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**SUBJECT: Chemicals Evaluated for Carcinogenic Potential by the Office of Pesticide Programs**

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**TO: Division Directors AD, BPPD, EFED, FEAD, HED, RD and SRRD**

The attached list provides an overview of chemicals evaluated for carcinogenic potential by the Health Effects Division (HED) of the Office of Pesticide Programs (OPP) through June 2008. Applying the Agency's Guidelines for Carcinogen Risk Assessment, the classification of the chemical is made by HED's Cancer Assessment Review Committee (CARC).

This list includes the chemical name, CAS Number, PC code, the cancer classification, report date, species, tumor types, and, if required, the human equivalency potency factor (Q1\*). The potency factor (Q1\*), unless otherwise indicated, is based on the oral route. The Q1\* is expressed as (mg/kg/day)<sup>-1</sup> for the oral route and as (mg/m<sup>3</sup>)<sup>-1</sup> for the inhalation route.

It should be noted that the evaluation of many of these chemicals is an ongoing process, therefore, the information in this list (i.e., classification and/or the quantification) may be subject to change as new and/or additional data are submitted to OPP. This list should not be used as the single source for either the classification or quantification of the carcinogenic potential. This list will be updated annually.

If further information is required please contact Brenda S. May (Phone: 703-308-6175; E-mail: [may.brenda@epa.gov](mailto:may.brenda@epa.gov)) or me (Phone: 703-308-2719; E-mail: [rowland.jess@epa.gov](mailto:rowland.jess@epa.gov)).

**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.

**NOTE:** As new information becomes available, the list may become out-of-date.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.

### **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 reevaluated, 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 designation refers 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 is given on the following pages.

## **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, and 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 alpha<sub>2u</sub>-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).

## **CLASSIFICATION -1986**

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 upperbound 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**  
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CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
1,3-Dibromo-5,5-dimethylhydantoin	77-48-5	006317	Not Likely To Be Carcinogenic To Humans	08/28/00
1,3-dichloro-5-methylhydantoin	89415-87-2	128826	Not Likely To Be Carcinogenic To Humans	08/28/00
2, 4 - DBA	94-82-6	030801	Not Likely To Be Carcinogenic To Humans	06/13/03
2,4-D + Salts & Esters	94-75-7	030001	Group D--Not Classifiable as to Human Carcinogenicity	01/29/97
2-Benzyl-4-chlorophenol	120-32-1	062201	Group C--Possible Human Carcinogen	09/05/95
Acephate	30560-19-1	103301	Group C--Possible Human Carcinogen	05/08/85
Acequinocyl	57960-19-7	006329	Not Likely To Be Carcinogenic To Humans	11/13/03
Acetamide	60-35-5	111101	Group C--Possible Human Carcinogen	05/29/90
Acetamiprid	135410-20-7	099050	Not Likely To Be Carcinogenic To Humans	12/11/01
Acetochlor	34256-82-1	121601	Suggestive Evidence of Carcinogenic Potential	01/03/07
Acibenzolar-S-methyl	135158-54-2	061402	Not Likely To Be Carcinogenic To Humans	12/09/99
Acifluorfen sodium	62476-59-9	114402	Multiple Descriptors: Likely to be Carcinogenic to Humans at High Doses Not Likely to be Carcinogenic to Humans at Low Doses	07/09/03
Acrinathrin	101007-06-1	129141	Group D--Not Classifiable as to Human Carcinogenicity	07/15/96
ADBAC	68424-85-1	069105	Not Likely To Be Carcinogenic To Humans	12/08/99
Alachlor	15972-60-8	090501	Multiple Descriptors: Likely to be Carcinogenic to Humans (High Doses); Not Likely to be Carcinogenic to Humans (Low Doses)	06/27/97
Aldicarb	116-06-3	098301	Group E--Evidence of Non-carcinogenicity for Humans	07/17/02
Ametryn	834-12-8	080801	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	09/17/04
Amicarbazone	129909-90-6	114004	Not Likely To Be Carcinogenic To Humans	08/10/05
Aminopyralid	150114-71-9	005100	Not Likely To Be Carcinogenic To Humans	07/12/05

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CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Amitraz	33089-61-1	106201	Suggestive Evidence of Carcinogenic Potential	07/18/06
Amitrole	61-82-5	004401	Multiple Descriptors: Not Likely To Be Carcinogenic To Humans At Doses That Do Not Alter Rat Thyroid Hormone Homeostasis	05/11/06
Asulam	3337-71-1	106901	Group C--Possible Human Carcinogen	12/06/01
Atrazine	1912-24-9	080803	Not Likely To Be Carcinogenic To Humans	12/13/00
Avermectin (see Emamectin Benzoate)	65195-55-3	122804	Group E--Evidence of Non-carcinogenicity for humans	06/27/96
Azafenidin	68049-83-2	119016	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	10/18/99
Azinphos-methyl	86-50-0	058001	Not Likely To Be Carcinogenic To Humans	12/07/93
Azoxystrobin	131860-33-8	128810	Not Likely To Be Carcinogenic To Humans	01/14/97
Bendiocarb	22781-23-3	105201	Group E--Evidence of Non-carcinogenicity for Humans	12/16/97
Benfluralin	1861-40-1	084301	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	12/27/01
Benomyl	17804-35-2	099101	Group C--Possible Human Carcinogen	09/21/00
Bensulide	741-58-2	009801	Not Likely To Be Carcinogenic To Humans	06/10/99
Bentazon	25057-89-0	275200	Group E--Evidence of Non-carcinogenicity for Humans	01/14/92
Benthiavalicarb-isopropyl	177406-68-7	098379	Likely to be Carcinogenic to Humans	10/18/05
Bifenazate	149877-41-8	000586	Not Likely To Be Carcinogenic To Humans	08/28/01
Bifenthrin	82657-04-3	128825	Group C--Possible Human Carcinogen	02/19/03
Bioallethrin	584-79-2	004003	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	10/29/03
Bispyrabac Sodium	125401-92-5	078906	Not Likely To Be Carcinogenic To Humans	08/02/01

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CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Borax	1303-96-4	011102	Group E--Evidence of Non-carcinogenicity for humans	11/24/93
Boric acid	10043-35-3	011001	Group E--Evidence of Non-carcinogenicity for humans	11/24/93
Boron	7440-42-8	128945	Group E--Evidence of Non-carcinogenicity for humans	11/24/93
Boscolid	188425-85-6	128008	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	11/14/02
Bromacil	314-40-9	012301	Group C--Possible Human Carcinogen	01/13/93
Bromoxynil	1689-84-5	035301	Group C--Possible Human Carcinogen	03/12/97
Bromuconazole	116255-48-2	120503	Group E--Evidence of Non-carcinogenicity for humans	04/24/95
Bronopol	52-51-7	216400	Group E--Evidence of Non-carcinogenicity for humans	06/12/95
Buprofezin	69327-76-0	275100	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/15/00
Butachlor	23184-66-9	112301	Likely to be Carcinogenic to Humans	02/24/99
Butafenacil	134605-64-4	122004	Not Likely To Be Carcinogenic To Humans	07/11/03
Butylate	2008-41-5	041405	Group E--Evidence of Non-carcinogenicity for humans	11/25/92
Cacodylic acid	75-60-5	012501	Group B--Probable Human Carcinogen	12/14/99
Cadusafos	95465-99-9	128864	Group E--Evidence of Non-carcinogenicity for humans	05/28/92
Captafol	2939-80-2	081701	Group B--Probable Human Carcinogen	05/19/87
Captan	133-06-2	081301	Multiple Descriptors: Likely at prolonged, high-level exposures, but not likely at dose levels that do not cause cytotoxicity and regenerative cell hyperplasia	09/22/04
Carbaryl	63-25-2	056801	Likely to be Carcinogenic to Humans	02/12/02
Carbendazim (MBC)	10605-21-7	128872	Group C--Possible Human Carcinogen	04/07/89

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 Science Information Management Branch  
 Health Effects Division  
 Office of Pesticide Programs  
 U.S. Environmental Protection Agency

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Carbofuran	1563-66-2	090601	Not Likely To Be Carcinogenic To Humans	06/17/97
Carboxin	5234-68-4	090201	Not Likely To Be Carcinogenic To Humans	06/05/03
Carfentrazone-ethyl	128639-02-1	128712	Not Likely To Be Carcinogenic To Humans	05/16/01
Chlordimeform	6164-98-3	059701	Group B--Probable Human Carcinogen	12/20/85
Chlorethoxyfos	54593-83-8	129006	Group D--Not Classifiable as to Human Carcinogenicity	03/09/95
Chlorfenapyr	122453-73-0	129093	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/18/03
Chloroaniline, p-	106-47-8	017203	Group B--Probable Human Carcinogen	04/27/95
Chloroneb	2675-77-6	027301	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	12/18/03
Chlorothalonil	1897-45-6	081901	Group B--Probable Human Carcinogen	02/28/96
Chlorpropham	101-21-3	018301	Group E--Evidence of Non-carcinogenicity for humans	10/11/94
Chlorpyrifos	2921-88-2	059101	Group E--Evidence of Non-carcinogenicity for humans	11/23/93
Chlorpyrifos methyl	1351032	059102	Not Likely To Be Carcinogenic To Humans	05/17/99
Chlorsulfuron	64902-72-3	118601	Group E--Evidence of Non-carcinogenicity for humans	07/17/02
Chlorthal-dimethyl (DCPA)	1861-32-1	078701	Group C--Possible Human Carcinogen	02/10/95
Clodinafop-propargyl	105512-06-9	125203	Suggestive Evidence of Carcinogenic Potential	02/08/06
Clofencet (MON 21200)	82697-71-0	128726	Group C--Possible Human Carcinogen	07/23/96
Clofentezine	74115-24-5	125501	Group C--Possible Human Carcinogen	04/03/90
Clomazone	81777-89-1	125401	Not Likely To Be Carcinogenic To Humans	01/31/01
Clopyralid	1702-17-6	117403	Not Likely To Be Carcinogenic To Humans	12/20/99
Cloquintocet-mexyl	99607-70-2	700099	Not Likely To Be Carcinogenic To Humans	08/31/99
Cloransulam-methyl	147150-35-4	129116	Group E--Evidence of Non-carcinogenicity for humans	09/30/97

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Clothianidin	210880-92-5	044309	Not Likely To Be Carcinogenic To Humans	01/06/03
Cocamide Diethanolamine	68603-42-9	224600	Likely to be Carcinogenic to Humans	07/25/01
Coumaphos	56-72-4	036501	Not Likely To Be Carcinogenic To Humans	06/25/99
Cresol, p-Chloro-m-	59-50-7	064206	Group D--Not Classifiable as to Human Carcinogenicity	11/28/95
Cryolite	15096-52-3	075101	Group D--Not Classifiable as to Human Carcinogenicity	12/22/95
Cumyluron	99485-76-4	027902	Suggestive Evidence of Carcinogenic Potential	06/11/08
Cyanazine	21725-46-2	100101	Group C--Possible Human Carcinogen	07/30/91
Cyclanilide	113136-77-9	026201	Not Likely To Be Carcinogenic To Humans	04/09/97
Cycloate	1134-23-2	041301	Not Likely To Be Carcinogenic To Humans	09/25/03
Cyfluthrin	68359-37-5	128831	Not Likely To Be Carcinogenic To Humans	05/21/02
Cyhalofop butyl	122008-85-9	082583	Not Likely To Be Carcinogenic To Humans	12/20/07
Cyhalothrin	68085-85-8	128867	Group D--Not Classifiable as to Human Carcinogenicity	09/15/94
Cyhexatin	13121-70-5	101601	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	04/07/05
Cymoxanil	57966-95-7	129106	Not Likely To Be Carcinogenic To Humans	01/02/03
Cypermethrin	52315-07-8	109702	Group C--Possible Human Carcinogen	09/27/88
Cyproconazole	94361-06-5	128993	Not Likely To Be Carcinogenic To Humans at doses that do not cause a mitogenic response in the liver	12/04/07
Cyprodinil	121552-61-2	288202	Not Likely To Be Carcinogenic To Humans	01/14/98
Cyprosulfamide	221667-31-8	877400	Not Likely To Be Carcinogenic To Humans	02/29/08
Cyromazine	66215-27-8	121301	Group E--Evidence of Non-carcinogenicity for humans	01/06/95
Daminozide	1596-84-5	035101	Group B--Probable Human Carcinogen	07/26/91

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Dantochlor (BCDMH)	118-52-5	028501	Not Likely To Be Carcinogenic To Humans	08/14/00
Dazomet	533-74-4	035602	Group D--Not Classifiable as to Human Carcinogenicity	12/07/93
DEET	134-62-3	080301	Group D--Not Classifiable as to Human Carcinogenicity	01/04/96
Deltamethrin	52918-63-5	097805	Not Likely To Be Carcinogenic To Humans	09/09/03
Desmedipham	13684-56-5	104801	Group E--Evidence of Non-carcinogenicity for humans	11/20/95
Diazinon	333-41-5	057801	Not Likely To Be Carcinogenic To Humans	06/17/97
Dicamba	1918-00-9	029801	Group D--Not Classifiable as to Human Carcinogenicity	07/29/96
Dichlobenil	1194-65-6	027401	Group C--Possible Human Carcinogen	07/18/95
Dichlorobenzamide, 2,6-	2008-88-4	027402	Group D--Not Classifiable as to Human Carcinogenicity	11/28/95
Dichlorvos	62-73-7	084001	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/01/00
Diclofop-methyl	51338-27-3	110902	Likely to be Carcinogenic to Humans	05/24/00
Diclosulam	145701-21-9	129122	Not Likely To Be Carcinogenic To Humans	11/09/99
Dicofol	115-32-2	010501	Group C--Possible Human Carcinogen	06/24/92
Dicrotophos	141-66-2	035201	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	10/18/99
Didecyl dimethyl ammonium chloride (DDAC)	7173-51-5	069149	Group E--Evidence of Non-carcinogenicity for Humans	4/11/00
Difenoconazole	119446-68-3	128847	Group C--Possible Human Carcinogen	07/27/94
Difenzoquat methyl sulfate	43222-48-6	106401	Group E--Evidence of Non-carcinogenicity for humans	05/24/94
Diflubenzuron	35367-38-5	108201	Group E--Evidence of Non-carcinogenicity for humans	04/27/95
Diflufenzopyr Sodiium	109293-98-3	005107	Not Likely To Be Carcinogenic To Humans	10/06/98
Dimethenamid	87674-68-8	129051	Group C--Possible Human Carcinogen	09/15/95

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Dimethipin	55290-64-7	118901	Group C--Possible Human Carcinogen	01/05/90
Dimethoate	60-51-5	035001	Group C--Possible Human Carcinogen	03/26/02
Dimethomorph	110488-70-5	268800	Not Likely To Be Carcinogenic To Humans	05/13/98
Dimethoxane	828-00-2	001001	Suggestive Evidence of Carcinogenic Potential	12/21/00
Dimethyl ether	115-10-6	900382	Group D--Not Classifiable as to Human Carcinogenicity	01/12/94
Dimethylhydantoin	16079-88-2	006315	Not Likely To Be Carcinogenic To Humans	08/28/00
Dinocap	39300-45-3	036001	Group E--Evidence of Non-carcinogenicity for Humans	06/22/94
Dinoseb	88-85-7	037505	Group C--Possible Human Carcinogen	06/19/86
Dinotefuran	165252-70-0	044312	Not Likely To Be Carcinogenic To Humans	03/05/04
Diphenylamine	122-39-4	038501	Not Likely To Be Carcinogenic To Humans	04/01/97
Diquat dibromide	85-00-7	032201	Group E--Evidence of Non-carcinogenicity for Humans	05/12/94
Disodium methanearsonate	144-21-8	013802	Not Likely To Be Carcinogenic To Humans	07/26/00
Disulfoton	298-04-4	032501	Group E--Evidence of Non-carcinogenicity for Humans	04/21/97
Dithianon	3347-22-6	099201	Suggestive Evidence of Carcinogenic Potential	02/23/06
Dithiopyr (MON 7200)	97886-45-8	128994	Group E--Evidence of Non-carcinogenicity for Humans	05/29/97
Diuron	330-54-1	035505	Known/Likely	05/08/97
Ecolyst	274671-61-3	069089	Not Likely To Be Carcinogenic To Humans	10/19/99
Emamectin Benzoate (Deoxy Avermectin)	137512-74-4	122806	Not Likely To Be Carcinogenic To Humans	03/19/98
Endosulfan	115-29-7	079401	Not Likely To Be Carcinogenic To Humans	01/31/00
Epoxiconazole	106325-08-0, 133855-98-8	123909	Likely to be Carcinogenic to Humans	01/24/01
Esbiothrin	28434-00-6	004007	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	12/02/03
Esfenvalerate	66230-04-4	109303	Group E--Evidence of Non-carcinogenicity for Humans	7/1/96

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Ethaboxam	162650-77-03	090205	Suggestive Evidence of Carcinogenic Potential	03/23/06
Ethalfuralin	55283-68-6	113101	Group C--Possible Human Carcinogen	09/14/94
Ethephon	16672-87-0	099801	Group D--Not Classifiable as to Human Carcinogenicity	8/15/94
Ethion	563-12-2	058401	Group E--Evidence of Non-carcinogenicity for humans	01/26/94
Ethofumesate	26225-79-6	110601	Group D--Not Classifiable as to Human Carcinogenicity	02/24/94
Ethoprop	13194-48-4	041101	Likely to be Carcinogenic to Humans	10/07/98
Ethyl dipropylthiocarbamate (EPTC)	759-94-4	041401	Not Likely To Be Carcinogenic To Humans	08/31/99
Ethylene thiourea (ETU)	96-45-7	600016	Group B--Probable Human Carcinogen	07/07/99
Etofenprox	80844-07-1	128965	Multiple Descriptors: Not Likely Below a Defined Dose Range	02/08/06
Etoazole	153233-91-1	107091	Not Likely To Be Carcinogenic To Humans	08/07/03
Famoxadone	131807-57-3	113202	Not Likely To Be Carcinogenic To Humans	04/16/03
Fenamidone	161326-34-7	046679	Not Likely To Be Carcinogenic To Humans	07/12/02
Fenamiphos	22224-92-6	100601	Group E--Evidence of Non-carcinogenicity for Humans	11/23/93
Fenarimol	60168-88-9	206600	Not Likely To Be Carcinogenic To Humans	09/05/01
Fenazaquin	120928-09-8	044501	Not Likely To Be Carcinogenic To Humans	05/15/07
Fenbuconazole	114369-43-6	129011	Group C--Possible Human Carcinogen	04/15/96
Fenbutatin-oxide	13356-08-6	104601	Group E--Evidence of Non-carcinogenicity for Humans	03/02/93
Fenhexamide	126833-17-8	090209	Not Likely To Be Carcinogenic To Humans	03/04/99
Fenitrothion	122-14-5	105901	Group E--Evidence of Non-carcinogenicity for Humans	07/13/93
Fenoxycarb	72490-01-8	125301	Likely to be Carcinogenic to Humans	04/01/96
Fenpropathrin	39515-41-8	127901	Not Likely To Be Carcinogenic To Humans	12/22/03
Fenpropimorph	67564-91-4	121402	Not Likely To Be Carcinogenic To Humans	10/19/05

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Fenpyroximate	134098-61-6	129131	Not Likely To Be Carcinogenic To Humans	02/19/97
Fenthion	55-38-9	053301	Group E--Evidence of Non-carcinogenicity for Humans	03/11/96
Fenvalerate	51630-58-1	109301	Group E--Evidence of Non-carcinogenicity for Humans	2/10/03
Ferbam	128-04-1	034801	Likely to be Carcinogenic to Humans	04/06/00
Fipronil	120068-37-3	129121	Group C--Possible Human Carcinogen	07/18/95
Flzasulfuron	104040-78-0	119011	Not Likely To Be Carcinogenic To Humans	11/16/05
Flonicamid	158062-67-0	128016	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	02/24/05
Florasulam	145701-23-1	129108	Not Likely To Be Carcinogenic To Humans	05/31/07
Fluazinam	79622-59-6	129098	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/29/01
Flucarbazone-sodium	181274-17-9	114009	Not Likely To Be Carcinogenic To Humans	07/19/00
Fludioxonil	131341-86-1	071503	Group D--Not Classifiable as to Human Carcinogenicity	09/19/96
Flufenacet (Thiaflumide)	142459-58-3	121903	Not Likely To Be Carcinogenic To Humans	07/16/97
Flufenoxuron	101463-69-8	108203	Not Likely To Be Carcinogenic To Humans	08/15/06
Flufenpyr-ethyl	188489-07-8	108853	Not Likely To Be Carcinogenic To Humans	06/08/03
Flumetsulam (XRD-498)	98967-40-9	129016	Group E--Evidence of Non-carcinogenicity for Humans	03/24/93
Flumiclorac pentyl	87546-18-7	128724	Group E--Evidence of Non-carcinogenicity for Humans	09/07/94
Flumioxazin	103361-09-7, 141490-50-8	129034	Not Likely To Be Carcinogenic To Humans	02/22/01
Fluometuron	2164-17-2	035503	Group C--Possible Human Carcinogen	08/28/96
Fluopicolide	239110-15-7	027412	Not Likely To Be Carcinogenic To Humans	12/12/06
Fluoxastrobin	361377-29-9	028869	Not Likely To Be Carcinogenic To Humans	01/24/05

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Fluridone	59756-60-4	112900	Group E--Evidence of Non-carcinogenicity for Humans	07/01/85
Fluroxypyr acid (see also PC Code 128968)	69377-81-7	128959	Not Likely To Be Carcinogenic To Humans	06/26/03
Fluthiacet methyl	117337-19-6	108803	Likely to be Carcinogenic to Humans	11/20/98
Flutolanil	66332-96-5	128975	Group E--Evidence of Non-carcinogenicity for Humans	06/09/94
Folpet	133-07-3	081601	Group B--Probable Human Carcinogen	08/19/03
Fomesafen	108731-70-0	123802	Not Likely To Be Carcinogenic To Humans	11/03/05
Fonofos	944-22-9	041701	Group E--Evidence of Non-carcinogenicity for Humans	11/10/93
Formasulfuron	173159-57-4	122020	Not Likely To Be Carcinogenic To Humans	09/19/01
Formetanate hydrochloride	23422-53-9	097301	Group E--Evidence of Non-carcinogenicity for Humans	05/20/96
Fosetyl-Al	39148-24-8	123301	Not Likely	04/22/99
Fosthiazate	98886-44-3	129022	Not Likely To Be Carcinogenic To Humans	09/15/03
Furiazole (MON 13900)	121776-33-8	911596	Likely to be Carcinogenic to Humans	10/15/99
Furmecyclox	60568-05-0	122601	Group B--Probable Human Carcinogen	07/03/85
Gamma Cyhalothrin	76703-62-3	128807	Not Likely To Be Carcinogenic To Humans	03/01/04
Glufosinate-ammonium	77182-82-2	128850	Not Likely To Be Carcinogenic To Humans	05/17/99
Glutaraldehyde	111-30-8	043901	Not Likely To Be Carcinogenic To Humans	05/18/06
Glyphosate	1071-83-6	417300	Group E--Evidence of Non-carcinogenicity for Humans	12/31/91
Halosulfuron methyl (MON 1200)	100784-20-1	128721	Not Likely To Be Carcinogenic To Humans	02/26/98
Haloxyfop-methyl	690806-40-2	125201	Group B--Probable Human Carcinogen	09/18/89
Hexaconazole	79983-71-4	128925	Group C--Possible Human Carcinogen	01/21/99
Hexavalent Chromium (CrVI)	18540-29-9	021101; 068302	Likely to be Carcinogenic to Humans	03/12/08
Hexazinone	51235-04-2	107201	Group D--Not Classifiable as to Human Carcinogenicity	07/27/94
Hexythiazox	78587-05-0	128849	Group C--Possible Human Carcinogen	03/01/00

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
HOE107892	135590-91-9	811800	Not Likely To Be Carcinogenic To Humans	11/24/98
Hydramethylnon	67485-29-4	118401	Group C--Possible Human Carcinogen	03/28/91
Hydrogen cyanamide	420-04-2	014002	Group C--Possible Human Carcinogen	09/15/93
Hydroprene	41096-46-2	486300	Group D--Not Classifiable as to Human Carcinogenicity	06/08/95
Imazalil	35554-44-0	111901	Likely to be Carcinogenic to Humans	12/07/99
Imazamethabenz	81405-85-8	128842	Group D--Not Classifiable as to Human Carcinogenicity	06/11/87
Imazamox	114311-32-9	129171	Not Likely To Be Carcinogenic To Humans	02/27/97
Imazapic	81334-60-3	129041	Group E--Evidence of Non-carcinogenicity for Humans	09/27/95
Imazapyr	81334-34-1	128821	Group E--Evidence of Non-carcinogenicity for Humans	10/05/95
Imazethapyr	81335-77-5	128922	Not Likely To Be Carcinogenic To Humans	01/31/02
Imidacloprid	105827-78-9	129099	Group E--Evidence of Non-carcinogenicity for Humans	11/10/93
Indoxacarb	173584-44-6	067710	Not Likely To Be Carcinogenic To Humans	07/17/00
Iodomethane	74-88-4	000011	Multiple Descriptors: Not Likely to be Carcinogenic to Humans at doses that do not alter rat thyroid hormone homeostasis	11/10/05
Iodosulfuran	144550-36-7	122021	Not Likely To Be Carcinogenic To Humans	01/05/04
Iprodione	36734-19-7	109801	Likely to be Carcinogenic to Humans	02/26/98
Iprovalicarb	140923-17-7	098359	Likely to be Carcinogenic to Humans	04/11/02
Isofenphos	25311-71-1	109401	Group E--Evidence of Non-carcinogenicity for Humans	01/13/98
Isophorone	78-59-1	047401	Group C--Possible Human Carcinogen	09/02/99
Isoxaben	82558-50-7	125851	Group C--Possible Human Carcinogen	10/05/87
Isoxadifen-ethyl	163520-33-0	823000	Not Likely To Be Carcinogenic To Humans	01/29/01
Isoxaflutole	141112-29-0	123000	Likely to be Carcinogenic to Humans	08/06/97

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Kasugamycin	6980-18-3	230001	Not Likely To Be Carcinogenic To Humans	08/17/05
Kathon 886	55965-84-9	107106	Group D--Not Classifiable as to Human Carcinogenicity	05/18/95
KBR 3023	119515-38-7	070705	Not Likely To Be Carcinogenic To Humans	06/09/99
Kresoxim-methyl	143390-89-0	129111	Likely to be Carcinogenic to Humans	08/19/99
Lactofen	77501-63-4	128888	Multiple Descriptors: Likely to be Carcinogenic in Humans at High Doses. Not Likely to be Carcinogenic to Humans at Low Doses	10/17/06
Lambda cyhalothrin	91465-08-6	128897	Group D--Not classifiable as to Human Carcinogenicity	09/12/02
Lindane	58-89-9	009001	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	11/29/01
Linuron	330-55-2	035506	Group C--Possible Human Carcinogen	11/20/01
Malathion	121-75-5	057701	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	04/28/00
Maleic hydrazide	123-33-1	051501	Group E--Evidence of Non-carcinogenicity for Humans	11/10/93
Mancozeb	8018-01-7	014504	Group B--Probable Human Carcinogen	07/07/99
Maneb	12427-38-2	014505	Group B--Probable Human Carcinogen	07/07/99
MB46513 (photodegradate of Fipronil)	120067-83-6	600050	Not Likely To Be Carcinogenic To Humans	12/06/00
MCPA + Salts	94-74-6	030501	Not Likely To Be Carcinogenic To Humans	10/29/03
Mecoprop-P	16484-77-8	129046	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/13/03
Mefenoxam	70630-17-0	113502	Not Likely To Be Carcinogenic To Humans	05/17/00
Melamine	108-78-1	777201	Group D--Not Classifiable as to Human Carcinogenicity	07/21/93
Mepanipyrim	110235-97-7	288203	Likely to be Carcinogenic to Humans	04/20/04

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Mepiquat Chloride	24307-26-4	109101	Not Likely	02/19/03
Mercaptobenzothiazole, 2-	149-30-4	051701	Group C--Possible Human Carcinogen	11/19/92
Mesosulfuron methyl	208465-21-8	122009	Not Likely To Be Carcinogenic To Humans	03/04/04
Mesotrione	104206-82-8	122990	Not Likely To Be Carcinogenic To Humans	04/12/01
Metaflumizone	139968-49-3	281250	Not Likely To Be Carcinogenic To Humans	01/24/06
Metalaxyl	57837-19-1	113501	Group E--Evidence of Non-carcinogenicity for Humans	04/20/94
Metaldehyde	108-62-3	053001	Suggestive Evidence of Carcinogenic Potential	06/23/05
Metam sodium/potassium	137-42-8	039003	Group B--Probable Human Carcinogen	05/01/95
Metconazole	125116-23-6	125619	Not Likely To Be Carcinogenic To Humans	04/14/06
Methamidophos	10265-92-6	101201	Not Likely To Be Carcinogenic To Humans	10/06/97
Methidathion	950-37-8	100301	Group C--Possible Human Carcinogen	02/19/88
Methiocarb	2032-65-7	100501	Group D--Not Classifiable as to Human Carcinogenicity	03/02/93
Methomyl	16752-77-5	090301	Group E--Evidence of Non-carcinogenicity for Humans	10/25/96
Methoxyfenozide	161050-58-4	121027	Not Likely To Be Carcinogenic To Humans	07/01/99
Methyl bromide	74-83-9	053201	Not Likely	08/04/92
Methyl isothiocyanate	6317-18-6	068103	Group B--Probable Human Carcinogen	02/22/00
Methyl parathion	298-00-0	053501	Not Likely To Be Carcinogenic To Humans	12/01/97
Metiram	9006-42-2	014601	Group B--Probable Human Carcinogen	07/07/99
Metofluthrin	240444-70-6	109709	Not Likely To Be Carcinogenic To Humans At Doses That Do Not Result In A Mitogenic Response	07/26/07
Metolachlor	51218-45-2	108801	Group C--Possible Human Carcinogen	11/16/94
Metrafenone	220899-03-6	000325	Suggestive Evidence of Carcinogenic Potential	07/06/06
Metribuzin	21087-64-9	101101	Group D--Not Classifiable as to Human Carcinogenicity	05/16/95

## Chemicals Evaluated for Carcinogenic Potential

Science Information Management Branch

Health Effects Division

Office of Pesticide Programs

U.S. Environmental Protection Agency

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Metsulfuron methyl	74223-64-6	122010	Not Likely To Be Carcinogenic To Humans	03/14/02
MGK 264	113-48-4	057001	Group C--Possible Human Carcinogen	06/07/95
MGK Replellent 326	136-45-8	047201	Group B--Probable Human Carcinogen	11/12/02
Molinate	2212-67-1	041402	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	12/14/00
MON 4660	71526-07-3	600046	Likely to be Carcinogenic to Humans	12/09/99
Monosodium acid methanearsonate (MMA)	2163-80-6	013803	Not Likely To Be Carcinogenic To Humans	07/26/00
MSMA-calcium salt	5902-95-4	013806	Not Likely To Be Carcinogenic To Humans	12/14/00
Myclobutanil	88671-89-0	128857	Group E--Evidence of Non-carcinogenicity for Humans	06/16/94
Naled	300-76-5	034401	Group E--Evidence of Non-carcinogenicity for Humans	08/31/94
Naptalam Sodium Salt	132-67-2	030703	Group D--Not Classifiable as to Human Carcinogenicity	09/07/94
Nicosulfuron	111991-09-4	129008	Group E--Evidence of Non-carcinogenicity for Humans	09/01/98
Nitrapyrin	1929-82-4	069203	Likely to be Carcinogenic to Humans	03/26/05
Norflurazon	27314-13-2	105801	Group C--Possible Human Carcinogen	11/02/90
Novaluron	116714-46-6	124002	Not Likely To Be Carcinogenic To Humans	02/04/04
Orthophenylphenol, Sodium salt (see also PC 064103)	132-27-4	064104	Not Likely To Be Carcinogenic To Humans	10/12/05
Orthophenylphenol, Sodium salt (see also PC 064104)	90-43-7	064103	Not Likely To Be Carcinogenic To Humans	10/12/05
Orthosulfamuron	213464-77-3	108209	Suggestive Evidence Of Carcinogenic Potential	10/26/06
Oryzalin	19044-88-3	104201	Likely to be Carcinogenic to Humans	06/25/03
Oxadiazon	19666-30-9	109001	Group C--Possible Human Carcinogen	05/01/01
Oxadixyl	77732-09-3	126701	Group C--Possible Human Carcinogen	01/04/89
Oxamyl	23135-22-0	103801	Group E--Evidence of Non-carcinogenicity for Humans	11/05/96

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Oxydemeton-methyl	301-12-2	058702	Not Likely To Be Carcinogenic To Humans	07/24/97
Oxyfluorfen	42874-03-3	111601	Group C--Possible Human Carcinogen	09/29/89
Oxytetracycline	2058-46-0	006308	Group D--Not Classifiable as to Human Carcinogenicity	12/18/92
Oxythioquinox	2439-01-2	054101	Group B--Probable Human Carcinogen	02/15/96
Paclobutrazol	76738-62-0	125601	Group D--Not Classifiable as to Human Carcinogenicity	06/23/94
Paradichlorobenzene	106-46-7	061501	Not Likely To Be Carcinogenic To Humans	06/05/07
Paranitrophenol	100-02-7	056301	Group D--Not Classifiable as to Human Carcinogenicity	05/14/96
Paraquat dichloride	1910-42-5	061601	Group E--Evidence of Non-carcinogenicity for Humans	04/19/00
Parathion, ethyl-	56-38-2	057501	Group C--Possible Human Carcinogen	09/11/91
Pebulate	1114-71-2	041403	Not Likely To Be Carcinogenic To Humans	12/07/98
Pendimethalin	40487-42-1	108501	Group C--Possible Human Carcinogen	07/24/92
Penoxulam	219714-96-2	119031	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	03/24/04
Pentachloronitrobenzene (PCNB)	82-68-8	056502	Group C--Possible Human Carcinogen	12/18/92
Pentachlorophenol	87-86-5	063001	Group B--Probable Human Carcinogen	01/03/91
Permethrin	52645-53-1	109701	Likely to be Carcinogenic to Humans	10/23/02
Phenmedipham	13684-63-4	098701	Group D--Not Classifiable as to Human Carcinogenicity	04/28/93
PHMB	32289-58-0	111801	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	04/09/03
Phorate	298-02-2	057201	Group E--Evidence of Non-carcinogenicity for Humans	12/30/93
Phosalone	2310-17-0	097701	Not Likely To Be Carcinogenic To Humans	08/12/99

## Chemicals Evaluated for Carcinogenic Potential

Science Information Management Branch

Health Effects Division

Office of Pesticide Programs

U.S. Environmental Protection Agency

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Phosmet	732-11-6	059201	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	10/27/99
Phosphamidon	13171-21-6	018201	Group C--Possible Human Carcinogen	05/31/89
Phostebupirim	96182-53-5	129086	Group E--Evidence of Non-carcinogenicity for Humans	04/27/93
Picloram Acid	1918-02-1	005101	Group E--Evidence of Non-carcinogenicity for Humans	04/01/94
Picloram Acid Ethylhexyl Ester	2545-60-0	005103	Group E--Evidence of Non-carcinogenicity for Humans	04/01/94
Picloram Acid Potassium Salt	35832-11-2	005104	Group E--Evidence of Non-carcinogenicity for Humans	04/01/94
Picloram Acid Triisopropanolamine Salt	6753-47-5	005102	Group E--Evidence of Non-carcinogenicity for Humans	04/01/94
Pinoxaden	293973-20-8	147500	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	05/18/05
Piperonyl butoxide	51-03-6	067501	Group C--Possible Human Carcinogen	06/07/95
Pirimicarb	23103-98-2	106101	Likely to be Carcinogenic to Humans	07/13/05
Pirimiphos-methyl	29232-93-7	108102	Cannot Be Determined	01/29/98
Polymeric Betaine		103679	Inadequate Information to Assess Carcinogenic Potential	10/03/06
Potassium dichromate	7778-50-9	068302	Not Likely To Be Carcinogenic To Humans	08/28/01
Prallethrin	23031-36-9	128722	Not Likely To Be Carcinogenic To Humans	06/27/03
Primisulfuron-methyl	86209-51-0	128973	Group D--Not Classifiable as to Human Carcinogenicity	05/03/90
Prochloraz	67747-09-5	128851	Group C--Possible Human Carcinogen	07/01/88
Procymidone	32809-16-8	129044	Group B--Probable Human Carcinogen	04/05/91
Prodiamine	29091-21-2	110201	Group C--Possible Human Carcinogen	06/10/91
Profenofos	41198-08-7	111401	Group E--Evidence of Non-carcinogenicity for Humans	02/06/95
Prohexadione	127277-53-6	112600	Not Likely To Be Carcinogenic To Humans	04/14/00
Prometon	1610-18-0	080804	Group D--Not Classifiable as to Human Carcinogenicity	11/25/92

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

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Prometryn	7287-19-6	080805	Group E--Evidence of Non-carcinogenicity for Humans	07/26/94
Pronamide	23950-58-5	101701	Group B--Probable Human Carcinogen	12/10/01
Propachlor	1918-16-7	019101	Likely to be Carcinogenic to Humans	10/16/97
Propamocarb hydrochloride	25606-41-1	119302	Not Likely	05/31/00
Propanil	709-98-8	028201	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	06/19/01
Propargite	2312-35-8	097601	Group B--Probable Human Carcinogen	07/23/92
Propazine	139-40-2	080808	Not Likely To Be Carcinogenic To Humans	12/08/05
Propetamphos	31218-83-4	113601	Not Likely To Be Carcinogenic To Humans	10/31/98
Propiconazole	60207-90-1	122101	Group C--Possible Human Carcinogen	09/14/92
Propoxur	114-26-1	047802	Group B--Probable Human Carcinogen	06/17/96
Propoxycarbazone-Sodium	181274-15-7	122019	Not Likely To Be Carcinogenic To Humans	04/06/04
Prosulfuron	94125-34-5	129031	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	01/24/00
Prothioconazole	178928-70-6	113961	Not Likely To Be Carcinogenic To Humans	12/31/07
Pymetrozine	123312-89-0	101103	Likely to be Carcinogenic to Humans	09/22/99
Pyraclostrobin	175013-18-0	099100	Not Likely To Be Carcinogenic To Humans	02/15/07
Pyraflufen ethyl	129630-19-9	030090	Likely to be Carcinogenic to Humans	10/08/02
Pyrasulfatole	365400-11-9	000692	Suggestive Evidence of Carcinogenic Potential	05/17/07
Pyrethrins	8003-34-7	069001	Not Likely To Be Carcinogenic To Humans at doses that do not cause mitogenic response in the liver cell proliferation	02/14/08
Pyridaben	96489-71-3	129105	Group E--Evidence of Non-carcinogenicity for Humans	05/11/94
Pyridalyl	179101-81-6	295149	Not Likely To Be Carcinogenic To Humans	08/26/04



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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Sulfosate	81591-81-3	128501	Group E--Evidence of Non-carcinogenicity for Humans	07/26/94
Sulfosulfuron	141776-32-1	085601	Likely to be Carcinogenic to Humans	10/16/98
Sulfuryl fluoride	2699-79-8	078003	Not Likely To Be Carcinogenic To Humans	05/24/01
Sulprofos	35400-43-2	111501	Group E--Evidence of Non-carcinogenicity for Humans	03/26/96
Sumithrin	26002-80-2	069005	Not Likely To Be Carcinogenic To Humans	05/30/06
TCMTB (Busan 72)	21564-17-0	035603	Group C--Possible Human Carcinogen	08/28/96
Tebuconazole	107534-96-3	128997	Group C--Possible Human Carcinogen	09/15/93
Tebufenozide	112410-23-8	129026	Group E--Evidence of Non-carcinogenicity for Humans	08/29/94
Tebufenpyrad	119168-77-3	090102	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	07/15/02
Tebuthiuron	34014-18-1	105501	Group D--Not Classifiable as to Human Carcinogenicity	03/01/93
Telone	542-75-6	029001	Group B--Probable Human Carcinogen	03/19/02
Tembotrione	335104-84-2	012801	Suggestive Evidence of Carcinogenic Potential	05/22/07
Tepaloxymid	149979-41-9	121005	Data Are Inadequate for an Assessment of Human Carcinogenic Potential	02/27/01
Terbacil	5902-51-2	012701	Group E--Evidence of Non-carcinogenicity for Humans	09/30/94
Terbufos	13071-79-9	105001	Group E--Evidence of Non-carcinogenicity for Humans	03/09/94
Terbutylazine	5915-41-3	080814	Group D--Not Classifiable as to Human Carcinogenicity	08/24/94
Terbutryn	886-50-0	080813	Group C--Possible Human Carcinogen	03/03/88
Terrazole	2593-15-9	084701	Group B--Probable Human Carcinogen	06/29/99
Tetrachlorvinphos	961-11-5	083701	Likely to be Carcinogenic to Humans	03/07/02
Tetraconazole	112281-77-3	120603	Likely to be Carcinogenic to Humans	01/11/00
Tetramethrin	7696-12-0	069003	Group C--Possible Human Carcinogen	12/11/89

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

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Thiabendazole	148-79-8	060101	Multiple Descriptors: Likely to be Carcinogenic to Humans at High Doses; Not Likely to be Carcinogenic to Humans at Low Doses	03/08/02
Thiacloprid	111988-49-9	014019	Likely to be Carcinogenic to Humans	03/26/03
Thiamethoxam	153719-23-4	060109	Not Likely To Be Carcinogenic To Humans	06/13/05
Thiazopyr (MON 13200)	117718-60-2	129100	Suggestive Evidence Of Carcinogenic Potential	12/06/07
Thiencarbazone methyl	317815-83-1	015804	Not Likely To Be Carcinogenic To Humans at doses that do not cause urothelium cytotoxicity	02/29/08
Thiobencarb (Bolero)	28249-77-6	108401	Group D--Not Classifiable as to Human Carcinogenicity	06/10/96
Thiocyclam hydrogen oxalate	31895-22-4	128868	Group D--Not Classifiable as to Human Carcinogenicity	09/15/94
Thiodicarb	59669-26-0	114501	Group B--Probable Human Carcinogen	06/10/96
Thiophanate-methyl	23564-05-8	102001	Likely to be Carcinogenic to Humans	08/24/99
Thiram	137-26-8	079801	Not Likely To Be Carcinogenic To Humans	04/14/03
Tolyfluanid	731-27-1	309200	Likely to be Carcinogenic to Humans	06/18/02
Topramezone	210631-68-8	123009	Multiple Descriptors: Not Likely to be Carcinogenic to Humans at Doses that Do Not Alter Rat Thyroid Hormone Homeostasis	05/19/05
Tralkoxydim	87820-88-0	121000	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	06/30/04
Triadimefon	43121-43-3	109901	Group C--Possible Human Carcinogen	12/04/96
Triadimenol	55219-65-3	127201	Group C--Possible Human Carcinogen	01/29/88
Triallate	2303-17-5	078802	Group C--Possible Human Carcinogen	01/12/94
Triasulfuron	82097-50-5	128969	Group E--Evidence of Non-carcinogenicity for Humans	02/27/91

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

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Triazamate	112143-82-5	128100	Not Likely To Be Carcinogenic To Humans	12/01/97
Tribenuron methyl	101200-48-0	128887	Group C--Possible Human Carcinogen	07/14/89
Tribufos	78-48-8	074801	Multiple Descriptors: Likely to be Carcinogenic to Humans (High Doses); Not Likely to be Carcinogenic to Humans (Low Doses)	05/22/97
Trichlorfon	52-68-6	057901	Multiple Descriptors: Likely to be Carcinogenic to Humans (High Doses), Not Likely to be Carcinogenic to Humans (Low Doses)	07/15/99
Triclopyr	55335-06-3	116001	Group D--Not Classifiable as to Human Carcinogenicity	05/09/96
Triclosan	3380-34-5	054901	Not Likely To Be Carcinogenic To Humans	01/04/08
Tridiphane	58138-08-2	123901	Group C--Possible Human Carcinogen	04/22/86
Trifloxystrobin	141517-21-7	129112	Not Likely To Be Carcinogenic To Humans	06/16/99
Trifloxysulfuron	290332-10-4	119009	Not Likely To Be Carcinogenic To Humans	07/22/03
Triflumizole	68694-11-1	128879	Group E--Evidence of Non-carcinogenicity for Humans	08/10/93
Trifluralin	1582-09-8	036101	Group C--Possible Human Carcinogen	04/11/86
Triflurosulfuron-methyl	126535-15-7	129002	Group C--Possible Human Carcinogen	05/28/96
Triforine	26644-46-2	107901	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	06/29/04
Triphenyltin hydroxide (TPTH)	76-87-9	083601	Group B--Probable Human Carcinogen	05/24/90
Triticonazole	131983-72-7	125620	Not Likely To Be Carcinogenic To Humans	06/15/06
Troysan polyphase (IPBC)	55406-53-6	107801	Not Likely To Be Carcinogenic To Humans	12/04/96
UDMH	57-14-7	600018	Group B--Probable Human Carcinogen	07/26/91
UMP-488 (PAL 6000)	111578-32-6	129025	Group E--Evidence of Non-carcinogenicity for Humans	05/06/94

**Chemicals Evaluated for Carcinogenic Potential**

Science Information Management Branch

Health Effects Division

Office of Pesticide Programs

U.S. Environmental Protection Agency

CHEMICAL	CAS NO.	PC CODE	CANCER CLASSIFICATION	REPORT DATE
Uniconazole	83657-22-1	128976	Group C--Possible Human Carcinogen	10/11/90
Vinclozolin	50471-44-8	113201	Group C--Possible Human Carcinogen	06/20/00
Zeta-Cypermethrin	52315-07-8	129064	Group C--Possible Human Carcinogen	09/27/88
Ziram	137-30-4	034805	Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential	02/06/03
Zoxamide	156052-68-5	101702	Not Likely To Be Carcinogenic To Humans	02/07/01