Carcinogen	OPP (9/15/93)
Tebufenozide	112410-23-8	129026	Group E--Evidence of non-carcinogenicity for humans	OPP (8/29/94)
Tebuthiuron	34014-18-1	105501	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/1/91)
Temephos	3383-96-8	059001	No classification assigned; negative rat data	OPP (5/12/98)
Tepraloxydim	149979-41-9	121005	Data are inadequate for an assessment of human carcinogenic potential	OPP (2/26/01)
Terbacil	5902-51-2	012701	Group E--Evidence of non-carcinogenicity for humans	OPP (9/30/94)
Terbufos	13071-79-9	105001	Group E--Evidence of non-carcinogenicity for humans	OPP (2/1/94)
Terbuthylazine	5915-41-3	080814	Group D--Not Classifiable as to Human Carcinogenicity	OPP (8/24/94)
Terbutryn	886-50-0	080813	Group C--Possible Human Carcinogen	OPP (3/3/88)
Terrazole	2593-15-9	084701	Group B2--Probable Human Carcinogen	OPP (1/9/91)
Tetrachloroethane, 1,1,2,2-	79-34-5	078601	Group C--Possible Human Carcinogen	CRAVE (6/26/86)
Tetrachlorvinphos (Gardona)	961-11-5	083701	Group C--Possible Human Carcinogen	OPP (3/6/95)
Tetraconazole	112281-77-3	120603	Likely to be carcinogenic to humans	OPP (1/11/00)
Tetramethrin	7696-12-0	069003	Group C--Possible Human Carcinogen	OPP (12/11/89)
TFM	88-30-2	036201	No classification assigned; negative hamster data	OPP (8/31/98)
Thallium(I) sulfate	7446-18-6	080001	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (11/8/89)
Thiabendazole	148-79-8	060101	Likely to be carcinogenic to humans at high does; Not Likely to be carcinogenic to humans at Low doses	OPP (3/4/02)
Thiafluamide (FOE 5043)	142459-58-3	121903	Not Likely to be carcinogenic to humans	OPP (7/16/97)

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Thiamethoxam	153719-23-4	060109	Likely to be carcinogenic to humans	OPP (6/20/00)
Thiazopyr (MON 13200)	117718-60-2	129100	Group C--Possible Human Carcinogen	OPP (5/25/94)
Thiobencarb (Bolero)	28249-77-6	108401	Group D--Not Classifiable as to Human Carcinogenicity	OPP (6/10/96)
Thiodicarb (Larvin)	59669-26-0	114501	Group B2--Probable Human Carcinogen	OPP (6/10/96)
Thiophanate-methyl	23564-05-8	102001	Likely to be carcinogenic to humans	OPP (12/08/01)
Thiram	137-26-8	079801	Not yet evaluated; equivocal data	OPP (3/4/99)
Toluene	108-88-3	080601	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (9/15/87)
Toxaphene (Campechlor)	8001-35-2	080501	Group B2--Probable Human Carcinogen	CRAVE (3/5/87)
Tralkoxydim	87820-88-0	121000	Likely to be carcinogenic to humans	OPP (10/22/98)
Triadimefon (Bayleton)	43121-43-3	109901	Group C--Possible Human Carcinogen	OPP (12/4/96)
Triadimenol (Baytan)	55219-65-3	127201	Group C--Possible Human Carcinogen	OPP (1/29/88)
Triallate	2303-17-5	078802	Group C--Possible Human Carcinogen	OPP (1/12/94)
Triasulfuron (Amber)	82097-50-5	128969	Group E--Evidence of non-carcinogenicity for humans	OPP (3/11/91)
Triazamate	112143-82-5	128100	Not Likely to be carcinogenic to humans	OPP (12/1/97)
Tribenuron methyl (Express)	101200-48-0	128887	Group C--Possible Human Carcinogen	OPP (7/14/89)
Tribufos (Tribuphos/DEF)	78-48-8	074801	Likely to be carcinogenic to humans (high doses); Not Likely to be carcinogenic to humans (low doses)	OPP (5/22/97)
Trichlorfon (Trichlorphon)	52-68-6	057901	Likely to be carcinogenic to humans (high doses), Not Likely to be carcinogenic to humans (low doses)	OPP (7/15/99)
Trichloro-2-pyridinol 3,5,6-(TCP)	6515-38-4	206900	No data available	N/A
Trichlorobenzene, 1,2,4-	120-82-1	081101	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (10/19/88)
Trichloroethane, 1,1,1-	71-55-6	081201	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/5/87)
Trichloroethane, 1,1,2-	79-00-5	081203	Group C--Possible Human Carcinogen	CRAVE (7/26/86)
Trichlorophenol, 2,4,6-	88-06-2	064212	Group B2--Probable Human Carcinogen	CRAVE (9/7/89)
Triclopyr (salts & esters)	55335-06-3	116001	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/8/96)
Triclosan (Irgasan)	3380-34-5	054901	Cannot be determined; negative rat data only	OPP (10/22/98)
Tridiphane (Tandem)	58138-08-2	123901	Group C--Possible Human Carcinogen	OPP (4/22/86)
Trifloxystrobin	141517-21-7	129112	Not Likely to be carcinogenic to humans	OPP (6/16/99)
Triflumizole	68694-11-1	128879	Group E--Evidence of non-carcinogenicity for humans	OPP (8/10/93)
Trifluralin (Treflan)	1582-09-8	036101	Group C--Possible Human Carcinogen	OPP (11/29/89)

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Triflurosulfuron-methyl	126535-15-7	129002	Group C--Possible Human Carcinogen	OPP (5/28/96)
Triphenyltin hydroxide	76-87-9	083601	Group B2--Probable Human Carcinogen	OPP (5/24/90)
Troysan polyphase (IPBC)	55406-53-6	107801	Not Likely to be carcinogenic to humans	OPP (12/04/96)
UDMH	57-14-7	600018	Group B2--Probable Human Carcinogen	OPP (7/26/91)
UMP-488 (PAL 6000)	111578-32-6	129025	Group E--Evidence of non-carcinogenicity for humans	OPP (5/6/94)
Uniconazole (Prunit)	83657-22-1	128976	Group C--Possible Human Carcinogen	OPP (10/11/90)
Vinclozolin	50471-44-8	113201	Group C--Possible Human Carcinogen	OPP (6/20/00)
White phosphorus	7723-14-0	066502	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (6/15/90)
Xylenes	1330-20-7	086802	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (12/2/87)
Zinc and compounds	7440-66-6	129015	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (6/15/90)
Zinc Omadine	13463-41-7	088002	No data available	N/A
Zinc Phosphide	1314-84-7	088601	No data available	N/A
Ziram	137-30-4	034805	Likely to be carcinogenic to humans	OPP (4/6/00)
Zoxamide	156052-68-5	101702	Not Likely to be carcinogenic to humans	OPP (12/16/99)

§ The Q_1^* is the human equivalency potency factor, and is based on the oral exposure route, unless otherwise indicated. For the oral route, the units are $(\text{mg}/\text{kg}/\text{day})^{-1}$; for the inhalation exposure route the units are $(\mu\text{g}/\text{cu m})^{-1}$.

Unless otherwise indicated, all data were evaluated by the Agency's Office of Pesticide Programs, in either the Cancer Assessment Review Committee (CARC) or Hazard Identification Assessment Review Committee (HIARC).

Not Applicable

† Denotes data evaluated by the Carcinogen Risk Assessment Validation Effort CRAVE, a Peer Review Committee within the US EPA..

Not Available

‡ Denotes data evaluated by the Cancer Assessment Group (CAG), a Peer Review Committee within the US EPA..

¶ Denotes data evaluated by the Office of Health Effects Assessment (OHEA), a Peer Review Committee within the US EPA..

n/a Data not available

N/A Not Applicable