

Chemicals Evaluated for Carcinogenic Potential
Science Information Management Branch
Health Effects Division
Office of Pesticide Programs
U.S. Environmental Protection Agency

BACKGROUND

What is this list?

The 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.

NOTE: As new information becomes available, the list may become out-of-date.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 each year to include new evaluations or re-evaluations.

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.

In March, 2005, EPA released its final *Guidelines for Carcinogen Risk Assessment* (EPA/630/P-03/001B). These guidelines represent the culmination of a long development process, replacing EPA's original cancer risk assessment guidelines (1986) and its interim final guidelines (1999). <http://www.epa.gov/IRIS/cancer032505.pdf>

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 – 2005

The following descriptors from the 2005 Guidelines for Carcinogen Risk Assessment can be used as an introduction to the weight of evidence narrative in the cancer risk assessment. The examples presented in the discussion of the descriptors are illustrative. The examples are neither a checklist nor a limitation for the descriptor. The complete weight of evidence narrative, rather than the descriptor alone, provides the conclusions and the basis for them.

CARCINOGENIC TO HUMANS. This descriptor indicates strong evidence of human carcinogenicity. It covers different combinations of evidence.

- This descriptor is appropriate when there is convincing epidemiologic evidence of a causal association between human exposure and cancer.
- Exceptionally, this descriptor may be equally appropriate with a lesser weight of epidemiologic evidence that is strengthened by other lines of evidence. It can be used when all of the following conditions are met: (a) there is strong evidence of an association between human exposure and either cancer or the key precursor events of the agent's mode of action but not enough for a causal association, and (b) there is extensive evidence of carcinogenicity in animals, and (c) the mode(s) of carcinogenic action and associated key precursor events have been identified in animals, and (d) there is strong evidence that the key precursor events that precede the cancer response in animals are anticipated to occur in humans and progress to tumors, based on available biological information. In this case, the narrative includes a summary of both the experimental and epidemiologic information on mode of action and also an indication of the relative weight that each source of information carries, e.g., based on human information, based on limited human and extensive animal experiments.

LIKELY TO BE CARCINOGENIC TO HUMANS. This descriptor is appropriate when the weight of the evidence is adequate to demonstrate carcinogenic potential to humans but does not reach the weight of evidence for the descriptor “Carcinogenic to Humans.” Adequate evidence consistent with this descriptor covers a broad spectrum. As stated previously, the use of the term “likely” as a weight of evidence descriptor does not correspond to a quantifiable probability. The examples below are meant to represent the broad range of data combinations that are covered by this descriptor; they are illustrative and provide neither a checklist nor a limitation for the data that might support use of this descriptor. Moreover, additional information, e.g., on mode of action, might change the choice of descriptor for the illustrated examples. Supporting data for this descriptor may include:

- an agent demonstrating a plausible (but not definitively causal) association between human exposure and cancer, in most cases with some supporting biological, experimental evidence, though not necessarily carcinogenicity data from animal experiments;
- an agent that has tested positive in animal experiments in more than one species, sex,

- strain, site, or exposure route, with or without evidence of carcinogenicity in humans;
- a positive tumor study that raises additional biological concerns beyond that of a statistically significant result, for example, a high degree of malignancy, or an early age at onset;
- a rare animal tumor response in a single experiment that is assumed to be relevant to humans; or
- a positive tumor study that is strengthened by other lines of evidence, for example, either plausible (but not definitively causal) association between human exposure and cancer or evidence that the agent or an important metabolite causes events generally known to be associated with tumor formation (such as DNA reactivity or effects on cell growth control) likely to be related to the tumor response in this case.

SUGGESTIVE EVIDENCE OF CARCINOGENIC POTENTIAL. This descriptor of the database is appropriate when the weight of evidence is suggestive of carcinogenicity; a concern for potential carcinogenic effects in humans is raised, but the data are judged not sufficient for a stronger conclusion. This descriptor covers a spectrum of evidence associated with varying levels of concern for carcinogenicity, ranging from a positive cancer result in the only study on an agent to a single positive cancer result in an extensive database that includes negative studies in other species. Depending on the extent of the database, additional studies may or may not provide further insights. Some examples include:

- a small, and possibly not statistically significant, increase in tumor incidence observed in a single animal or human study that does not reach the weight of evidence for the descriptor "Likely to Be Carcinogenic to Humans." The study generally would not be contradicted by other studies of equal quality in the same population group or experimental system (see discussions of *conflicting evidence* and *differing results*, below);
- a small increase in a tumor with a high background rate in that sex and strain, when there is some but insufficient evidence that the observed tumors may be due to intrinsic factors that cause background tumors and not due to the agent being assessed. (When there is a high background rate of a specific tumor in animals of a particular sex and strain, then there may be biological factors operating independently of the agent being assessed that could be responsible for the development of the observed tumors.) In this case, the reasons for determining that the tumors are not due to the agent are explained;
- evidence of a positive response in a study whose power, design, or conduct limits the ability to draw a confident conclusion (but does not make the study fatally flawed), but where the carcinogenic potential is strengthened by other lines of evidence (such as structure-activity relationships); or
- a statistically significant increase at one dose only, but no significant response at the other doses and no overall trend.

INADEQUATE INFORMATION TO ASSESS CARCINOGENIC POTENTIAL. This descriptor of the database is appropriate when available data are judged inadequate for applying one of the other descriptors. Additional studies generally would be expected to provide further insights. Some examples include:

- little or no pertinent information;

- conflicting evidence, that is, some studies provide evidence of carcinogenicity but other studies of equal quality in the same sex and strain are negative. Differing results, that is, positive results in some studies and negative results in one or more different experimental systems, do not constitute *conflicting evidence*, as the term is used here. Depending on the overall weight of evidence, differing results can be considered either suggestive evidence or likely evidence; or
- negative results that are not sufficiently robust for the descriptor, “Not Likely to Be Carcinogenic to Humans.”

NOT LIKELY TO BE CARCINOGENIC TO HUMANS. This descriptor is appropriate when the available data are considered robust for deciding that there is no basis for human hazard concern. In some instances, there can be positive results in experimental animals when there is strong, consistent evidence that each mode of action in experimental animals does not operate in humans. In other cases, there can be convincing evidence in both humans and animals that the agent is not carcinogenic. The judgment may be based on data such as:

- animal evidence that demonstrates lack of carcinogenic effect in both sexes in well-designed and well-conducted studies in at least two appropriate animal species (in the absence of other animal or human data suggesting a potential for cancer effects),
- convincing and extensive experimental evidence showing that the only carcinogenic effects observed in animals are not relevant to humans,
- convincing evidence that carcinogenic effects are not likely by a particular exposure route (see Section 2.3), or
- convincing evidence that carcinogenic effects are not likely below a defined dose range.

A descriptor of “not likely” applies only to the circumstances supported by the data. For example, an agent may be “Not Likely to Be Carcinogenic” by one route but not necessarily by another. In those cases that have positive animal experiment(s) but the results are judged to be not relevant to humans, the narrative discusses why the results are not relevant.

MULTIPLE DESCRIPTORS. More than one descriptor can be used when an agent's effects differ by dose or exposure route. For example, an agent may be “Carcinogenic to Humans” by one exposure route but “Not Likely to Be Carcinogenic” by a route by which it is not absorbed. Also, an agent could be “Likely to Be Carcinogenic” above a specified dose but “Not Likely to Be Carcinogenic” below that dose because a key event in tumor formation does not occur below that dose.

CLASSIFICATION – 1999 Draft

The terms used to describe carcinogenic potential in the July 1999 “Review Draft of the Guidelines for Carcinogen Risk Assessment” are listed and defined 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.

OTHER DEFINITIONS

Quantification of Cancer Risk - Carcinogenic Potency Factor (Q_1^*)

Q_1 STAR (Q_1^*) - In the classification of human or probable-human carcinogens, mathematical models are used to estimate an upper-bound excess cancer risk associated with lifetime ingestion in the diet. The data used in these estimates usually come from lifetime exposure studies in animals. The USEPA generally uses the linearized multistage model for its cancer risk assessment. This model fits linear dose-response curves to low doses and is consistent with a no-threshold model of carcinogenesis, i.e., exposure to even a very small amount of the substance produces a finite increased risk of cancer.

The linearized multistage model uses dose-response data from the most appropriate carcinogenic study to calculate a carcinogenic potency factor (q_1^*) for humans. The q_1^* is then used to determine the concentrations of the chemical in the diet that are associated with theoretical upper-bound excess lifetime cancer risks of 1 in 10,000, 1 in 100,000, and 1 in 1,000,000 (10^{-4} , 10^{-5} , 10^{-6} respectively) individuals over a lifetime of exposure.

Mode of Action (MOA) - The key cellular and biochemical events that have to happen for a biological effect to develop. Mode of action is contrasted with mechanism of action which is a more complete understanding of the step by step pathway leading to a biological effect. Some established MOAs include:

Androgen Dependent - The chemical disrupts the normal levels of reproductive hormones (e.g., testosterone, luteinizing hormone) which in turn stimulates the target tissue (e.g., leydig cells, testicular tissue) to divide which may lead to hyperplasia and neoplasia. For agents to pose a hazard to humans by this MOA, sufficient exposure levels need to be encountered which produce the same level of biological effect as seen in rodents. This is consistent with the MOA for Leydig cell tumorigenesis.

Cytotoxicity and Regenerative Proliferation - Continuous exposure to a chemical or its metabolite causes persistent cell killing which in turn may result in a persistent regenerative proliferative response in the damaged tissue. For irreversible tissue alterations to occur in humans, including cancer by this mode of action, a sufficient exposure must be encountered over a prolonged period.

Mitogenesis - Mitogenic chemicals act by promoting the clonal expansion of preneoplastic cells by stimulating cell proliferation. This mode of action is frequently found in the rodent liver where it is generally associated with an increase in metabolizing enzymes. A mitogenic chemical stimulates cell proliferation in the target organ without obvious cytotoxicity or cell death. Another important feature of this MOA is that the mitogenic effect is not persistent over time; instead it is resolved and then is manifested within proliferative foci which are considered preneoplastic lesions. Through continuous exposure, it is these preneoplastic lesions that develop into tumors. At this time, the adverse health effects caused by this MOA are presumed to be relevant to humans.

Mutagenesis - The chemical or a metabolite has the ability to react with or bind DNA in a manner that causes mutations. It is usually positive in multiple test systems for

different genetic endpoints (particularly gene mutations and structural chromosome aberrations) and in tests performed *in vivo* and *in vitro*. Adverse health effects in rodents from these chemicals are considered relevant for human health risk.

Neuroendocrine Disruption - Chemicals that disrupt hypothalamic control of pituitary function leading to a decrease in hormone release (e.g., luteinizing hormone) and the disruption of the ovarian cycle. This may result in an increase in cell proliferation in the mammary gland due to a hyperstimulation by estrogen. In the case of chloro-s-triazines, this neuroendocrine MOA is not considered relevant to humans because it depends on a rodent specific reproductive process.

PPAR-alpha Agonism - Chemicals that bind to and activate the Peroxisome Proliferator-Activated Receptor (PPAR) stimulate biological responses in the liver (e.g., peroxisome proliferation, induction of lipid metabolizing enzymes, oxidative stress, and hepatocyte mitogenesis). Activation of PPAR-alpha results in an increase in cell proliferation and clonal expansion of preneoplastic foci in the liver. While the human relevance of this MOA has not been definitively determined, most of the evidence indicates that this mode of action is not operative in the human liver.

Thyroid Hormone Disruption - Disruption of normal levels of thyroid hormones may lead to an increase of thyroid stimulating hormone (TSH) which results in an increase in cell proliferation of the thyroid gland. If exposure is continuous in the animal, thyroid follicular cell tumors can potentially develop. However, the development of thyroid cancer by this mode of action in humans is considered unlikely since prolonged stimulation of the thyroid gland by TSH has not been associated with tumorigenesis in humans. However, this MOA is relevant as an indicator for potential noncancer health effects (e.g., goiter, neurodevelopmental, etc) due thyroid disruption in humans.

Chemicals Evaluated for Carcinogenic Potential
 Science Information Management Branch
 Health Effects Division
 Office of Pesticide Programs
 U.S. Environmental Protection Agency

April 26, 2006

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
1,3-Dibromo-5,5-dimethylhydantoin	77-48-5	006317	Not Likely to Be Carcinogenic to Humans	OPP (8/28/00)
1,3-dichloro-5-methylhydantoin	89415-87-2	128826	Not Likely to Be Carcinogenic to Humans	OPP (8/28/00)
1,4-Naphthalenedione, 2-(acetyloxy)-3-dodecyl-	57960-19-7	006329	Not Likely to Be Carcinogenic to Humans	OPP (11/13/03)
2-Benzyl-4-chlorophenol	120-32-1	062201	Group C Possible Human Carcinogen	OPP (9/5/95)
2,4-Dichlorophenoxy acetic acid (2,4-D)	94-75-7	030001	Group D--Not Classifiable as to Human Carcinogenicity	OPP (1/29/97)
2,4-DB 2,4-DB-DMA	94-82-6	030801	Not Likely to Be Carcinogenic to Humans	OPP (6/13/03)
2,4-Imidazolidinedione, 1-bromo-3-chloro-5,5-dimethyl-	16079-88-2	006315	Not Likely to Be Carcinogenic to Humans	OPP (8/28/00)
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 ³ (1/13/88)
Acetamide	60-35-5	111101	Group C--Possible Human Carcinogen	OPP (5/29/90)
Acetamiprid	135410-20-7	099050	Not Likely to Be Carcinogenic to Humans	OPP (12/11/01)
Acetochlor	34256-82-1	121601	Likely to be Carcinogenic to Humans	OPP (8/31/04)
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	Likely to be Carcinogenic to Humans at High Doses Not Likely to be Carcinogenic to Humans at Low Doses	OPP (5/21/03)
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	OPP (6/27/97)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Humans (High Doses); Not Likely to be Carcinogenic to Humans (Low Doses)	
Aldicarb	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)
Ametryn	834-12-8	080801	Data are Inadequate for an Assessment of Human Carcinogenic Potential	OPP (9/17/04)
Aminopyridine, 4-	504-24-5	069201	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (5/30/89)
Amitraz	33089-61-1	106201	Group C--Possible Human Carcinogen	OPP (10/31/90)
Amitrole	61-82-5	004401	Group B2--Probable Human Carcinogen	OPP (8/20/90)
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 (4/10/1998)
Assert	69969-22-8	128841 128842 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 (12/13/00)
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	86-50-0	058001	Not Likely to be Carcinogenic to Humans	OPP (12/7/93)
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	Not Likely to be Carcinogenic to Humans	OPP (4/11/00)
BAS 510 F	188425-85-6	128008	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (9/25/02)
BAS 670 H	210631-68-8	123009	Not Likely to be Carcinogenic to Humans at Doses that Do Not	OPP (5/19/05)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Alter Rat Thyroid Hormone Homeostasis	
Bendiocarb	22781-23-3	105201	Group E--Evidence of Non-carcinogenicity for Humans)	OPP (12/16/97)
Benfluralin	1861-40-1	084301	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (12/27/01)
Benomyl	17804-35-2	099101	Group C--Possible Human Carcinogen	OPP (09/21/00)
Bensulide	741-58-2	009801	Not Likely to be Carcinogenic to Humans	OPP (6/10/97)
Bentazon	25057-89-0	275200	Group E--Evidence of Non-carcinogenicity for Humans	OPP (11/10/93)
Benthiavalicarb-isopropyl	177406-68-7	098379	Likely to be Carcinogenic to Humans	OPP (10/18/05)
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 (8/28/01)
Bifenthrin	82657-04-3	128825	Group C--Possible Human Carcinogen	OPP (4/29/92)
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)
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)
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)
Butafenacil	134605-64-4	122004	Not Likely to be Carcinogenic	OPP (7/11/03)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			to Humans	
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 (12/14/99)
Cadmium	7440-43-9	NR	Group B1--Probable Human Carcinogen	CRAVE (11/12/86)
Cadusafos	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 (5/15/89)
Captan	133-06-2	081301	Likely to be carcinogenic to humans following prolonged, high-level exposures causing cytotoxicity and regenerative cell hyperplasia in the proximal region of the small intestine (oral exposure) or the respiratory tract (inhalation exposure), but not likely to be a human carcinogen at dose levels that do not cause cytotoxicity and regenerative cell hyperplasia.	OPP (9/22/04)
Carbaryl	63-25-2	056801	Likely to be Carcinogenic to Humans	OPP (2/12/02)
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)
Carboxin	5234-68-4	090201	Not Likely to be Carcinogenic to Humans	OPP (6/5/03)
Carfentrazone-ethyl	128639-02-1	128712	Not Likely to be Carcinogenic to Humans	OPP (3/24/98)
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	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/9/95)
Chlorfenapyr	122453-73-0	129093	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (3/18/03)
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)
Chloroneb	2675-77-6	027301	Data Are Inadequate for an Assessment of Carcinogenic Potential	OPP (12/18/03)
Chlorothalonil	1897-45-6	081901	Group B2--Probable Human	OPP (10/27/97)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Carcinogen	
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)
Chlorpyrifos-methyl	1351032	059102	Not Likely to be Carcinogenic to Humans	OPP (5/17/99)
Chlorsulfuron	64902-72-3	118601	Group E--Evidence of Non-carcinogenicity for humans	OPP (7/17/02)
Chromium (VI)	18540-29-9	021101	Group A Human Carcinogen by Inhalation	IRIS (9/3/98)
Sodium dichromate	10588-01-9	068304	Group D--Not Classifiable as to Human Carcinogenicity by Oral Route	OPP (8/28/01)
Clodinafop-propargyl	105512-06-9	125203	Suggestive Evidence of Carcinogenic Potential	OPP (2/8/06)
Clofencet (MON 21200)	82697-71-0	128726	Group C--Possible Human Carcinogen	OPP (7/23/96)
Clofentezine	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 (1/31/01)
Clopyralid	1702-17-6	117403	Not Likely to be Carcinogenic to Humans	OPP (12/20/99)
Cloquintoced-Methylhexyl	99607-70-2	700099	Not Likely to be Carcinogenic to Humans	OPP (11/24/98)
Cloransulam-methyl	147150-35-4	129116	Group E--Evidence of Non-carcinogenicity for 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	Not Likely to be Carcinogenic to Humans	OPP (6/25/99)
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	15096-52-3	075101	Group D--Not Classifiable as to Human Carcinogenicity	OPP (1/26/93)
Cyanazine	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)
Cycloate	1134-23-2	041301	Not Likely to be Carcinogenic to Humans	OPP (9/25/03)
Cyfluthrin	68359-37-5	128831	Not Likely to be Carcinogenic to Humans	OPP (2/11/01)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
Cyhalothrin	68085-85-8	128867	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/15/94)
Cyhalothrin, gamma	76703-62-3	128807	Not Likely to be Carcinogenic to Humans	OPP (3/01/04)
Cyhexatin (TCTH)	13121-70-5	101601	Data are Inadequate for an Assessment of Human Carcinogenic Potential	OPP (4/7/05)
Cymoxanil	57966-95-7	129106	Not Likely to be Carcinogenic to Humans	OPP (1/21/98)
Cypermethrin & z-Cypermethrin	NR 52315-07-8	109702 129064	Group C--Possible Human Carcinogen	OPP (9/27/88)
Cyproconazole	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	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	1596-84-5	035101	Group B2--Probable Human Carcinogen	OPP (9/27/91)
Dazomet	533-74-4	035602	Group D Not Classifiable as a Human Carcinogen	OPP (12/7/93)
DDD	72-54-8	029101	Group B2--Probable Human Carcinogen	CRAVE (6/24/87)
DDE	72-55-9	NR	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)
Deltamethrin	52918-63-5	097805	Not Likely to be Carcinogenic to Humans	OPP (9/9/03)
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 (6/17/97)
Dibromochloropropane (DBCP)	96-12-8	011301	Group B2--Probable Human Carcinogen	(CAG)I
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	OPP (7/18/95)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Carcinogen	
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 (4/6/89)
Dichloropropene, 1,3- Telone II	542-75-6	029001	Group B2--Probable Human Carcinogen	OPP (4/15/99)
Dichlorvos (DDVP)	62-73-7	084001	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (3/1/00)
Diclofop-methyl	51338-27-3	110902	Likely to be Carcinogenic to Humans	OPP (5/24/00)
Diclosulam	145701-21-9	129122	Not Likely to be Carcinogenic to Humans	OPP (11/9/99)
Dicofol	115-32-2	010501	Group C--Possible Human Carcinogen	OPP (4/15/92)
Dicrotophos	141-66-2	035201	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (10/18/99)
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	119446-68-3	128847	Group C--Possible Human Carcinogen	OPP (7/27/94)
Difenzoquat methyl sulfate	43222-48-6	106401	Group E--Evidence of Non-carcinogenicity for humans	OPP (5/24/94)
Diflubenzuron	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	87674-68-8	129051	Group C--Possible Human Carcinogen	OPP (9/15/95)
Dimethipin	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)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION¹	REPORT DATE
Dimethoxane	828-00-2	001001	Suggestive Evidence for Carcinogenicity in Humans	OPP (12/21/00)
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)
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)
Dinotefuran	165252-70-0	044312	Not Likely to be Carcinogenic to Humans	OPP (3/5/04)
Diphenylamine	122-39-4	038501	Not Likely to be Carcinogenic to Humans	OPP (4/1/97)
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 (5/8/97)
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	Likely to be Carcinogenic to Humans	OPP (1/24/01)
EPTC	759-94-4	041401	Not Likely to be Carcinogenic to Humans	OPP (8/31/99)
Bioallethrin Esbiothrin	584-79-2 28434-00-6	004003 004004	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (10/29/03)
Esfenvalerate	66230-04-4	109303	Group E--Evidence of Non-carcinogenicity for Humans	OPP (7/1/96)
Ethalfuralin	55283-68-6	113101	Group C--Possible Human Carcinogen	OPP (9/14/94)
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	OPP (1/26/94)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Non-carcinogenicity for humans	
Etofenprox	80844-07-1	128965	Not Likely to be Carcinogenic to Humans at Doses that Do Not Alter Rat Thyroid Hormone Homeostasis	OPP (2/8/06)
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 thiourea (ETU)	96-45-7	600016	Group B2--Probable Human Carcinogen	OPP (3/19/90)
Etoazole	153233-91-1	107091	Not Likely to be Carcinogenic to Humans	OPP (8/7/03)
Famoxadone	131807-57-3	113202	Not Likely to be Carcinogenic to Humans	OPP (4/16/03)
Ferdam	128-04-1	034804	Likely to be Carcinogenic to Humans	OPP (4/6/00)
Fenamidone	161326-34-7	046679	Not Likely to be Carcinogenic to Humans	OPP (7/12/02)
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 (9/5/01)
Fenbuconazole (Fenethanil)	114369-43-6	129011	Group C--Possible Human Carcinogen	OPP (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 (3/4/99)
Fenitrothion (Sumithion)	122-14-5	105901	Group E--Evidence of Non-carcinogenicity for Humans	OPP (7/13/93)
Fenoxycarb	72490-01-8	125301	Likely to be Carcinogenic to Humans	OPP (12/22/97)
Fenpropathrin (Danitol)	39515-41-8	127901	Not Likely to be Carcinogenic to Humans	OPP (12/22/03)
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)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
Fipronil	120068-37-3	129121	Group C--Possible Human Carcinogen	OPP (7/18/95)
Flonicamid	158062-67-0	128016	Suggestive Evidence of Carcinogenicity, but not sufficient to assess human carcinogenic potential	OPP (2/24/05)
Fluazinam	79622-59-6	129098	Suggestive Evidence of Carcinogenicity to Humans	OPP (3/29/01)
Flucarbazone 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)
Flufenpyr-ethyl	188489-07-8	108853	Not Likely to be Carcinogenic to Humans	OPP (6/8/03)
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)
Fluroxypyr	69377-81-7	128959 128968	Not Likely to be Carcinogenic to Humans	OPP (1/28/98)
Fluthiacet-methyl	117337-19-6	108803	Likely to be Carcinogenic to Humans	OPP (12/8/98)
Flutolanil	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	108731-70-0	123802	Not Likely to be Carcinogenic to Humans	OPP (11/3/05)
Fonofos	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)
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	39148-24-8	123301	Not Likely	OPP (4/22/99)
Fosthiazate	98886-44-3	129022	Not Likely to be Carcinogenic to Humans	OPP (9/15/03)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
Furmecyclox	60568-05-0	122601	Group B2B Probable Human Carcinogen	OPP (7/3/85)
Furilazole (MON 13900)	121776-33-8	911596	Likely to be Carcinogenic to Humans	OPP (9/21/99)
Glufosinate ammonium	77182-82-2	128850	Not Likely to be Carcinogenic to Humans	OPP (5/17/99)
Glyphosate trimesium	81591-81-3	128501	Group E Evidence of Non-carcinogenicity for Humans	OPP (7/26/94)
Glyphosate	1071-83-6	417300	Group E Evidence of Non-carcinogenicity for Humans	OPP (12/16/91)
Clothianidin	210880-92-5	044309	Not Likely to be Carcinogenic to Humans	OPP (1/6/03))
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	811800	Not Likely to be Carcinogenic to Humans	OPP (10/13/98)
HydramethylNon (Amdro)	67485-29-4	118401	Group C--Possible Human Carcinogen	OPP (3/28/91)
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)
Imazalil	35554-44-0	111901	Likely to be Carcinogenic to Humans	OPP (12/7/99)
Imazapic	81334-60-3	129041	Group E--Evidence of Non-carcinogenicity for Humans	OPP (9/27/95)
Imazamox	114311-32-9	129171	Not Likely to be Carcinogenic	OPP (2/27/97)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			to Humans	
Imazapyr	81334-34-1	128821	Group E--Evidence of Non-carcinogenicity for Humans	OPP (10/5/95)
Imazethapyr	81335-77-5	128922	Not Likely to be Carcinogenic to Humans	OPP (1/31/02)
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)
Iodomethane	74-88-4	000011	Not Likely to be Carcinogenic to Humans at Doses that Do Not Alter Rat Thyroid Hormone Homeostasis	OPP (11/10/05)
Iodosulfuron	144550-36-7	122021	Not Likely to be Carcinogenic to Humans	OPP (1/5/04)
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 (2/6/02)
Isofenphos	25311-71-1	109401	Group E--Evidence of Non-carcinogenicity for Humans	OPP (1/13/98)
Isophorone	78-59-1	047401	Group C--Possible Human Carcinogen	OPP (9/2/99)
Isoxaben	82558-50-7	125851	Group C--Possible Human Carcinogen	OPP (1/4/89)
Isoxadifen-ethyl	NR	823000	Not Likely to be Carcinogenic to Humans	OPP (1/29/01)
Isoxaflutole	141112-29-0	123000	Likely to be Carcinogenic to Humans	OPP (8/6/97)
Kathon 886	55965-84-9	107106	Group D--Not Classifiable as to Human Carcinogenicity	OPP (6/30/95)
KBR 3023 (propidine)	119515-38-7	070705	Not Likely to be Carcinogenic to Humans	OPP (6/9/99)
Kresoxim-methyl	143390-89-0	129111	Likely to be Carcinogenic to Humans	OPP (8/19/99)
Lactofen (Cobra)	77501-63-4	128888	Likely to be Carcinogenic in Humans at High Doses Not Likely to be Carcinogenic to Humans at Low Doses	OPP (4/8/02)
lambda-cyhalothrin	91465-08-6	128897	Group D--Not classifiable as to Human Carcinogenicity	OPP (9/12/02)
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	OPP (11/20/01)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Carcinogen	
Malathion	121-75-5	057701	Suggestive Evidence of Carcinogenicity but Not Sufficient to Assess Human Carcinogenic Potential	OPP (4/28/00)
Maleic hydrazide	123-33-1	051501	Group E--Evidence of Non-carcinogenicity for Humans	OPP (11/10/93)
Mancozeb	8018-01-7	014504	Group B2--Probable Human Carcinogen	OPP (7/7/99)
Maneb	12427-38-2	014505	Group B2--Probable Human Carcinogen	OPP (7/7/99)
MB46513 (photodegradate 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)
MCPA (and salts and esters)	94-74-6	030501	Not Likely to be Carcinogenic to Humans	OPP (10/29/03)
Mecroprop-p	16484-77-8	129046	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (1/15/03)
Mefenoxam	70630-17-0	113502	Not Likely to be Carcinogenic to Humans	OPP (5/17/00)
Melamine	108-78-1	777201	Group D--Not Classifiable as to Human Carcinogenicity	OPP (7/29/92)
Mepanipyrim	110235-47-7	288203	Likely to be Carcinogenic to Humans	OPP (4/20/04)
Mepiquat chloride	24307-26-4	109101	Not likely to be carcinogenic to Non-humans	OPP (2/19/03)
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)
Mesosulfuron Methyl	208465-21-8	122009	Not Likely to be Carcinogenic to Humans	OPP (3/4/04)
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)
Metaldehyde	108-62-3	053001	Suggestive Evidence of Carcinogenic Potential	OPP (6/23/05)
Metam sodium Metam potassium	137-42-8	039002 039003	Group B2--Probable Human Carcinogen	OPP (5/1/95)
Metconazole	125116-23-6	125619	Not Likely to be Carcinogenic to Humans	4/19/06
Methamidophos (Monitor)	10265-92-6	101201	Not Likely to be Carcinogenic to Humans	OPP (2/12/98)
Methanearsonic Acid	5902-95-4	013806	Not Likely to be Carcinogenic to Humans	OPP (12/14/00)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
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 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 Sodian Data	OPP (2/2200)
Methyl bromide	74-83-9	053201	Not Likely	OPP (8/4/92)
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 B2--Probable Human Carcinogen -- Based on Metam Sodian Data	OPP (2/22/00)
Methylphenol, 3-	108-39-4	022102	Group C--Possible Human Carcinogen	CRAVE (10/5/89)
Metiram	9006-42-2	014601	Group B2--Probable Human Carcinogen	OPP (7/7/99)
Metolachlor and S-Metolachlor	51218-45-2 87392-12-9	108800 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)
Metsulfuron	74223-64-6	122010	Not Likely to be Carcinogenic to Humans	OPP (3/14/02)
MGK Repellent 326	136-45-8	047201	Group B2--Probable Human Carcinogen	OPP (11/12/02)
MGK-264	113-48-4	057001	Group C--Possible Human Carcinogen	OPP (6/7/95)
Molinate	2212-67-1	041402	Suggestive Evidence of Carcinogenicity to Humans	OPP (12/14/00)
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	88671-89-0	128857	Group E--Evidence of Non-carcinogenicity for Humans	OPP (6/16/94)
Naled	300-76-5	034401	Group E--Evidence of Non-carcinogenicity for Humans	OPP (8/31/94)
Naptalam Naptalam, sodium salt	132-66-1 132-67-2	030702 030703	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/7/94)
Nicosulfuron	111991-09-4	129008	Group E--Evidence of	OPP (9/1/98)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Non-carcinogenicity for Humans	
Nitrapyrin	1929-82-4	069203	Likely to be Carcinogenic to Humans	OPP (3/26/05)
Nitrobenzene	98-95-3	056501	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (11/8/89)
Norflurazon	27314-13-2	105801	Group C--Possible Human Carcinogen	OPP (11/2/90)
Novaluron	116714-46-6	124002	Not Likely to be Carcinogenic to Humans	OPP (2/4/04)
Orthophenylphenol Sodium salt	90-43-7 132-27-4	064103 064104	Not Likely to be Carcinogenic to Humans	OPP (10/12/05)
Oryzalin	19044-88-3	104201	Likely to be Carcinogenic to Humans	OPP (5/14/03)
Oxadiazon	19666-30-9	109001	Group C--Possible Human Carcinogen	OPP (5/1/01)
Oxadixyl	77732-09-3	126701	Group C--Possible Human Carcinogen	OPP (1/4/89)
Oxamyl	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	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 (12/18/92)
Oxythioquinox	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	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)
Pendimethalin	40487-42-1	108501	Group C--Possible Human Carcinogen	OPP (7/24/92)
Penoxulam	219714-96-2	119031	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (3/24/2004)
Pentachloronitrobenzene	82-68-8	056502	Group C--Possible Human Carcinogen	OPP (12/18/92)
Pentachlorophenol	87-86-5	063001	Group B2--Probable Human	OPP (1/3/91)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Carcinogen	
Permethrin	52645-53-1	109701	Likely to be Carcinogenic to Humans	OPP (10/23/02)
Phenmedipham	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	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 Acid -triisopropanolamine salt -ethylhexyl ester -potassium salt	1918-02-1 6753-47-5 2545-60-0 35832-11-2	005101 005102 005103 005104	Group E--Evidence of Non-carcinogenicity for Humans	OPP (2/10/89)
Pinoxaden	243973-20-8	147500	Data are Inadequate for an Assessment of Human Carcinogenic Potential	OPP (5/18/05)
Piperonyl butoxide	51-03-6	067501	Group C--Possible Human Carcinogen	OPP (6/7/95)
Pirimicarb	23103-98-2	106101	Likely to be Carcinogenic to Humans	OPP (7/13/05)
Pirimiphos-methyl	29232-93-7	108102	Not Yet Determined	OPP (1/29/98)
Poly(hexamethylenebiguanide) (PHMB)	32289-58-0	111801	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (4/9/03)
Polychlorinated biphenyls	1336-36-3	017801	Group B2--Probable Human Carcinogen	CRAVE (4/22/87)
Potassium dichromate	7778-50-9	068302	Not Likely to be Carcinogenic to Humans	OPP (8/28/01)
Prallethrin	23031-36-9	128722	Not Likely to be Carcinogenic to Humans	OPP (6/27/03)
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	32809-16-8	129044	Group B2--Probable Human Carcinogen	OPP (4/5/91)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION¹	REPORT DATE
Prodiamine	29091-21-2	110201	Group C Possible Human Carcinogen	OPP (7/15/91)
Profenofos	41198-08-7	111401	Group E -- Evidence of Non-carcinogenicity for Humans	OPP (2/6/95)
Prohexadione Calcium	127277-53-6	112600	Not Likely to be Carcinogenic to Humans	OPP (4/14/00)
Prometon	1610-18-0	080804	Group D--Not Classifiable as to Human Carcinogenicity	OPP (9/17/92)
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 (6/19/01)
Propargite (Omite)	2312-35-8	097601	Group B2--Probable Human Carcinogen	OPP (7/23/92)
Propazine	139-40-2	080808	Not Likely to be Carcinogenic to Humans	OPP (12/8/05)
Propetamphos	31218-83-4	113601	Not Likely to be Carcinogenic to Humans	OPP (12/2/98)
Propoxur	114-26-1	047802	Group B2 -- Probable Human Carcinogen	OPP (6/17/96)
Propoxycarbazone sodium	181274-15-7	122019	Not Likely to be Carcinogenic to Humans	OPP (4/6/04)
Propiconazole	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	94125-34-5	129031	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	OPP (1/24/00)
PT807-HC1 (Ecolyst)	NR	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	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	OPP (9/10/03)
Pyraflufen-Ethyl	129630-19-9	030090	Likely to be Carcinogenic to Humans	OPP (10/8/02)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION¹	REPORT DATE
Pyrethrins	8003-34-7	069001	Suggestive Evidence of Carcinogenicity but Not Sufficient to Assess Human Carcinogenic Potential	OPP (6/22/04)
Pyridaben	96489-71-3	129105	Group E--Evidence of Non-carcinogenicity for Humans	OPP (5/11/94)
Pyrimethanil	53112-28-0	288201	Group C--Possible Human Carcinogen	OPP (2/12/97)
Pyriproxyfen	95737-68-1	129032	Group E--Evidence of Non-carcinogenicity for Humans	OPP (9/15/95)
Pyrithiobac-sodium	123343-16-8	078905	Group C--Possible Human Carcinogen	OPP (9/5/95)
Quinclorac	84087-01-4	128974	Group D--Not Classifiable as to Human Carcinogenicity	OPP (8/26/92)
Quinoxifen	124495-18-7	055459	Not Likely to be Carcinogenic to Humans	OPP (1/28/03)
Quizalofop ethyl	76578-14-8	128201	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/17/88)
Resmethrin	10453-86-8	097801	Likely to be Carcinogenic to Humans	OPP (5/25/05)
Rimsulfuron (DPX-E9636)	122931-48-0	129009	Not Likely to Be Carcinogenic to Humans	OPP (2/19/98)
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	Not Likely to Be Carcinogenic in Humans	OPP (3/19/03)
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	Not Likely to Be Carcinogenic to Humans	OPP (4/14/05)
Sodium omadine	15922-78-8	088004	Group D--Not Classifiable as to Human Carcinogenicity	OPP (5/16/95)
Sodium dichromate	3173233	068304	Not Likely to be Carcinogenic to Humans	OPP (8/28/01)
Spinosad (XDE-105)	131929-60-7	110003	Not Likely to be Carcinogenic to Humans	OPP (6/17/97)
Spirodiclofen	148477-71-8	124871	Likely to be Carcinogenic to Humans	OPP (6/10/04)
Spiroxamine	118134-30-8	120759	Not Likely to be Carcinogenic to Humans	OPP (11/14/03)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
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	
Sulfosulfuron	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	35400-43-2	111501	Group E--Evidence of Non-carcinogenicity for Humans	OPP (3/26/96)
Surfonic AGM-550	NR	870401	No Data Available	NR
TCMTB (Busan 72)	21564-17-0	035603	Group C--Possible Human Carcinogen	OPP (8/28/96)
Tebuconazole	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)
Tebufenpyrad	119168-77-3	090102	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	OPP (5/15/02)
Tebuthiuron	34014-18-1	105501	Group D--Not Classifiable as to Human Carcinogenicity	OPP (3/1/91)
Tefluthrin	79538-32-2	128912	Not Yet Evaluated	OPP (11/14/97)
Temephos	3383-96-8	059001	Not Yet Determined	OPP (5/12/98)
Tepraloxymid	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)
Terbutylazine	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	961-11-5	083701	Likely to be Carcinogenic to Humans	OPP (3/7/02)
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)
Thallium(I) sulfate	7446-18-6	080001	Group D -- Not Classifiable as	CRAVE (11/8/89)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			to Human Carcinogenicity	
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 (3/8/02)
Thiacloprid	111988-49-9	014019	Likely to be Carcinogenic to Humans	OPP (3/26/03)
Thiaflumide (FOE 5043)	142459-58-3	121903	Not Likely to be Carcinogenic to Humans	OPP (7/16/97)
Thiamethoxam	153719-23-4	060109	Not Likely to be Carcinogenic to Humans	OPP (6/13/05)
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)
Thiocyclam hydrogen oxalate	31895-22-4	128868	Group D -- Not Classifiable as to Human Carcinogenicity	OPP (9/15/94)
Thiodicarb	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 (12/8/01)
Thiram	137-26-8	079801	Not Likely to be Carcinogenic to Humans	OPP (4/14/03)
Toluene	108-88-3	080601	Group D-- Not Classifiable as to Human Carcinogenicity	CRAVE (9/15/87)
Tolyfluanid	731-27-1	309200	Likely to be Carcinogenic to Humans	OPP (5/01/02)
Toxaphene	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	43121-43-3	109901	Group C--Possible Human Carcinogen	OPP (12/4/96)
Triadimenol	55219-65-3	127201	Group C--Possible Human Carcinogen	OPP (1/29/88)
Tralkoxydim	87820-88-0	121000	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential Likely to be Carcinogenic to Humans	OPP (6/30/04)
Triallate	2303-17-5	078802	Group C--Possible Human Carcinogen	OPP (1/12/94)
Triasulfuron	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	101200-48-0	128887	Group C--Possible Human	OPP (7/14/89)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION ¹	REPORT DATE
			Carcinogen	
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)
Trichlorobenzene, 1,2,4-	120-82-1	081101	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (10/19/88)
Trichloroethane, 1,1,2-	79-00-5	081203	Group C--Possible Human Carcinogen	CRAVE (7/26/86)
Trichloroethane, 1,1,1-	71-55-6	081201	Group D--Not Classifiable as to Human Carcinogenicity	CRAVE (8/5/87)
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	3380-34-5	054901	Not Yet Determined.	OPP (10/22/98)
Tridiphane	58138-08-2	123901	Group C--Possible Human Carcinogen	OPP (4/22/86)
Triforine	26644-46-2	107901	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential Likely to be Carcinogenic to Humans	OPP (6/29/04)
Trifloxystrobin	141517-21-7	129112	Not Likely to be Carcinogenic to Humans	OPP (6/16/99)
Trifloxysulfuron-sodium	290332-10-4	119009	Not Likely to be Carcinogenic to Humans	OPP (7/22/03)
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 (4/11/86)
Triflusulfuron-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 (12/4/96)
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	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	CRAVE (6/15/90)

CHEMICAL	CAS No.	PC CODE	CANCER CLASSIFICATION¹	REPORT DATE
			Human Carcinogenicity	
Xylene	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)
Ziram	137-30-4	034805	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential Likely to be Carcinogenic to Humans	OPP (2/6/03)
Zoxamide	156052-68-5	101702	Not Likely to be Carcinogenic to Humans	OPP (12/16/99)

FOOTNOTES

- 1 = CANCER CLASSIFICATION:** Unless otherwise indicated, chemicals were evaluated and classified by one of the Office of Pesticide Programs (OPP) HED peer review committees (e.g., CARC, CPRC., HIARC, etc.).
- 2 = QUANTIFICATION METHOD:** Indicates the method used to quantify the human cancer risk. The terms used to describe the quantification method are: Not Required (NR); RfD Approach; MOE Approach; or Low Dose Linear Extrapolation (Q_1^*).
- Not Required:* Term used when a chemical is classified as Group D, Group E, Not Likely, Group C with no Q_1^* , or Suggestive Evidence of Carcinogenicity
- RfD Approach:* Term used when a comparison of the chronic dietary exposure level is made to the Chronic Reference Dose (cRfD) for that chemical.
- MOE Approach* Term used when Margins of Exposure are calculated using estimated human exposure levels and the Points of Departure (i.e, NOAEL) for cancer or pre-neoplastic effects.
- Low Dose Linear (Q_1^*):* The Q_1^* is the human equivalency potency factor for cancer risk and is based on oral exposure unless otherwise indicated. The units used to express the Q_1^* for oral exposure are $(\text{mg/kg/day})^{-1}$. The units used to express the Q_1^* for inhalation exposure are $(\text{g}/\text{cu m})^{-1}$.
- The $2/3$ or $3/4$ powers (shown in parenthesis following the Q_1^*) indicate the interspecies scaling factor used to extrapolate from animal to human. The $3/4$ scaling factor has been the Agency standard since 7/8/94. Prior to that time, the $2/3$ scaling factor was used. The animal body weight is raised to the $3/4$ power before the estimates are put through the appropriate model(s) to determine cancer potency and generate the unit risk, or Q_1^* . Chemicals with values based on the old $2/3$ scaling factors will be converted to $3/4$ only if/when the chemical is re-reviewed by the Cancer Assessment Review Committee.
- 3 = CRAVE/CAG:** Chemicals were evaluated and classified by other Peer Review Committees within the US EPA: the Carcinogen Risk Assessment Validation Effort (CRAVE); or the Cancer Assessment Group (CAG).