

The WHO Recommended
Classification of
Pesticides by Hazard
and
Guidelines to Classification
2009

IPCS

International Programme on Chemical Safety

IOMC INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among FAO, ILO, UNEP, UNIDO, UNITAR, WHO & OECD

The WHO Recommended Classification of Pesticides by Hazard

and

Guidelines to Classification 2009

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THE WHO RECOMMENDED CLASSIFICATION OF PESTICIDES BY HAZARD AND GUIDELINES TO CLASSIFICATION 2009

The WHO Recommended Classification of Pesticides by Hazard was approved by the 28th World Health Assembly in 1975 and has since gained wide acceptance. When it was published in the WHO Chronicle, 29, 397-401 (1975), an annex, which was not part of the Classification, illustrated its use by listing examples of classification of some pesticidal active ingredients and their formulations. Later suggestions were made by Member States and pesticide registration authorities that further guidance should be given on the classification of individual pesticides. Guidelines were first issued in 1978, and have since been revised and reissued every few years.

Up until the present revision the original guidelines approved by the World Health Assembly in 1975 have been followed without amendment. In December, 2002 the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals (UNCETDG/GHS) approved a document called "The Globally Harmonized System of Classification and Labelling of Chemicals" with the intent to provide a globally-harmonized system¹ (GHS) to address classification of chemicals, labels, and safety data sheets. The GHS (with subsequent revisions) is now being widely used for the classification and labeling of chemicals worldwide. For this revision of the Classification the WHO Hazard Classes have been aligned in an appropriate way with the GHS Acute Toxicity Hazard Categories for acute oral or dermal toxicity as the starting point for allocating pesticides to a WHO Hazard Class (with adjustments for individual pesticides where required). It is anticipated that few of the more toxic pesticides will change WHO Hazard Class as a result of this change. As has always been the case, the classification of some pesticides has been adjusted to take account of severe hazards to health other than acute toxicity (as described in Part II). The GHS Acute Toxicity Hazard Category for each pesticide is now presented alongside the existing information.

The document is arranged as follows:

Part I: Overarching principles for the classification of pesticides as recommended by the World Health Assembly. These principles continue to apply, but the World Health Assembly Resolution envisaged that the classification criteria might need to be developed with time and increasing experience. The guide-points originally proposed in 1975 are now being aligned with the corresponding Acute Toxicity Hazard Categories from the GHS.

Part II: Guidelines to Classification. Individual products are classified in a series of tables, according to the oral or dermal toxicity of the technical product. The tables are subject to review periodically.

The toxicity values are intended to be a guide only. Formulations should be separately classified using the methods set out on pages 4 (single technical product) and 7 (mixtures) and the table in Part I. To assist in the classification of formulations, an annex is provided giving numerical tables from which the classification may also be derived.

¹ See http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html.

Comments on Part II of the document are welcome, together with proposals for new entries. These should be addressed to the International Programme on Chemical Safety, World Health Organization, 1211 Geneva 27, Switzerland, and should include supporting data on the compound being commented on or proposed.

This document is a revision of the document previously issued as ISBN 92 4 154663 8.

PART I RECOMMENDED CLASSIFICATION OF PESTICIDES BY HAZARD

Extract from WHO Chronicle, 29: 397-401 (1975)

In 1973, the WHO Executive Board asked the Director-General of WHO to take steps to develop a tentative classification of pesticides that would distinguish between the more and the less hazardous forms of each pesticide. A proposal for a WHO recommended classification of pesticides by hazard was accordingly prepared, taking into account the views of members of the WHO Expert Advisory Panel on Insecticides and other expert advisory panels with special competence and interest in pesticide technology, as well as the comments of WHO Member States and of two international agencies. This proposal was adopted by the Twenty-eighth World Health Assembly, which recommended the use of the classification by Member States, international agencies, and regional bodies.

The text below is reproduced from the Proposal² which was adopted by the World Health Assembly in 1975.

The hazard referred to in this Recommendation is the acute risk to health (that is, the risk of single or multiple exposures over a relatively short period of time) that might be encountered accidentally by any person handling the product in accordance with the directions for handling by the manufacturer or in accordance with the rules laid down for storage and transportation by competent international bodies.

Any classification based on biological data can never be treated as final. In the assessment of biological data, honest differences of opinion are inevitable and most borderline cases can be reclassified in an adjacent class. Variability or inconsistency in toxicity data due to differences in susceptibility of test animals, or to experimental techniques and materials used can also result in differing assessments. The classification criteria are guide-points intended to supplement but never to substitute for special knowledge, sound clinical judgement or experience with a compound. Reappraisal might be necessary from time to time.

Basis of classification

The classification distinguishes between the more and the less hazardous forms of each pesticide in that it is based on the toxicity of the technical compound and on its formulations. [In particular, allowance is made for the lesser hazards from solids as compared with liquids.]³

The classification is based primarily on the acute oral and dermal toxicity to the rat since these determinations are standard procedures in toxicology. Where the dermal LD_{50}^{4} value of a compound is such that it would place it in a more restrictive class than the oral LD_{50} value would indicate, the compound will always be classified in the more restrictive class. Provision is made for the classification of a particular compound to be adjusted if, for any reason, the acute hazard to man differs from that indicated by LD_{50} assessments alone.

² Official Record of the World Health Organization 1975, No.223, Part 1, p.12

³ Note:- this distinction is not made in the GHS and no longer applies to the WHO Classification

 $^{^4}$ The LD₅₀ value is a statistical estimate of the number of mg of toxicant per kg of bodyweight required to kill 50% of a large population of test animals.

Application of the criteria for classification

- (a) Where it is shown that for a particular compound the rat is not the most suitable test animal (for example, if another species is conspicuously more sensitive or more closely resembles man in its reaction) then the classification of that compound should take this into account.
- (b) In practice, the majority of classifications will be made on the acute oral LD_{50} value. However, dermal toxicity must always be considered since it has been found that, under most conditions of handling pesticides, a high proportion of the total exposure is dermal. Classification based on dermal data in a class indicating a great risk is necessary when the dermal LD_{50} values indicate greater hazard than oral LD_{50} values.
- (c) If the active ingredient produces irreversible damage to vital organs, is highly volatile, is markedly cumulative in its effect, or is found after direct observations to be particularly hazardous or significantly allergenic to man, then adjustments to the classification can be made by classifying the compound in a class indicating a higher hazard. Alternatively, if it can be shown that the preparation is less toxic or hazardous than expected from consideration of the LD₅₀ values of the ingredient or ingredients, or for any other reason, adjustments should be made by classifying the compound in a class indicating a lower hazard.
- (d) In certain special cases the acute oral or dermal LD₅₀ values of the compound or formulation should not be used as the main basis for classification. In such cases (for example, aerosol preparations, other special formulations and fumigants), more appropriate criteria should be used.
- (e) It is highly desirable that, whenever practicable, toxicological data for each formulation to be classified should be available from the manufacturer. However, if such data are not obtainable, then the classification may be based on proportionate calculations from the LD₅₀ values of the technical ingredient or ingredients, according to the following formula:

LD_{50} active ingredient×100 Percentage of active ingredient in formulation

If the formulation contains more than one ingredient (including solvents, wetting agents, etc.) of significant toxicity-enhancing properties, then the classification should correspond to the toxicity of the mixed ingredients.

(f) With a few exceptions, pesticides have low volatility and therefore no criteria are at present set out for volatility in this Recommendation. The inclusion of such criteria is unlikely to affect the classification of pesticides by hazard except in the case of volatile fumigants used in agriculture and food storage. On the other hand, when the criteria are applied to pesticide formulations based on solvents or to other chemicals, account must be taken of volatility and consequent inhalation toxicity.

Effects of classification on labeling⁵

While no specific symbols to identify classes are included in the Recommendation, the following are the general implications of the classification as regards labelling.

The aim should be uniformity in the statement on the nature of the risk (by phrase and/or symbol) on the label of the product, irrespective of the country of origin or use. Labels of products classified in classes Ia and Ib should bear a symbol indicating a high degree of hazard (usually a type of skull and crossbones) and a signal word or phrase, e.g. POISON or TOXIC. The presentation of the symbol and word or phrase, in terms of colour, size and shape should ensure that they are given sufficient prominence on the label.

The text should be in the local language and for all formulations should include the approved name of the active ingredient or ingredients, the method of use, and precautions to be taken in use. For classes Ia and Ib, symptoms and immediate treatment of poisoning should also be included.

The detailed precautions necessary for the use of a pesticide depend on the nature of the formulation and the pattern of use and are best decided by a pesticide registration authority when accepting a commercial label.

There are international agreements on symbols to denote hazards from materials which are inflammable, corrosive, explosive, etc., and these should be consulted and used where appropriate.

Revised criteria for classification (introduced for 2009 update)

The table showing the Recommended Criteria for Classification from the original World Health Assembly Proposal is not shown because it is no longer used. WHO now uses the Acute Toxicity Hazard Categories from the GHS⁶ as the starting point for classification. This change is consistent with the 1975 World Health Assembly Resolution which envisaged that the WHO Classification would be further developed with time in consultation with countries, international agencies and regional bodies. The GHS meets this requirement as a classification system with global acceptance following extensive international consultation.

WHO Class		50	r the rat ody weight)
		Oral	Dermal
Ia	Extremely hazardous	< 5	< 50
Ib	Highly hazardous	5-50	50-200
II	Moderately hazardous	50-2000	200-2000
III	Slightly hazardous	Over 2000	Over 2000
U	Unlikely to present acute hazard	5000 o	r higher

Details of how the WHO Classification has been aligned with the GHS Acute Toxicity Hazard Categories are presented in Part II.

⁵ See *International Code of Conduct on the Distribution and Use of Pesticides*, FAO (2003), available at http://www.fao.org/docrep/005/Y4544E/y4544e00.HTM; also *Guidelines on Good Labelling Practice for Pesticides*, FAO (1995), available at http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Download/label.pdf

⁶ See http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html. The categories for oral and dermal routes are used.

PART II GUIDELINES TO CLASSIFICATION OF PESTICIDES BY HAZARD

The main section of the guidelines consists of five tables preceded by notes on their use. In the tables, active ingredients (technical grade) have been classified as follows:

Table 1	EXTREMELY HAZARDOUS (Class Ia) active ingredients (technical grade) of pesticides	19
Table 2	HIGHLY HAZARDOUS (Class Ib) active ingredients (technical grade) of pesticides	21
Table 3	MODERATELY HAZARDOUS (Class II) active ingredients (technical grade) of pesticides	24
Table 4	SLIGHTLY HAZARDOUS (Class III) active ingredients (technical grade) of pesticides	34
Table 5	Active ingredients unlikely to present acute hazard in normal use	39
	The tables are arranged in alphabetical order.	
In addition	on, the following tables show the details stated:	
Table 6	Active ingredients not included in the Classification and believed to be obsolete or discontinued for use as pesticides	47
Table 7	Pesticides subject to the prior informed consent (PIC) procedure	51
Table 8	List of gaseous or volatile fumigants not classified under the WHO-Recommended classification of pesticides by hazard	53
ANNEX	How to find the hazard class of a formulation	54
INDEX	by CAS number	57
	by name of active ingredient	65

NOTES ON THE USE OF THE TABLES IN CLASSIFICATION

The final classification of any product is intended to be by formulation

The classification given in the tables below is of active ingredients, and only forms the starting point for the final classification of an actual formulation. It is by far preferable that the final classification of a formulation should be based on toxicity data obtained on that formulation by the manufacturer: the criteria set out in the table of the Classification in Part I are then applied to this first-hand data. Only if this is not available should the formula be used, as shown in Part I on page 4 to extrapolate the LD_{50} of the formulation from that of the technical product. In this event, the single oral or dermal value of the LD_{50} given in the tables below should be used in the formula. See also the Annex on page 54.

The following important points should be noted.

- 1. While the classification deals only with the acute risk to health, evaluations of other effects, including cancer, have been completed for many compounds for registration purposes. Where other effects have been shown to occur in man, these are noted in the 'Remarks' column and may have in some cases resulted in an adjusted classification.
- 2. Wherever possible, the data are listed under internationally approved common names, or if such names are not at present available, under nationally approved names. Some other common names appear in the alphabetic index pp. 65-78. Trade names are not given since there are many of these.
- 3. A list of references that may be used for the identification of pesticides is given at the end of these introductory notes, and the manufacturer should always assist by specifying any existing approved or common names for his product.
- 4. It is not possible to include classification of mixtures of pesticides in the guidelines: very many of these are marketed with varying concentrations of active constituents. There are three possible approaches to the classification of mixtures in order of preference:
 - (a) require the formulator to obtain reliable acute oral and dermal toxicity data for rats on the actual mixture as marketed: or
 - (b) classify the formulation according to the most hazardous constituent of the mixture as if that constituent was present in the same concentration as the total concentration of all active constituents: or
 - (c) apply the formula:

$$\frac{C_a}{T_a} + \frac{C_b}{T_b} + \dots \frac{C_z}{T_z} \equiv \frac{100}{T_m}$$

Where C = the % concentrations of constituent A, B ... Z in the mixture

T =the oral LD_{50} values of constituents A, B ...Z

 $T_m =$ the oral LD_{50}^{0} value of the mixture.

The formula can also be used for dermal toxicities provided that this information is available on the same species for all constituents. The use of this formula does not take into account any potentiation or protective phenomena.

- 5. In the tables below, single figures have been given as LD₅₀ values for classification purposes, using the route as described in the table. Where several LD₅₀ values have been published, the lowest deemed reliable is used. Where a sex difference occurs in LD₅₀ values, the value for the more sensitive sex is used. A number of adjustments to Classification have been made in respect of some pesticides and these are explained. A borderline case has been classified in the more or less hazardous class after consideration of its toxicology and use experience.
- In the former WHO Classification scheme pesticides were classified on the basis of the
 physical state of the technical product. A distinction between liquids and solids is no longer
 made.
- 7. In Table 5, a number of pesticides are listed as unlikely to present any acute hazard in normal use. The WHO classification is open-ended but it is clear that there must be a point at which the acute hazard posed by the use of these compounds is so low as to be negligible provided that the precautions are taken that should be used in dealing with any chemical. In compiling this table, it has been assumed that this point is an LD₅₀ of 5000 mg/kg bw or greater (in line with the upper limit for classification in the GHS). However, it should not be overlooked that in formulations of these technical products, solvents or vehicles may present a greater hazard than the actual pesticide and therefore classification of a formulation in one of the higher hazard classes may be necessary.
- 8. The WHO Classification is not limited to chemical pesticides. Biological pesticides can also be included if a suitable evaluation is available (*Bacillus thuringiensis* is included based on Environmental Health Criteria Document 217).
- 9. The toxicity data for pyrethroids is highly variable according to isomer ratios, the vehicle used for oral administration, and the husbandry of the test animals e.g. fasting prior to dosing. The variability is reflected in the prefix 'c' before LD₅₀ values. The single LD₅₀ value chosen for classification purposes is generally based on administration in corn oil and can be much lower than that in aqueous solutions. This underlines the need for classification by formulation if the classification is to reflect true hazard.

ENTRIES AND ABBREVIATIONS USED IN THE TABLES

New information since the previous edition is indicated by *italics*.

Column 1: Common name. [ISO] denotes common name of the active ingredient approved by the International Organization for Standardization. Such names are, when available, preferred by WHO to all other common names. However, attention is drawn to the fact that some of these names may not be acceptable for national use in some countries. If the letters ISO appear within parentheses (ISO), this indicates that ISO has standardized (or is in the process of standardizing) the name of the base, but not the name of the derivative listed in column 1. For example, fentin acetate (ISO) indicates that fentin is an ISO name, but fentin acetate is not. ISO* denotes pending ISO approval of the name. C denotes chemical, trivial, or other common name.

<u>Column 2:</u> CAS Registry number: The number for the chemical, not those for e.g. different esters or salts are given.

<u>Column 3:</u> UN number refers to the UN Recommendations on the transport of dangerous goods, Eleventh revision (1999). This is given only for active ingredients in <u>Tables 1, 2, 3</u> or 4, since so few ingredients in <u>Table 5</u> have UN numbers. The UN number refers only to the active ingredient; formulations are likely to have different numbers, since the ingredient may, for example, be dissolved in a solvent - and liquid products have different UN numbers, which depends on their flammability.

<u>Column 4:</u> Chemical type. Only a limited number of chemical types are shown. Most have some significance in the sense that they may have a common antidote, or may be confused in the nomenclature with other chemical types e.g. thiocarbamates are not cholinesterase inhibitors and do not have the same effects as carbamates. Chemical type is also a determinant of the UN numbering system. These chemical classifications are included only for convenience, and do not represent a recommendation on the part of the World Health Organization as to the way in which the pesticides should be classified. It should, furthermore, be understood that some pesticides may fall into more than one type.

AS	Arsenic compound	OP	Organophosphorus compound
BP	Bipyridylium derivative	OT	Organotin compound
C	Carbamate	PAA	Phenoxyacetic acid derivative
CO	Coumarin derivative	PZ	Pyrazole
CU	Copper compound	PY	Pyrethroid
HG	Mercury compound	T	Triazine derivative
NP	Nitrophenol derivative	TC	Thiocarbamate
OC	Organochlorine compound		

<u>Column 5:</u> Physical state. Refers only to the active ingredient. L denotes liquid, including solids with a melting point below 50°C; oil denotes oily liquids and S solids, including waxes. The physical state may affect the exposure potential, and thus the absorbed amount of the chemical, and was taken into account when determining classification under the previous scheme.

<u>Column 6:</u> Main use. In most cases only a single use is given. This is only for identification purposes and does not exclude other uses.

AC	acaricide	L	larvicide
AP	aphicide	M	molluscicide
В	bacteriostat (soil)	MT	miticide
FM	fumigant	N	nematocide
F	fungicide, other than for seed	O	other use for plant pathogens
	treatment	PGR	plant growth regulator
FST	fungicide, for seed treatment	R	rodenticide
Н	herbicide	RP()	repellant (species)
I	insecticide	-S	applied to soil: not used with herbicides
IGR	insect growth regulator		or plant growth regulators
Ix	ixodicide (for tick control)	SY	synergist

<u>Column 7:</u> GHS: This column indicates the classification of the pesticide according to "The Globally Harmonized System of Classification and Labelling of Chemicals" (GHS)⁷. The value shown in the column is the Acute Toxic Hazard Category according to the GHS criteria, which in turn is derived from the acute toxicity estimate value for the substance. In the majority of cases the acute toxicity estimate will be the experimentally-derived LD₅₀ value for oral exposure. A comparison of the criteria (as LD₅₀ values) used for the different classes in the former WHO Scheme or for GHS categories is shown in the tables below. The GHS table shows only a simplified summary; for full details of classification according to GHS the official publication of the GHS should be consulted.

Former WHO Classification Scheme

Class		LD ₅₀ for the	rat (mg/kg body w	eight)	,
			Oral	1	Dermal
		Solids	Liquids	Solids	Liquids
Ia	Extremely hazardous	5 or less	20 or less	10 or less	40 or less
Ib	Highly hazardous	5 - 50	20 - 200	10-100	40 – 400
II	Moderately hazardous	50 - 500	200 - 2000	100-1000	400 – 4000
III	Slightly hazardous	Over 500	Over 2000	Over 1000	Over 4000

GHS Classification

GHS Category		Classificati	on criteria	
		Oral	I	Dermal
	LD ₅₀ ^a (mg/kg bw)	Hazard Statement	LD ₅₀ ^b (mg/kg bw)	Hazard Statement
Category 1	< 5	Fatal if swallowed	< 50	Fatal in contact with skin
Category 2	5 - 50	Fatal if swallowed	50 - 200	Fatal in contact with skin
Category 3	50 - 300	Toxic if swallowed	200 - 1000	Toxic in contact with skin
Category 4	300 - 2000	Harmful if swallowed	1000 - 2000	Harmful in contact with skin
Category 5	2000 - 5000	May be harmful if swallowed	2000 - 5000	May be harmful in contact with skin

^a For oral data the rat is the preferred species, though data from other species may be appropriate when scientifically justified

For dermal data the rat or rabbit are the preferred species, though data from other species may be appropriate when scientifically justified

⁷ See http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html. The categories for oral and dermal routes are used

The former WHO Classification scheme applied different criteria to liquids and solids, but the GHS does not make a similar distinction and applies the same criteria. The GHS cut-off values for Category 2 and Category 3 are lower than the values which applied to liquids under the former WHO scheme, such that some liquids allocated to Class Ib would be placed in the lower GHS Category 3 (specifically pesticides with oral LD₅₀ values in the range 50-200 mg/kg bw). In aligning the WHO scheme with the GHS criteria there was no intention to "lower" the classification of pesticides previously considered to be "Highly hazardous". Therefore, the classification of this limited number of liquid pesticides has been adjusted such that they remain in Class Ib. The revised criteria for the WHO classification scheme are shown in Part I (page 5).

Column 8: LD_{50} . The LD_{50} value is a statistical estimate of the number of mg of toxicant per kg of body weight required to kill 50% of a large population of test animals: the rat is used unless otherwise stated. Usually a single value, but sometimes a range is given. "c" preceding the value indicates that it is a value within a wider than usual range, adopted for classification purposes. When several different values are reported in the literature, the lowest is reported and used as the basis of classification, unless there are clear indications that a higher value is more reliable. Oral route values are used unless the dermal route values place the compound in a more hazardous class, or unless the dermal values are significantly lower than the oral values, although in the same class. Dermal LD_{50} values are indicated with the letter D.

Column 9: Remarks. This column is used to indicate cases in which the classification of a technical product has been adjusted (i.e., the oral LD₅₀ value is not directly used as the basis of classification); Major irritant properties are also noted although they do not affect the classification. Sources of further information may also be given here: DS denotes a WHO/FAO Data Sheet on Pesticides, EHC an Environmental Health Criteria monograph, HSG a Health and Safety Guide, IARC IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, ICSC an International Chemical Safety Card, JMPR an evaluation by the Joint FAO/WHO Meeting on Pesticide Residues and JECFA an evaluation by the the Joint FAO/WHO Expert Committee on Food Additives. These publications (with the exception of IARC Monographs) can be found on the IPCS web site (http://www.who.int/ipcs/).

REFERENCES

- Armstrong Lowe, D. and Stiles, A.R. (1973) Pesticides nomenclature, specifications, analysis, use and residues in food, Bull. Wld. Hlth Org., 49, 169-204.
- CICAD 6. Concise International Chemical Assessment Document 6 Biphenyl. Geneva, International Programme on Chemical Safety, 37 pp. 1999.
- CICAD 13. Concise International Chemical Assessment Document 13 Triphenyltin compounds. Geneva, International Programme on Chemical Safety, 40 pp. 1999.
- CICAD 40. Concise International Chemical Assessment Document 40 Formaldehyde. Geneva, International Programme on Chemical Safety, 75 pp. 2002.
- CICAD 54. Concise International Chemical Assessment Document 40 Ethylene oxide. Geneva, International Programme on Chemical Safety, 57 pp. 2003.
- CICAD 61. Concise International Chemical Assessment Document 61 Hydrogen cyanide and cyanides: Human health aspects. Geneva, International Programme on Chemical Safety, 67 pp. 2004.
- DS. Pesticide Data Sheets. IPCS, Geneva, World Health Organization. See http://www.who.int/ipcs/publications/pds/en/index.html
- Environmental Health Criteria 29 2,4-Dichlorophenoxyacetic Acid (2,4-D), Geneva, International Programme on Chemical Safety, 151 pp. 1984.
- Environmental Health Criteria 34 Chlordane, Geneva, International Programme on Chemical Safety, 82 pp. 1984.
- Environmental Health Criteria 38 Heptachlor, Geneva, International Programme on Chemical Safety, 81 pp. 1984
- Environmental Health Criteria 39 Paraquat and Diquat, Geneva, International Programme on Chemical Safety, 173 pp. 1981.
- Environmental Health Criteria 40 Endosulfan, Geneva, International Programme on Chemical Safety, 109 pp. 1984.
- Environmental Health Criteria 41 Quintozene, Geneva, International Programme on Chemical Safety, 38 pp. 1984
- Environmental Health Criteria 42 Tecnazene, Geneva, International Programme on Chemical Safety, 23 pp. 1984.
- Environmental Health Criteria 43 Chlordecone, Geneva, International Programme on Chemical Safety, 57 pp. 1984.
- Environmental Health Criteria 44 Mirex, Geneva, International Programme on Chemical Safety, 70 pp. 1984.
- Environmental Health Criteria 45 Campechlor, Geneva, International Programme on Chemical Safety, 66 pp. 1984.
- Environmental Health Criteria 63 Organophosphorus Insecticides, Geneva, International Programme on Chemical Safety, 181 pp. 1986.
- Environmental Health Criteria 64 Carbamate Pesticides, Geneva, International Programme on Chemical Safety, 136 pp. 1986.
- Environmental Health Criteria 66 Kelevan, Geneva, International Programme on Chemical Safety, 32 pp. 1984.
- Environmental Health Criteria 67 Tetradifon, Geneva, International Programme on Chemical Safety, 47 pp. 1986.
- Environmental Health Criteria 71 Pentachlorophenol, Geneva, International Programme on Chemical Safety, 236 pp. 1987.
- Environmental Health Criteria 73 Phosphine and Selected Metal Phosphides, Geneva, International Programme on Chemical Safety, 100 pp. 1988.
- Environmental Health Criteria 76 Thiocarbamate Pesticides, Geneva, International Programme on Chemical Safety, 49 pp. 1988.

- Environmental Health Criteria 78 Dithiocarbamate Pesticides, Ethylenethiourea, and propylenethiourea, Geneva, International Programme on Chemical Safety, 140 pp. 1988.
- Environmental Health Criteria 79 Dichlorvos, Geneva, International Programme on Chemical Safety, 157 pp. 1989.
- Environmental Health Criteria 82 Cypermethrin, Geneva, International Programme on Chemical Safety, 154 pp. 1989.
- Environmental Health Criteria 83 DDT and its Derivatives Environmental Aspects, Geneva, International Programme on Chemical Safety, 98 pp. 1989.
- Environmental Health Criteria 84 2,4-Dichlorphenoxyacetic Acid Environmental Aspects, Geneva, International Programme on Chemical Safety, 92 pp. 1989.
- Environmental Health Criteria 87 Allethrins, Geneva, International Programme on Chemical Safety, 75 pp. 1989.
- Environmental Health Criteria 90 Dimethoate, Geneva, International Programme on Chemical Safety, 85 pp. 1989.
- Environmental Health Criteria 92 Resmethrins; Geneva, International Programme on Chemical Safety, 79 pp. 1989.
- Environmental Health Criteria 94 Permethrin; Geneva, International Programme on Chemical Safety, 125 pp. 1990.
- Environmental Health Criteria 95 Fenvalerate; Geneva, International Programme on Chemical Safety, 121 pp. 1990.
- Environmental Health Criteria 96 d-Phenothrin; Geneva, International Programme on Chemical Safety, 64 pp. 1990.
- Environmental Health Criteria 97 Deltamethrin; Geneva, International Programme on Chemical Safety, 133 pp. 1990.
- Environmental Health Criteria 98 Tetramethrin; Geneva, International Programme on Chemical Safety, 69 pp. 1990.
- Environmental Health Criteria 99 Cyhalothrin; Geneva, International Programme on Chemical Safety, 106 pp. 1990.
- Environmental Health Criteria 121; Aldicarb; Geneva, International Programme on Chemical Safety, 130 pp. 1991.
- Environmental Health Criteria 123 Alpha- and Beta Hexachlorocyclohexanes, Geneva, International Programme on Chemical Safety, 170 pp. 1992.
- Environmental Health Criteria 124 Lindane; Geneva, International Programme on Chemical Safety, 208 pp. 1991.
- Environmental Health Criteria 132 Trichlorfon; Geneva, International Programme on Chemical Safety, 162 pp. 1992.
- Environmental Health Criteria 133 Fenitrothion; Geneva, International Programme on Chemical Safety, 184 pp. 1992.
- Environmental Health Criteria 142 Alpha-cypermethrin; Geneva, International Programme on Chemical Safety, 112 pp. 1992.
- Environmental Health Criteria 145 Methyl Parathion; Geneva, International Programme on Chemical Safety, 244 pp. 1993.
- Environmental Health Criteria 147 Propachlor, Geneva, International Programme on Chemical Safety, 110 pp. 1993.
- Environmental Health Criteria 148 Benomyl; Geneva, International Programme on Chemical Safety, 135 pp. 1993.
- Environmental Health Criteria 149 Carbendazim; Geneva, International Programme on Chemical Safety, 132 pp. 1993.
- Environmental Health Criteria 153 Carbaryl; Geneva, International Programme on Chemical Safety, 358 pp. 1993.
- Environmental Health Criteria 158 Amitrole; Geneva, International Programme on Chemical Safety, 107 pp. 1994.

- Environmental Health Criteria 159 Glyphosate; Geneva, International Programme on Chemical Safety, 177 pp. 1994.
- Environmental Health Criteria 166 Methyl bromide; Geneva, International Programme on Chemical Safety, 324 pp. 1995.
- Environmental Health Criteria 175 Anticoagulant Rodenticides; Geneva, International Programme on Chemical Safety, 121 pp. 1995.
- Environmental Health Criteria 176 1,2-dichloroethane (ethylene dichloride); (2nd edition), Geneva, International Programme on Chemical Safety, 148 pp. 1995.
- Environmental Health Criteria 177 1,2-dibromoethane (ethylene dibromide); Geneva, International Programme on Chemical Safety, 146 pp. 1996.
- Environmental Health Criteria 178 Methomyl; Geneva, International Programme on Chemical Safety, 150 pp. 1996.
- Environmental Health Criteria 182 Thallium, Geneva, International Programme on Chemical Safety, 274 pp. 1996.
- Environmental Health Criteria 183 Chlorothalonil, Geneva, International Programme on Chemical Safety, 145 pp. 1996.
- Environmental Health Criteria 184 Diflubenzuron, Geneva, International Programme on Chemical Safety, 164 pp. 1996.
- Environmental Health Criteria 195 Hexachlorobenzene, Geneva, International Programme on Chemical Safety, 160 pp. 1997.
- Environmental Health Criteria 198 Diazinon, Geneva, International Programme on Chemical Safety, 140 pp. 1998
- Environmental Health Criteria 200 Copper, Geneva, International Programme on Chemical Safety, 360 pp. 1998.
- Environmental Health Criteria 217 Bacillus thuringiensis, Geneva, International Programme on Chemical Safety, 105 pp. 1999.
- Environmental Health Criteria 220 Dinitro-*ortho*-cresol, Geneva, International Programme on Chemical Safety, 87 pp. 2000.
- Environmental Health Criteria 224 Arsenic and arsenic compounds (Second edition), Geneva, International Programme on Chemical Safety, 521 pp. 2001.
- FAO (1985), Guidelines on good labelling practice for pesticides, Rome, Food and Agriculture Organization of the United Nations, 36 pp.
- FAO (1990), International Code of Conduct on the Distribution and Use of Pesticides: Rome, Food and Agriculture Organization of the United Nations, 34 pp.
- HSGs. Health and Safety Guides, IPCS, Geneva, World Health Organization. See http://www.who.int/ipcs/publications/hsg/en/index.html
- IARC 4. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 4 Some Aromatic Amines, Hydrazyne and Related Substances, N-Nitroso Compounds and Miscellaneous Alkylation Agents. Lyon, International Agency for Research on Cancer, 286 pp. 1974
- IARC 7. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 12 Some Carbamates, Thiocarbamates and Carbazides. Lyon, International Agency for Research on Cancer, 282 pp. 1976
- IARC 41. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 41 Some Halogenated Hydrocarbons and Pesticide Exposures. Lyon, International Agency for Research on Cancer, 434 pp. 1986.
- IARC 53. Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 53 Occupational Exposures in Insecticide Application and some Pesticides. Lyon, International Agency for Research on Cancer, 612 pp. 1991.
- IARC 62. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 6 Wood dust and formaldehyde. Lyon, International Agency for Research on Cancer, 405 pp. 1995.

- IARC 63. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 63 Dry cleaning, Some Chlorinated Solvents and Other Industrial Chemicals. Lyon, International Agency for Research on Cancer, 558 pp. 1995.
- IARC 71. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 71 Reevaluatio of some organic chemicals, hydrazine and hydrogen peroxide, Parts I-III1. Lyon, International Agency for Research on Cancer, 1586 pp. 1999.
- IARC 73. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 73 some chemicals taht cause tumours of the kidney or urinary bladder in rodents and some other substances. Lyon, International Agency for Research on Cancer, 674 pp. 1999.
- IARC 79. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 79 some thyrotropic agents. Lyon, International Agency for Research on Cancer, 763 pp. 2001.
- IARC 84. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 84 some drinking water disinfectants and contaminants, including arsenic. Lyon, International Agency for Research on Cancer, 512 pp. 2004.
- IARC Suppl 7. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Voverall evaluations of carcinogenicity: An updating of IARC Monographs volumes 1 to 42. Lyon, International Agency for Research on Cancer, 440 pp. 1987.
- International Organization for Standardization (1981) Pesticides and other agrochemicals common names, Geneva (ISO 1750). (Copies available only from national standards institutes).
- ICSCs. International Chemical Safety Cards, IPCS, Geneva, World Health Organization. See http://www.ilo.org/public/english/protection/safework/cis/products/icsc/index.htm
- JECFA (1996) Toxicological evaluation of certain veterinary drug residues in food prepared by the forty-seventh meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 38, Geneva, World Health Organization.
- JECFA (1997) Toxicological evaluation of vertain veterinary drug residues in food prepared by the forty-eighth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 39, Geneva, World Health Organization.
- JECFA (2000a) Toxicological evaluation of vertain veterinary drug residues in food prepared by the fifty-second meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 43, Geneva, World Health Organization.
- JECFA (2000b) Toxicological evaluation of vertain veterinary drug residues in food prepared by the fifty-fourth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 45, Geneva, World Health Organization.
- JECFA (2002) Toxicological evaluation of vertain veterinary drug residues in food prepared by the fifty-eighth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 49, Geneva, World Health Organization.
- JECFA (2003) Toxicological evaluation of vertain veterinary drug residues in food prepared by the sixtieth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), WHO food additives series 51, Geneva, World Health Organization.
- JMPR (1965a) Evaluation of the toxicity of pesticide residues in food. FAO Meeting Report, No. PL/1965/10/1; WHO/Food Add./27.65.
- JMPR (1965b) Evaluation of the hazards to consumers resulting from the use of fumigants in the protection of food. FAO Meeting Report, No. PL/1965/10/2; WHO/Food Add./28.65.
- JMPR (1967) Evaluation of some pesticide residues in food. FAO/PL:CP/15; WHO/Food Add./67.32.
- JMPR (1969) 1968 Evaluation of some pesticide residues in food. FAO/PL:1968/M/9/1; WHO/Food Add./69.35.
- JMPR (1971) 1970 Evaluations of some pesticide residues in food. AGP:1970/M/12/1; WHO/Food Add /71 42
- JMPR (1972) 1971 Evaluations of some pesticide residues in food. AGP:1971/M/9/1; WHO Pesticide Residues Series No. 1.

- JMPR (1974) 1973 Evaluations of some pesticide residues in food. FAO/AGP/1973/M/9/1; WHO Pesticide Residues Series, No. 3.
- JMPR (1978) Pesticide residues in food: 1977 evaluations. FAO Plant Production and Protection Paper 10 Sup.
- JMPR (1979) Pesticide residues in food: 1978 evaluations. FAO Plant Production and Protection Paper 15 Sup.
- JMPR (1980) Pesticide residues in food: 1979 evaluations. FAO Plant Production and Protection Paper 20 Sup.
- JMPR (1982) Pesticide residues in food:1981 evaluations. FAO Plant Production and Protection Paper 42.
- JMPR (1983) Pesticide residues in food: 1982 evaluations. FAO Plant Production and Protection Paper 49.
- JMPR (1985a) Pesticide residues in food: 1983 evaluations. FAO Plant Production and Protection Paper 61.
- JMPR (1985b) Pesticide residues in food 1984. Report of the Joint Meeting on Pesticide Residues. FAO Plant Production and Protection Paper 62.
- JMPR (1985c) Pesticide residues in food 1984 evaluations. FAO Plant Production and Protection Paper 67.
- JMPR (1986a) Pesticide residues in food 1985. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and a WHO Expert Group on Pesticide Residues. FAO Plant Production and Protection Paper 68.
- JMPR (1986b) Pesticide residues in food 1985 evaluations. Part II Toxicology. FAO Plant Production and Protection Paper 72/2.
- JMPR (1986c) Pesticide residues in food 1986. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and a WHO Expert Group on Pesticide Residues. FAO Plant Production and Protection Paper 77.
- JMPR (1987a) Pesticide residues in food 1986 evaluations. Part II Toxicology. FAO Plant Production and Protection Paper 78/2.
- JMPR (1987b) Pesticide residues in food 1987. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and a WHO Expert Group on Pesticide Residues. FAO Plant Production and Protection Paper 84.
- JMPR (1988) Pesticide residues in food 1987 evaluations. Part II Toxicology. FAO Plant Production and Protection Paper 86/2.
- JMPR (1989) Pesticide residues in food 1988 evaluations. Part II Toxicology. FAO Plant Production and Protection Paper 93/2.
- JMPR (1990) Pesticide residues in food 1989 evaluations. Part II Toxicology. FAO Plant Production and Protection Paper 100/2.
- JMPR (1991) Pesticide residues in food 1990 evaluations. Part II Toxicology. World Health Organization (WHO/PCS/91.47).
- JMPR (1992) Pesticide residues in food 1991 evaluations. Part II Toxicology. World Health Organization (WHO/PCS/92.52).
- JMPR (1993) Pesticide residues in food 1992 evaluations. Part II Toxicology. World Health Organization (WHO/PCS/93.34).
- JMPR (1994) Pesticide residues in food 1993 evaluations. Part II Toxicology. World Health Organization (WHO/PCS/94.4).
- JMPR (1995a) Pesticide residues in food 1994. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and a WHO Expert Group on Pesticide Residues. FAO Plant Production and Protection Paper, 127.
- JMPR (1995b) Pesticide residues in food 1994 evaluations. Part II Toxicology. World Health Organization (WHO/PCS/95.2).

- JMPR (1996a) Pesticide residues in food 1995. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and WHO Toxicological and Environmental Core Assessment Groups. FAO Plant Production and Protection Paper, 133.
- JMPR (1996b) Pesticide residues in food 1995 evaluations. Part II Toxicological and Environmental. Geneva, World Health Organization (WHO/PCS/96.48).
- JMPR (1997a) Pesticide residues in food 1996. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper, 140.
- JMPR (1997b) Pesticide residues in food 1996 evaluations. Part II Toxicological and Environmental. Geneva, World Health Organization (WHO/PCS/97.1).
- JMPR (1998a) Pesticide residues in food 1997. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper, 145.
- JMPR (1998b) Pesticide residues in food 1997 evaluations. Part II Toxicological and Environmental. Geneva, World Health Organization (WHO/PCS/98.6).
- JMPR (1999) Pesticide residues in food 1998 evaluations. Part II Toxicological. Geneva, World Health Organization (WHO/PCS/99.18).
- JMPR (2000) Pesticide residues in food 1999 evaluations. Part II Toxicological and Environmental. Geneva, World Health Organization (WHO/PCS/00.4).
- JMPR (2001) Pesticide residues in food 2000. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper 167.
- JMPR (2002) Pesticide residues in food 2001. Joint FAO/WHO Meeting on Pesticide Residues. Evaluations 2001. Part II Toxicological. IPCS International Programme on Chemical Safety & World Health Organization, Geneva
- JMPR (2003a) Pesticide residues in food 2002. Report 2002 of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper 172.
- JMPR (2003b) Pesticide residues in food 2002. Joint FAO/WHO Meeting on Pesticide Residues. Evaluations 2002. Part II Toxicological. IPCS International Programme on Chemical Safety & World Health Organization, Geneva
- JMPR (2004a) Pesticide residues in food 2003. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper 176.
- JMPR (2004b) Pesticide residues in food 2003. Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. Evaluations 2003. Part II Toxicological. IPCS, World Health Organization, Geneva (WHO/PCS/04.1).
- JMPR (2005a) Pesticide residues in food 2004. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper 178.
- JMPR (2005b) Pesticide residues in food 2005. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. FAO Plant Production and Protection Paper 183.
- JMPR (2006a) Pesticide residues in food 2004. Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. Evaluations 2004. Part II Toxicological. IPCS, World Health Organization, Geneva (WHO/PCS/06.1).
- JMPR (2006b) Pesticide residues in food 2005. Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. Evaluations 2005. Part II Toxicological. IPCS, World Health Organization, Geneva.
- JMPR (2006c) Pesticide residues in food 2006. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group on Pesticide Residues. FAO Plant Production and Protection Paper 187.

- JMPR (2007) Pesticide residues in food 2007. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group on Pesticide Residues. FAO Plant Production and Protection Paper 191.
- JMPR (2008) Pesticide residues in food 2006. Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. Evaluations 2006. Part II Toxicological. IPCS, World Health Organization, Geneva.
- JMPR (2009a) Pesticide residues in food 2008. Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group on Pesticide Residues. FAO Plant Production and Protection Paper 193.
- JMPR (2009b) Pesticide residues in food 2007. Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. Evaluations 2007. Part II Toxicological. IPCS, World Health Organization, Geneva.
- Larson, L.L., Kenaga, E.E. & Morgan, R.W. (1985) Commercial and experimental organic insecticides, Entomological Society of America, 4603 Calvert Road, College Park, Maryland 20740, United States of America (Rev.), 105 pp.
- Pesticide Data Sheets. IPCS, Geneva, World Health Organization. See http://www.who.int/ipcs/publications/pds/en/index.html
- Tomlin C, ed. The Pesticide Manual, A World Compendium (10th edition 1994). British Crop Protection Council, Thornton Heath, United Kingdom.
- Tomlin C, ed. The Pesticide Manual, A World Compendium (11th edition 1997). British Crop Protection Council, Farnham, United Kingdom.
- Tomlin C, ed. The Pesticide Manual, A World Compendium (13th edition 2003). British Crop Protection Council, Farnham, United Kingdom.
- United Nations (1999) Recommendations on the transport of dangerous goods. Model regulations. Eleventh revised edition. United Nations, New York and Geneva. 573 pp.
- United States Department of Health, Education and Welfare, Registry of Toxic effects of Chemical Substances (annual publication), Centre for Disease Control, Rockville, Maryland 20852, United States of America.
- WHO (1979), Environmental Health Criteria 9; DDT and its Derivatives, Geneva, World Health Organization, 194 pp.
- WHO (1980), Environmental health Criteria 15; Tin and Organotin Compounds, Geneva, World Health Organization, 109 pp.
- WHO/FAO Data Sheets on Pesticides; mimeographed series of documents, WHO/PCS Nos. 1-94, Geneva, World Health Organization. available at: http://www.inchem.org/pages/pds.html
- Wiswesser, W.J., Pesticide Index, (1976), College Science Publishers, Entomological Society of America, 5th Edition, College Park, Maryland 20740, United States of America.
- Worthing, C.R., Hance, R.J., eds. (1991), The Pesticide Manual. A World Compendium (9th Edition). British Crop Protection Council, Surrey, United Kingdom, 1141 pp.

Table 1. Extremely hazardous (Class la) technical grade active ingredients in pesticides

Соттоп пате	CAS no	UN no	Chem type	Phys state	Main use	GHS	$\frac{LD_{s0}}{mg/kg}$	Remarks
Aldicarb [ISO]	116-06-3	2757	C	S	I-S	-	0.93	DS 53; EHC 121; HSG 64; IARC 53; ICSC 94; JMPR 1993, 1996a
Brodifacoum [ISO]	56073-10-0	3027	00	S	R	-	0.3	DS 57; EHC 175; HSG 93
Bromadiolone [ISO]	28772-56-7 3027	3027	00	S	R	_	1.12	DS 88; EHC 175; HSG 94
Bromethalin [ISO]	63333-35-7	2588		S	R	-	2	
Calcium cyanide [C]	592-01-8	1575		S	FM	2	39	Adjusted classification; see note 1; ICSC 407
Captafol [ISO]	2425-06-1			\sqrt{\sq}}\sqrt{\sq}}}}}}}}}}}} \signtimetite\sintite{\sintitta}\sintite{\sintitta}\sintitite{\sintitta}\sintitta}\sintitite{\sintitta}\sintitta}\sintitta}\sintitite{\sintitta}\sintitta}\sintitite{\sintitta}\sintitta}\sintitititit{\sintitta}\sintitititit{\sintitta}\sintitititititititititititititititititit	Ħ	S	2000	Adjusted classification; see note 2; HSG 49; IARC 53; ICSC 119; JMPR 1978, 1986a; see note 3
Chlorethoxyfos [ISO]	54593-83-8	3018	OP	Г	П	-	1.8	Extremely hazardous by skin contact (LD ₅₀ = 12.5 mg/kg); ICSC 1681
Chlormephos [ISO]	24934-91-6	3018	OP	Г	П	2		ICSC 1682
Chlorophacinone [ISO]	3691-35-8	2588		S	N N	-	3.1	DS 62; EHC 175
Difenacoum [ISO]	56073-07-5	3027	00	S	2	-	1.8	EHC 175; HSG 95
Difethialone [ISO]	104653-34-1	2588		S	R	1	0.56	EHC 175
Diphacinone [ISO]	82-66-6 2588	2588		S	R	-	2.3	EHC 175
Disulfoton [ISO]	298-04-4	3018	OP	Г	П	-	2.6	DS 68; JMPR 1992, 1997a; ICSC 1408
EPN	2104-64-5 2783	2783	OP	S	П	2	14	See note 4; ICSC 753
Ethoprophos [ISO]	13194-48-4	3018	OP	Г	I-S	2	D26	DS 70; JMPR 2000; $ICSC\ 1660$; $IOral\ LD_{50} = 33\ mg/kgJ$
Flocoumafen	90035-08-8	3027		S	N N	-	0.25	EHC 175; ICSC 1267
Hexachlorobenzene [ISO]	118-74-1	2729	00	S	FST	5	D10000	Adjusted classification (notes 3 and 5); IARC 79; ICSC 895; EHC 195
Mercuric chloride [ISO]	7487-94-7	1624	HG	S	F-S	-	1	See note 3; ICSC 979
Mevinphos [ISO]	26718-65-0	3018	OP	Г	I	-	D4	DS 14; ICSC 924; JMPR 1998b; $[Oral LD_{50} = 3.7 \text{ mg/kg}]$
Parathion [ISO]	56-38-2	3018	OP	Г	Ι	2	13	See note 3; DS 6; HSG 74; IARC 30, Suppl. 7; ICSC 6; JMPR 1996b
Parathion-methyl [ISO]	298-00-0 3018	3018	OP	Г	Ι	2	14	See note 3; DS 7; EHC 145; HSG 75; ICSC 626; JMPR 1985c, 1996b

Соттоп пате	CAS no UN Chem	UN no	_	Phys Mair state use	Main use	CHS	LD _{s0} mg/kg	Phys Main GHS LD _{s0} Remarks state use mg/kg
Phenylmercury acetate [ISO]	62-38-4 1674 HG	1674	HG	S	FST 2	2	24	24 Adjusted classification; see notes 3 and 6; ICSC 540
Phorate [ISO]	298-02-2 3018 OP	3018	OP	Г	I	1	2	2 DS 75; JMPR 1997b, 2005; <i>ICSC 1060</i>
Phosphamidon	13171-21-6 3018	3018	OP	L	I	2	7	7 See note 3; DS 74; ICSC 189; JMPR 1987b CAS Nos for E and Z isomers 297-99-4 and 23783-98-4
Sodium fluoroacetate [C]	62-74-8 2629	2629		S	R	-	0.2	0.2 DS 16; ICSC 484
Sulfotep [ISO]	3689-24-5 1704	1704	OP	Г	П	_	5	\$ ICSC 985
Tebupirimfos [ISO*]	96182-53-5 3018	3018	OP	L	I	1	1.3	1.3 Extremely hazardous by skin contact (LD ₅₀ 9.4 mg/kg in rats)
Terbufos [ISO]	13071-79-9 3018	3018	OP	L	S-I	1	c2	c2 JMPR 1991, 2004

EHC = Environmental Health Criteria Monograph; DS = Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JMPR = Evaluation by the Joint FAO/WHO Meeting on Pesticide Residues.

Notes to Class Ia

- 1. Calcium cyanide is in Class Ia as it reacts with moisture to produce hydrogen cyanide gas. The gas is not classified under the WHO system (see Table 8).
- 2. Captafol is carcinogenic in both rats and mice.
- The international trade of captafol, hexachlorobenzene, mercury compounds, parathion, parathion-methyl, and phosphamidon is regulated by the Rotterdam convention on Prior Informed Consent (see http://www.pic.int/), which entered into force on 24 February 2004. See Table 7, p. 51
 - 4. EPN has been reported as causing delayed neurotoxicity in hens.
- Hexachlorobenzene has caused a serious outbreak of porphyria in humans. The use and production of hexachlorobenzene is severely restricted by the Stockholm convention on persistent organic pollutants, which entered into force on 17 May, 2004. See http://www.pops.int/
- Phenylmercury acetate is highly toxic to mammals and very small doses have produced renal lesions: teratogenic in the rat. 9

THE FINAL CLASSIFICATION OF ANY PRODUCT DEPENDS ON ITS FORMULATION See Pages 7 & 8, and the Annex

Table 2. Highly hazardous (Class Ib) technical grade active ingredients in pesticides

Common name	CAS no	UN no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Acrolein [C]	107-02-8	1092		Г	Н	2	29	EHC 127; HSG 67; IARC 63; ICSC 90
Allyl alcohol [C]	107-18-6	1098		ı	Н	ς,	64	Highly irritant to skin and eyes; ICSC 95; Adjusted classification (see note 3)
Azinphos-ethyl [ISO]	2642-71-9	2783	OP	S	I	2	12	DS 72; JMPR 1974
Azinphos-methyl [ISO]	86-50-0	2783	OP	S	I	2	16	DS 59; ICSC 826; JMPR 1992, 2009b
Blasticidin-S	2079-00-7	2588		S	Ā	2	16	
Butocarboxim [ISO]	34681-10-2	2992	C	П	I	8	158	JMPR 1986a; Adjusted classification (see note 3)
Butoxycarboxim [ISO]	34681-23-7	2992	S	Г	П	8	D288	Adjusted classification (see note 3)
Cadusafos [ISO]	95465-99-9	3018	OP	Г	N,I	2	37	JMPR 1992
Calcium arsenate [C]	7778-44-1	1573	AS	S	П	2	20	EHC 18, 224; IARC 84; ICSC 765; JMPR 1969
Carbofuran [ISO]	1563-66-2	2757	C	S	L	2	∞	DS 56; ICSC 122; JMPR 1997b, 2003b, 2009a; See note 2.
Chlorfenvinphos [ISO]	470-90-6	3018	OP	Г	I	7	31	ICSC 1305; JMPR 1995b
3-Chloro-1,2-propanediol [C]	96-24-2	2689		L	R	3	112	Adjusted classification (see notes I and 3)
Coumaphos [ISO]	56-72-4	2783	OP	S	AC,MT	7	7.1	ICSC 422; JMPR 1991
Coumatetralyl [ISO]	5836-29-3	3027	93	S	2	2	16	
Cyfluthrin [ISO]	68359-37-5		PY	S	I	2	c15	JMPR 2008; See note 9, p. 8
Beta-cyfluthrin [ISO]	68359-37-5		PY	S	I	2	cII	JMPR 2008; See note 9, p. 8
Zeta-cypermethrin [ISO]	52315-07-8	3352	ΡΥ	Г	Ι	3	089	See note 9, p. 8; HSG 22; ICSC 246; JMPR 2008; Adjusted classification (see note 3)
Demeton-S-methyl [ISO]	919-86-8	3018	OP	Г	I	2	40	DS 61, EHC 197; ICSC 705; JMPR 1990
Dichlorvos [ISO]	62-73-7	3018	OP	L	Ι	3	99	Volatile, DS 2; EHC 79; HSG 18; IARC 20, 53; ICSC 690; JMPR 1994; Adjusted classification (see note 3)
Dicrotophos [ISO]	141-66-2	3018	OP	Т	I	2	22	ICSC 872
Dinoterb [ISO]	1420-07-1	2779	NP	S	Н	2	25	

Common name	CAS no	NO no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
DNOC [ISO]	534-52-1	2779	NP	∞	I-S,H	2	25	JMPR 1965a; EHC 220; ICSC 462. See note 2.
Edifenphos [ISO]	17109-49-8	3018	OP	ı	Ţ	3	150	JMPR 1982. Adjusted classification (see note 3)
Ethiofencarb [ISO]	29973-13-5	2992	S	ı	П	3	200	JMPR 1983. Adjusted classification (see note 3)
Famphur	52-85-7	2783	OP	S	П	2	48	
Fenamiphos [ISO]	22224-92-6	2783	OP	S	z	2	15	DS 92; ICSC 483; JMPR 1998b, 2003b
Flucythrinate [ISO]	70124-77-5	3352	ΡΥ	ı	ы	3	C92	JMPR 1986b; see note 9, p.8; Adjusted classification (see note 3)
Fluoroacetamide [C]	640-19-7	2588		S	2	2	13	ICSC 1434. See note 2
Formetanate [ISO]	22259-30-9	2757	C	S	AC	2	21	
Furathiocarb	65907-30-4	2992	S	ı	S-I	2	42	
Heptenophos [ISO]	23560-59-0	3018	OP	ı	ы	3	96	Adjusted classification (see note 3)
Isoxathion [ISO]	18854-04-8	3018	OP	J	П	3	112	Adjusted classification (see note 3)
Lead arsenate [C]	7784-40-9	1617	AS	S	Г	2	c10	EHC 18, 224; IARC 84; ICSC 911; JMPR 1969
Mecarbam [ISO]	2595-54-2	3018	OP	Oil	I	2	36	JMPR 1987a
Mercuric oxide [ISO]	21908-53-2	1641	HG	S	0	2	18	ICSC 981; CICAD 50. See note 2
Methamidophos [ISO]	10265-92-6	2783	OP	S	П	2	30	HSG 79; ICSC 176; JMPR 1991, 2003b; See note 2
Methidathion [ISO]	950-37-8	3018	OP	J	I	2	25	JMPR 1998b; ICSC 1659
Methiocarb [ISO]	2032-65-7	2757	C	S	I	2	20	JMPR 1999
Methomyl [ISO]	16752-77-5	2757	C	S	I	2	17	DS 55, EHC 178; HSG 97; ICSC 177, JMPR 1989, 2002
Monocrotophos [ISO]	6923-22-4	2783	OP	S	I	2	14	See note 2; HSG 80; ICSC 181; JMPR 1996b
Nicotine [ISO]	54-11-5	1654		Γ		1	D50	ICSC 519
Omethoate [ISO]	1113-02-6	3018	OP	Г	I	2	50	JMPR 1997a
Oxamyl [ISO]	23135-22-0	2757	C	S	I	2	9	DS 54; JMPR 1986b, 2003b
Oxydemeton-methyl [ISO]	301-12-2	3018	OP	Γ	Ι	3	9	JMPR 1990, 2003b; Adjusted classification (see note 3)
Paris green [C]	12002-03-8	1585	AS	S	Γ	2	22	Copper-arsenic complex
Pentachlorophenol [ISO]	87-86-5	3155		S	I,F,H	2	D80	See note 2; Irritant to skin; EHC 71; HSG 19; IARC 20, 53; ICSC 69

Соттоп пате	CAS no	UN no	Chem type	Phys state	Phys Main GHS state use		$\frac{LD_{s_0}}{mg/kg}$	Remarks
Propetamphos [ISO]	31218-83-4	3018	OP	Γ	I	3	106	106 Adjusted classification (see note 3)
Sodium arsenite [C]	7784-46-5 1557	1557	AS	S	2	2	10	10 EHC 224; IARC 84; <i>ICSC 1603</i>
Sodium cyanide [C]	143-33-9	1689		S	<u>ح</u>	2	9	6 ICSC 1118; CICAD 61
Strychnine [C]	57-24-9	1692		S	2	2	16	16 ICSC 197
Teffuthrin	79538-32-2 3349	3349	ΡΥ	S	S-I	2	c22	c22 See note 9, p. 8
Thallium sulfate [C]	7446-18-6	1707		S	2	2	111	DS 10, EHC 182; ICSC 336
Thiofanox [ISO]	39196-18-4	2757	C	S	S-I	2	8	
Thiometon [ISO]	640-15-3 3018	3018	OP	Oil	I	3	120	120 DS 67; ICSC 580; JMPR 1980; Adjusted classification (see note 3)
Triazophos [ISO]	24017-47-8	3018	OP	Г	I	3	82	JMPR 1994, 2003b; Adjusted classification (see note 3)
Vamidothion [ISO]	2275-23-2	3018	OP	Г	I	3	103	103 JMPR 1989; ICSC 758; Adjusted classification (see note 3)
Warfarin [ISO]	81-81-2 3027	3027	99	S	R	2	10	10 DS 35, EHC 175; HSG 96; ICSC 821
Zinc phosphide [C]	1314-84-7	1714		S	R	2	45	DS 24, EHC 73; ICSC 602

EHC = Environmental Health Criteria Monograph; DS= Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JMPR = Evaluation by the Joint FAO/WHO Meeting on Pesticide Residues.

Notes to Class Ib

- 1. 3-Chloro-1,2-propanediol in nonlethal dosage is a sterilant for male rats. This compound is also known as alpha chlorhydrin.
- 2. The international trade of carbofuran, DNOC, fluoroacetamide, mercury compounds, methamidophos, monocrotophos and pentachlorophenol is regulated by the Rotterdam convention on Prior Informed Consent (see http://www.pic.int/), which entered into force on 24 February 2004. See Table 7, p. 51.
- As a precautionary measure, the classification of certain liquid pesticides has been adjusted to avoid those pesticides being assigned to a less hazardous Class in the process of aligning the WHO Classification with the GHS. Details of how the WHO Classification has been aligned with the GHS Acute Toxicity Hazard Categories are described in the introductory notes for Part II.

THE FINAL CLASSIFICATION OF ANY PRODUCT DEPENDS ON ITS FORMULATION See Pages 7 & 8, and the Annex

Table 3. Moderately hazardous (Class II) technical grade active ingredients in pesticides

Common name	CAS no	NO no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Acephate [ISO]	30560-19-1		OP	S	I	4	945	JMPR 1991, 2003b, 2006b; ICSC 748
Acifluorfen [ISO]	50594-66-6			S	Н	4	1370	Strong irritant to eyes
Alachlor [ISO]	15972-60-8	2588		S	Н	4	930	See note 1; DS 86; IARC 19, 36, 63; ICSC 371
Alanycarb [ISO]	83130-01-2		ر ر	S	I	4	330	
Allethrin [ISO]	584-79-2		ΡΥ	Oil	Ι	4	c685	See note 9, page 8; EHC 87; HSG 24; ICSC 212; JMPR 1965a
Ametryn [ISO]	834-12-8		Н	S	Н	4	110	
Amitraz [ISO]	33089-61-1			S	AC	4	800	ICSC 98; JMPR 1999
Anilofos [ISO]	64249-01-0		OP	S	Н	4	472	
Azaconazole	60207-31-0			S	ഥ	4	308	
Azamethiphos [ISO]	35575-96-3		OP	S	Ι	4	1010	
Azocyclotin [ISO]	41083-11-8	2786	OT	S	AC	3	80	JMPR 1990, 1995b, 2006b
Bendiocarb [ISO]	22781-23-3	2757	C	S	I	3	55	DS 52
Benfuracarb [ISO]	82560-54-1	2992	C	Γ	Ι	3	205	
Bensulide [ISO]	741-58-2	2902		Г	Н	3	270	ICSC 383
Bensultap [ISO]	17606-31-4			S	I	4	1100	
Bentazone [ISO]	25057-89-0			S	Н	4	1100	HSG 48; ICSC 828; JMPR 1999, 2005
Bifenthrin	82657-04-3	3349	ΡΥ	S	Ι	3	c55	JMPR 1993
Bilanafos [ISO]	71048-99-2			S	Н	3	268	
Bioallethrin [C]	584-79-2		ΡΥ	Τ	Ι	4	c700	See note 2; note 9, p. 8; ICSC 227
Bromoxynil [ISO]	1689-84-5	2588		S	Н	3	190	
Bromuconazole	116255-48-2			S	F	4	365	ICSC 1264
Bronopol	52-51-7			S	В	3	254	ICSC 415
Butamifos [ISO]	36335-67-8		OP	Τ	Н	4	630	
Butralin [ISO]	33629-47-9			S	Н	4	1049	

Butroxydim [ISO] 138164-12-2 Butylamine [ISO] 13952-84-6 Carbaryl [ISO] 63-25-2 Carbosulfan [ISO] 55285-14-8 Cartap [ISO] 15263-53-3 Chloralose [C] 15879-93-3	0)	cype	state	nse		mg/kg	
(O) SO]	4-12-2			S	Н	4	1635	
[08	13952-84-6	1992		П	ŭ	4	380	Irritant to skin; ICSC 401; JMPR 1982, 1985b
	63-25-2	2757	C	S	ш	κ	c300	DS 3; EHC 153; HSG 78; IARC 12, Suppl.7; ICSC 121; JMPR 1997b, 2002
	55285-14-8	2992	C	Г	_	3	250	JMPR 1987a, 2004
	15263-53-3			S	I	4	325	EHC 76; JMPR 1996a
	15879-93-3			S	~	4	400	
Chlordane [ISO]	57-74-9 2996	9667	0C	J	Н	4	460	See notes 3 and 4; DS 36; EHC 34; HSG 13; IARC 79; ICSC 740; JMPR 1995a
Chlorfenapyr [ISO] 122453-73-0	3-73-0			S	I,MT	4	441	
Chlormequat (chloride) [ISO] 999	999-81-5			S	PGR	4	029	ICSC 781; JMPR 2000
Chloroacetic acid [C] 79	79-11-8	1751		S	Н	4	650	Irritant to skin and eyes; data refer to sodium salt; ICSC 235
Chlorphonium chloride [ISO] 115	115-78-6	2588		S	PGR	3	178	Irritant to skin and eyes
Chlorpyrifos [ISO] 2921	2921-88-2	2783	OP	S	I	3	135	DS 18; ICSC 851; JMPR 2000
Clomazone [ISO] 81777	81777-89-1			Т	Н	4	1369	
Copper hydroxide [C] 20427	20427-59-2		CU	S	Щ	4	1000	
Copper oxychloride [C] 1332	1332-40-7		CU	S	F	4	1440	
Copper sulfate [C] 7758	7758-98-7		CU	S	F	3	300	ICSC 751
4-CPA [ISO]	122-88-3		PAA	S	PGR	4	850	
Cuprous oxide [C] 1317	1317-39-1		CU	S	H	4	470	ICSC 421, EHC 200
Cyanazine [ISO] 21725	21725-46-2		Τ	S	Н	3	288	ICSC 391
Cyanophos [ISO] 2636	2636-26-2		OP	Г	ı	4	610	
Cyhalothrin [ISO] 68085	8-58-58089	3352	ΡΥ	Oil	Ix	3	c144	See note 9, p. 8; EHC 99; HSG 38; ICSC 858; JMPR 1985c; JECFA 2000b
Cyhexatin [ISO] 13121	13121-70-5		OT	S	AC	3	265	EHC 15; JMPR 1995b, 2006b
Cymoxanil [ISO] 57966	27966-95-7			S	Н	4	1196	

Соттоп пате	CAS no	NO no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Cypermethrin [ISO]	52315-07-8	3352	PY	П	Н	ы	c250	See note 9, p. 8; DS 58; EHC 82; HSG 22; ICSC 246; JECFA 1996
Alpha-cypermethrin [ISO]	67375-30-8	3349	PY	S	I	3	c79	See note 9, p 8; EHC 142; JECFA 1996; JMPR 2008
Cyphenothrin [(1R)-isomers] [ISO]	39515-40-7	3352	ΡΥ	1	ы	4	318	
Cyproconazole	94361-06-5			S	ഥ	4	1020	
2,4-D [ISO]	94-75-7	3345	PAA	∞	Н	4	375	DS 37; EHC 29, 84; HSG 5; IARC 41, Suppl. 7; ICSC 33; JMPR 1998b
Dazomet [ISO]	533-74-4			S	F-S	4	640	Irritant to skin and eyes; ICSC 786
2,4-DB	94-82-6			S	Н	4	700	
DDT [ISO]	50-29-3	2761	0C	S	ы	ω	113	See notes 3 and 4; DS 21; EHC 9, 83; IARC 53; ICSC 34; JMPR 1985c, 2001
Deltamethrin [ISO]	52918-63-5	3349	ΡΥ	S	I	3	c135	See note 9, p. 8; DS 50; EHC 97; HSG 30; IARC 53; ICSC 247; JMPR 2001
Diazinon [ISO]	333-41-5	3018	OP	Г	I	4	300	DS 45, EHC 198; ICSC 137; JMPR 1994, 2002, 2008
Dicamba [ISO]	1918-00-9			S	Н	4	1707	ICSC 139
Dichlorobenzene [C]	106-46-7			S.	FM	4	500-5000	Mixture of isomers: ortho (3) 95-50-1, meta (3) 541-73-1, para (2B) 106-46-7; ICSC 37
Dichlorophen [ISO]	97-23-4		00	S	Ŧ	4	1250	
Dichlorprop [ISO]	7547-66-2			S	Н	4	800	ICSC 38
Diclofop [ISO]	40483-25-2			S	Н	4	292	
Dicofol [ISO]	115-32-2		0C	S	AC	4	c690	DS 81; IARC 30; ICSC 752; JMPR 1993
Difenoconazole [ISO]	119446-68-3			S	Ŧ	4	1453	JMPR 2009b
Difenzoquat [ISO]	43222-48-6	2588		S	Н	4	470	
Dimepiperate [ISO]	61432-55-1		TC	S	Н	4	946	
Dimethachlor [ISO]	50563-36-5			S	Н	4	1600	
Dimethipin [ISO]	55290-64-7			S	Н	4	1180	JMPR 2000, 2005

Dimethenamid [ISO] Dimethylarsinic acid [C] Dimethoate [ISO] Diniconazole [ISO] Dinobuton [ISO]		0U	type	state	nse		mg/kg	
Dimethylarsinic acid [C] Dimethoate [ISO] Diniconazole [ISO] Dinobuton [ISO]	87674-68-8			T	Н	4	371	LD_{50} of P isomer is 429 mg/kg bw; JMPR 2006b
Dimethoate [ISO] Diniconazole [ISO] Dinobuton [ISO] Dinocan [ISO]	75-60-5	1572	AS	S	Н	4	1350	
Diniconazole [ISO] Dinobuton [ISO] Dinocan IISO]	60-51-5	2783	OP	S	I	3	c150	DS 42; EHC 90; HSG 20; ICSC 741; JMPR 1997b, 2004
Dinobuton [ISO]	83657-24-3			S	ĭ	4	639	
Dinocan [ISO]	973-21-7	2779	NP	S	AC,F	3	140	
Luiveap [120]	39300-45-3		NP	S	AC,F	4	086	ICSC 881; JMPR 1999
Diphenamid [ISO]	957-51-7			S	Н	4	970	ICSC 763
Diquat [ISO]	2764-72-9	2781	BP	S	Н	3	231	Irritant to skin and eyes and damages nails; DS 40; EHC 39; HSG 52; JMPR 1994; ICSC 1363
Dithianon [ISO]	3347-22-6			S	Ľ	4	640	JMPR 1993
Dodine [ISO]	2439-10-3			S	Ľ	4	1000	JMPR 2001
Endosulfan [ISO]	115-29-7	2761	00	S	Ι	3	80	DS 15; EHC 40; HSG 17; ICSC 742; JMPR 1999
Endothal-sodium [(ISO)]	125-67-9	2588		S	Н	3	51	
EPTC [ISO]	759-94-4		TC	Т	Η	4	1652	ICSC 469
Esfenvalerate [ISO]	66230-04-4	3349	ΡΥ	S	Ι	3	87	JMPR 2003b; ICSC 1516
Ethion [ISO]	563-12-2	3018	OP	Т	Ι	3	208	ICSC 888; JMPR 1991
Fenazaquin [ISO]	120928-09-8	2588		S	AC	3	134	
Fenitrothion [ISO]	122-14-5		OP	Τ	Ι	4	503	DS 30; EHC 133; HSG 65; ICSC 622; JMPR 2001
Fenobucarb	3766-81-2		С	S	Ι	4	620	
Fenothiocarb [ISO]	62850-32-2		C	S	Τ	4	1150	
Fenpropidin [ISO]	67306-00-7			Τ	F	4	1440	
Fenpropathrin [ISO]	64257-84-7	3349	ΡΥ	S	Ι	3	990	See note 9, p. 8; JMPR 1994
Fenpyroximate [ISO]	134098-61-6			S	AC	3	245	Highly toxic by inhalation (LC ₅₀ = 0.21-0.36 mg/l); JMPR 2007
Fenthion [ISO]	55-38-9	3018	OP	Γ	I,L	3	D586	DS 23; ICSC 655; JMPR 1998b
Fentin acetate[(ISO)]	900-95-8	2786	OT	S	Ь	3	125	DS 22; EHC 15; JMPR 1992; CICAD 13

Fentin hydroxide[(ISO)] 51 Fenvalerate [ISO] 85 Frimzone [ISO] 89 Fipronil 120 Fluchloralin [ISO] 33 Flufenacet [ISO] 142	76-87-9				nsc		mg/kg	
		2786	OT	S	ഥ	3	108	DS 22; EHC 15; ICSC 1283; JMPR 1992; CICAD 13
one [ISO] ralin [ISO]		3352	PY	Г	l -	4	c450	See note 9, p. 8; DS 90; EHC 95, HSG 34; IARC 53; ICSC 273; JMPR 1986c
ralin [ISO]	89269-64-7			S	H	4	725	
0]	120068-37-3	2588		S	L	3	92	JMPR 1998b, 2001; ICSC 1503
	33245-39-5			S	Н	4	1550	
	142459-58-3			S	Н	4	009	May cause skin sensitization
Fluoroglycofen 77	77501-60-1			S	Н	4	1550	
Flurprimidol [ISO] 56	56425-91-3			S	PGR	4	602	
Flusilazole 85	85509-19-9			S	ΙΉ	4	672	JMPR 1996b, 2009b
Flutriafol [ISO] 76	76674-21-0			S	F,FST	4	1140	
Flux of enim [ISO] 88	88485-37-4			lio	Н	4	029	
Fomesafen [ISO] 72	72178-02-0		00	S	Н	4	1250	
Fuberidazole [ISO]	3878-19-1			S	Ţ	4	336	
Furalaxyl [ISO] 57	57646-30-7			S	Ľ	4	940	
Gamma-HCH [ISO], Lindane	58-89-9 2761	2761	0C	S	Ι	3	88	ICSC 53; JMPR 2003b; See note 3
Glufosinate [ISO] 53	53369-07-6			S	Н	4	1625	JMPR 2000
Guazatine 108	108173-90-6			S	FST	3	230	LD ₅₀ value refers to triacetate; JMPR 1998b
Haloxyfop 69	69806-34-4			S	Н	4	300	JMPR 1996b, 2008 (includes Haloxyfop-R and esters)
HCH [ISO]	608-73-1	2761	0C	S	Ι	3	100	See notes 3, 4 and 5; EHC 123; IARC 5, 20, 42; ICSC 487; JMPR 1974
Hexazinone [ISO] 51	51235-04-2			S	Н	4	1690	
Hydramethylnon 67	67485-29-4			S	Ι	4	1200	
Imazalil [ISO]	35554-44-0	2588		S	F	3	227	ICSC 1303; JMPR 2001, 2002, 2006b
Imidacloprid [ISO] 138	138261-41-3			S	Ι	4	450	JMPR 2002; ICSC 1501

Соттоп пате	CAS no	NO on	Chem	Phys state	Main use	CHS	LD ₅₀ mg/kg	Remarks
Iminoctadine [ISO]	13516-27-3			S	Ľ	8	300	Eye irritant
Indoxacarb [ISO]	173584-44-6			S	I	3	268	JMPR 2006b; LD ₅₀ applies to 3.1 mixture of isomers in commercial use
loxynil [ISO]	1689-83-4	2588		S	H	3	110	ICSC 900
Ioxynil octanoate [(ISO)]	3861-47-0			S	Н	4	390	
Iprobenfos	26087-47-8			S	ഥ	4	009	
Isoprocarb [ISO]	2631-40-5	2757	S	S	ı	4	403	
Isoprothiolane [ISO]	50512-35-1			S	ഥ	4	1190	
Isoproturon [ISO]	34123-59-6			S	Н	4	1800	
Isouron [ISO]	55861-78-4			S	Н	4	630	
Lambda-cyhalothrin	2164-08-1	3349	PY	S	_	8	c56	See note 9, p. 8; EHC 142; HSG 38; JMPR 2009b; ICSC 859
MCPA [ISO]	94-74-6		PAA	S	Н	4	700	IARC 30, 41; ICSC 54
MCPA-thioethyl [ISO]	25319-90-8		PAA	S	Н	4	790	
MCPB [ISO]	94-81-5			S	Н	4	089	
Mecoprop [ISO]	7085-19-0			S	Н	4	930	ICSC 55
Mecoprop-P [ISO]	16484-77-8			S	Н	4	1050	
Meffuidide [ISO]	53780-34-0			S	Н	4	1920	
Mepiquat [ISO]	15302-91-7			S	PGR	4	1490	
Mercurous chloride [C]	10112-91-1	2025	HG	S	ഥ	3	210	See note 3; ICSC 984; CICAD 50
Metalaxyl [ISO]	57837-19-1			S	ഥ	4	029	JMPR 1983, 2003b
Metaldehyde [ISO]	108-62-3			S	M	3	227	DS 93
Metamitron [ISO]	41394-05-2			S	Н	4	1183	ICSC 1361
Metam-sodium [(ISO)]	137-42-8	2771		S	F-S	3	285	
Metconazole [ISO]	125116-23-6			S	F	4	099	
Methacrifos [ISO]	62610-77-9		OP	Γ	Ι	4	829	JMPR 1991

Common name	CAS no	NO ou	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Methasulfocarb [ISO]	66952-49-6	2757		∞	ſΞ	ω	112	
Methylarsonic acid [ISO]	124-58-3		AS	S	Н	4	1800	ICSC 755; EHC 224
Methyl isothiocyanate [ISO]	556-61-6	2588		S	F-S	3	72	Skin and eye irritant; see note 6
Metolcarb [ISO]	1129-41-5		C	S	ı	3	268	
Metribuzin [ISO]	21087-64-9			S	Н	4	322	ICSC 516
Molinate [ISO]	2212-67-1		CL	J	Н	4	720	
Myclobutanil	88671-89-0			S	ഥ	4	1600	JMPR 1993
Nabam [ISO]	142-59-6	2771		S	ഥ	4	395	Goitrogenic in rats
Naled [ISO]	300-76-5	3018	OP	Г	I	4	430	DS 39; ICSC 925
2-Napthyloxyacetic acid [ISO]	120-23-0			S	PGR	4	009	
Nitrapyrin [ISO]	1929-82-4			S	B-S	4	1072	ICSC 1658
Nuarimol [ISO]	63284-71-9			S	F	4	1250	
Octhilinone [ISO]	26530-20-1			S	F	4	1470	
Oxadixyl	77732-09-3			S	拓	4	1860	
Paclobutrazol [ISO]	76738-62-0			S	PGR	4	1300	JMPR 1989
Paraquat [ISO]	1910-42-5	2781	BP	S	Н	3	150	See note 7; DS 4; EHC 39; HSG 51; ICSC 5; JMPR 1987a, 2004
Pebulate [ISO]	1114-71-2		TC	Г	Н	4	1120	
Pendimethalin [ISO]	40487-42-1			S	Н	4	1050	
Permethrin [ISO]	52645-53-1	3352	ΡΥ	Т	I	4	c500	See note 9, p. 8; DS 51; EHC 94; HSG 33; IARC 53; ICSC 312; JMPR 2000
Phenthoate [ISO]	2597-03-7	3018	OP	Γ	Ι	4	c400	DS 48; JMPR 1985c
Phosalone [ISO]	2310-17-0 2783	2783	OP	S	I	3	120	ICSC 797; JMPR 1998b, 2002
Phosmet [ISO]	732-11-6	2783	OP	S	I,AC	3	113	ICSC 543; JMPR 1999, 2004
Phoxim [ISO]	14816-18-3		OP	Τ	Ι	4	D1975	DS 31; JECFA 2000a
Piperophos [ISO]	24151-93-7	3018	OP	oil	Н	4	324	

Соттоп пате	CAS no	NO on	Chem	Phys state	Main	CHS	LD _{so} mo/ko	Remarks
Distinctional ITOO	72102 00 2	737.0	3 6			,	8	11/mb 1002 2002
	7-06-50157	1017	اد	2	75	2	14/	JIMITA 1963, 2003
Pirimiphos-methyl [ISO]	29232-93-7		OP	Γ	Ι	4	1991	DS 49; JMPR 1993, 2008
Prallethrin [ISO]	23031-36-9	3352	ΡΥ	lio	Ι	4	460	
Prochloraz [ISO]	67747-09-5			S	ΙΉ	4	1600	JMPR 1985a
Profenofos [ISO]	41198-08-7	3018	OP	Г	П	4	358	JMPR 1991, 2008
Propachlor [ISO]	1918-16-7			∞	Н	4	1500	DS 78; EHC 147; HSG 77; JMPR 2002
Propanil [ISO]	8-86-602			S	Н	4	c1400	ICSC 552
Propiconazole [ISO]	60207-90-1			Г	Ľ	4	1520	JMPR 1988, 2005
Propoxur [ISO]	114-26-1	2757	C	S	I	3	95	DS 25; ICSC 191; JMPR 1990
Prosulfocarb [ISO]	52888-80-9		TC	ı	Н	4	1820	
Prothiofos [ISO]	34643-46-4		OP	П	П	4	925	
Pyraclofos [ISO]	77458-01-6	3018	OP	Г	П	3	237	
Pyrazophos [ISO]	13457-18-6	2784		S	H	4	435	JMPR 1993
Pyrazoxyfen [ISO]	71561-11-0			S	Н	4	1644	
Pyrethrins [C]	8003-34-7			Т	I	4	500-1000	See note 8; DS 11; JMPR 2000, 2004; ICSC 1475
Pyridaben [ISO]	96489-71-3			S	AC	4	820	
Pyridaphenthion	119-12-0		OP	S	I	4	692	
Pyroquilon [ISO]	57369-32-1			S	H	4	320	
Quinalphos [ISO]	13593-03-8	2783	OP	S	I	3	62	
Quinoclamine [ISO]	2797-51-5			S	Н	4	1360	
Quizalofop	76578-12-6			S	Н	4	1670	
Quizalofop-p-tefuryl [ISO]	119738-06-6			Г	Н	4	1012	
Rotenone [C]	83-79-4	2588		S	I	3	132-1500	See note 9; HSG 73; ICSC 944
Simetryn [ISO]	1014-70-6		Τ	S	Н	4	1830	
Sodium chlorate [ISO]	7775-09-9	1495		S	Н	4	1200	ICSC 1117

First Firs	Common name	CAS no	NO ou	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
SO 4151-50-2 S 1 4 54.3 So 30-31-7 S H 4 1500 acid 76-03-9 1839 S H 4 1500 Acid 107534-96-3 S H 4 1500 Acid 11058-77-3 S H 4 44.3 Acid Acid	Spiroxamine [ISO]	118134-30-8			Г	F	4	500	Dermal LD ₅₀ 1068 mg/kg; may cause skin sensitisation
(SO) 50-31-7 S H 4 1500 acid) 76-03-9 1839 S H 4 400 acid) 76-03-9 1839 S F 4 400 acitSO] 110168-77-3 S MT 4 555 [ISO] 34014-18-1 S H 4 4483 [ISO] 34014-18-1 S H 4 4483 [ISO] 112281-77-3 Oil F 4 483 [ISO] 112281-77-3 Oil F 4 483 [ISO] 112281-77-3 Oil F 4 300 [ISO] 11288-49-9 S I 4 310 [ISO] 1836-22-4 S I 4 300 [ISO] 1872-68 S F 4 500 [ISO] 4812-43-3 S F 4 500 [ISO] 52219-65-3 S </td <td>Sulfluramid [ISO]</td> <td>4151-50-2</td> <td></td> <td></td> <td>S</td> <td>I</td> <td>4</td> <td>543</td> <td></td>	Sulfluramid [ISO]	4151-50-2			S	I	4	543	
acid) acid) acid) 400 acid) 400 acid) 40150J 40168-77-3 401150S-74-8 [1SO] 4014-18-1 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-8 40150S-04-9 40150S-04-9	2,3,6-TBA [ISO]	50-31-7			S	Н	4	1500	
e [ISO] 107534-96-3 S F 4 1700 d [ISO] 119168-77-3 S H 4 595 [ISO] 34014-18-1 S H 4 483 [ISO] 33693-04-8 T S H 4 483 [ISO] 112281-77-3 Oil F 4 1031 [ISO] 28249-77-6 TC L H 4 1300 [ISO] 31895-22-4 TC L H 4 1300 [ISO] 31895-22-4 S T 4 1300 [ISO] 170-26-8 S T 4 500 [ISO] 87820-88-0 S F 4 500 [ISO] 87820-88-0 S F 4 500 [ISO] 87820-88-0 S F 4 500 [ISO] 112143-82-5 2588 S F 4 710 [ISO]	TCA [ISO] (acid)	76-03-9	l		S		4	400	See note 5 to Table 4, p. 38; ICSC 586
IISO 119168-77-3 S MT 4 595 IISO 34014-18-1 S H 4 644 IISO 33693-04-8 T S H 4 483 III 112281-77-3 Oil F 4 1031 III 112281-77-6 T H 4 1300 IISO 28249-77-6 T H 4 1300 IISO 31895-22-4 S I 3 66 IISO 43121-43-3 S F 4 900 IISO 55219-65-3 S F 4 900 IISO 5226-6 OP S I 3 50-100 IISO 5226-6 OP S I 3 50-100 IISO 52335-06-3 S F 4 4 710 IISO 53335-06-3 S F 4 650 IISO 81412-43-3 S F 6 640 IISO 81412-43-3 S F 640 IISO 81412-43-3 S F 640 IISO 81412-43-4 8102-44 IISO 81412-44-4 8102-44 IISO 81412-44-44 IISO 81412-44-44 IISO 81412-44-44 IISO 814	Tebuconazole [ISO]	107534-96-3			S	ഥ	4	1700	JMPR 1995b
ISO 34014-18-1 S	Tebufenpyrad [ISO]	119168-77-3			S	MT	4	595	
[1SO] 33693-04-8 T S H 4 483 In In In In In In In	Tebuthiuron [ISO]	34014-18-1			S	Н	4	644	
ISO	Terbumeton [ISO]	33693-04-8		Т	S	Н	4	483	
III988-49-9 S I H 4 396 ISO	Tetraconazole [ISO]	112281-77-3			Oil	ഥ	4	1031	
[ISO] 28249-77-6 TC L H 4 1300 [ISO] 31895-22-4 S I 4 310 [ISO] 59669-26-0 2757 C S I 4 566 [ISO] 137-26-8 S F 4 560 66 [ISO] 87820-88-0 S H 4 934 [ISO] 43121-43-3 S F 4 602 [ISO] 43121-43-3 S FST 4 900 [ISO] 55219-65-3 S FST 4 900 [ISO] 55219-65-3 S FST 4 710 [ISO] 52-68-6 OP S I 3 50-100 [ISO] 55335-06-3 S H 4 710 [ISO] 69387-89-0 S F 4 650 695 F 4 650	Thiacloprid	111988-49-9		S			4	396	JMPR 2008
[ISO] 31895-22-4 S I 4 310 ISO] 59669-26-0 2757 C S I 3 66 I] 137-26-8 S F 4 560 I [ISO] 87820-88-0 S H 4 934 I [ISO] 43121-43-3 S F 4 602 [ISO] 43121-43-3 S FST 4 900 [ISO] 55219-65-3 S FST 4 900 [ISO] 52219-65-3 S FST 4 900 [ISO] 52268-6 OP S I 3 50-100 [ISO] 55335-06-3 S H 4 710 [ISO] 41814-78-2 S F 4 650 [ISO] 81412-43-3 S F 4 650 [ISO] 81412-43-3 S F 4 650	Thiobencarb [ISO]	28249-77-6		TC	Г	Н	4	1300	
SO 5969-26-0 2757 C S I 3 66 I 137-26-8 S F 4 560 I 137-26-8 3349 PY S I 3 685 I I I I I I I I I	Thiocyclam [ISO]	31895-22-4			S	I	4	310	
IISO] 137-26-8 S F 4 560 I [ISO] 87820-88-0 S H 4 934 I [SO] 43121-43-3 S F 4 602 [ISO] 43121-43-3 S FST 4 602 [ISO] 55219-65-3 S FST 4 900 [ISO] 55219-65-3 S AP 3 50-100 [ISO] 52-68-6 OP S I 4 710 [ISO] 55335-06-3 S F 4 710 [ISO] 41814-78-2 S F 4 505 [ISO] 81412-43-3 Oil F 4 650 [ISO] 89387-89-0 S F 4 695	Thiodicarb [ISO]	59669-26-0	2757	C	S	Ι	3	99	JMPR 2001
Head B7820-88-0 S	Thiram [ISO]	137-26-8			S	ഥ	4	999	DS 71; EHC 78; IARC 12, 53; ICSC 757; JMPR 1993; See note 3
ISO	Tralkoxydim [ISO]	87820-88-0			S	Н	4	934	
[ISO] 43121-43-3 S F 4 602 [ISO] 55219-65-3 S FST 4 900 ISO] 112143-82-5 2588 S AP 3 50-100 ISO] 52-68-6 OP S I 3 550-100 SO] 55335-06-3 S H 4 710 [ISO] 41814-78-2 S F 4 505 [ISO] 81412-43-3 Oil F 4 650 [ISO] 89387-89-0 S F 4 695	Tralomethrin	66841-25-6	3349	PY	S	I	3	c85	
[1SO] 55219-65-3 S FST 4 900 ISO] 112143-82-5 2588 S AP 3 50-100 ISO] 52-68-6 OP S I 3 550-100 SO] 55335-06-3 S H 4 710 ISO] 41814-78-2 S F 4 305 ISO] 81412-43-3 Oil F 4 650 ISO] 89387-89-0 S F 4 695	Triadimefon [ISO]	43121-43-3			S	H	4	602	JMPR 1986b, 2005
ISO] 112143-82-5 2588 S AP 3 50-100 ISO] 52-68-6 OP S I 3 250 SO] 55335-06-3 S H 4 710 ISO] 41814-78-2 S F 4 305 ISO] 81412-43-3 Oil F 4 650 99387-89-0 S F 4 695	Triadimenol [ISO]	55219-65-3			S	FST	4	006	JMPR 1990, 2005
ISO] 52-68-6 OP S I 3 250 SO] 55335-06-3 S H 4 710 ISO] 41814-78-2 S F 4 305 ISO] 81412-43-3 Oil F 4 650 99387-89-0 S F 4 695	Triazamate [ISO]	112143-82-5	2588		S	AP	3	50-100	
(O) 55335-06-3 S H 4 710 [ISO] 41814-78-2 S F 4 305 [ISO] 81412-43-3 Oil F 4 650 99387-89-0 S F 4 695	Trichlorfon [ISO]	52-68-6		OP	S	П	8	250	DS 27; EHC 132; HSG 66; IARC 30, Suppl 7; ICSC 585; JMPR 1979; JECFA 2000b, 2003
[ISO] 41814-78-2 S F 4 305 [ISO] 81412-43-3 Oil F 4 650 99387-89-0 S F 4 695	Triclopyr [ISO]	55335-06-3			S	Н	4	710	
[ISO] 81412-43-3 Oil F 4 650 99387-89-0 S F 4 695	Tricyclazole [ISO]	41814-78-2			S	ഥ	4	305	
89387-89-0 S F 4 695	Tridemorph [ISO]	81412-43-3			Oil	H	4	650	
	Triflumizole	99387-89-0			S	F	4	969	ICSC 1252

Соттоп пате	CAS no	UN	Chem type	Phys state	Main	CHS	LD ₅₀ mg/kg	UN Chem Phys Main GHS LD_{s0} Remarks no type state use $\mathrm{mg/kg}$
Uniconazole [ISO]	83657-22-1			S	S PGR 4	4	1790	
XMC	2655-14-3		C	S	Ι	4	542	
Xylylcarb	2425-10-7		C	S	П	4	380	
Ziram [ISO]	137-30-4			S	Н	4	1400	1400 Irritant to skin; DS 73; EHC 78; IARC 12, 53; ICSC 348; JMPR 1997b

EHC = Environmental Health Criteria Monograph; DS= Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JECFA = Evaluation by the Joint FAO/WHO Expert Committee on Food Additives; JMPR = Evaluation by he Joint FAO/WHO Meeting on Pesticide Residues.

Notes to Class II

- 1. Alachlor was previously classified as a Class Ia pesticide due to its carcinogenicity in rats. However mechanistic studies have indicated that tumors are induced by a mechanism not relevant to humans.
- Bioallethrin, esbiothrin, esbiol, and esdepallethrine are members of a series; their toxicity varies considerably within this series, according to concentrations of
 - The international trade of chlordane, DDT, Gamma-HCH (lindane), HCH, mercury compounds and thiram is regulated by the Rotterdam convention on Prior Informed Consent (see http://www.pic.int/), which entered into force on 24 February 2004. See Table 7, p. 51.
- The production and use of chlordane, DDT, Gamma-HCH (lindane) and HCH (specifically alpha-HCH and beta-HCH) are strictly limited by the Stockholm convention on persistent organic pollutants, which entered into force on 17 May, 2004 and has subsequently been amended. See http://www.pops.int/
- HCH: The LD₅₀ varies according to the mixture of isomers. The value shown has been chosen, and the technical product placed in Class II, as a result of the cumulative properties of the beta isomer.
 - The melting point of methyl isothiocyanate (S) is 35°C.
- Paraquat has serious delayed effects if absorbed. It is of relatively low hazard in normal use but may be fatal if the concentrated product is taken by mouth or spread on
- . Mixture of compounds present in *Pyrethrum cineraefolium* and other flowers.
- 9. Compounds from roots of *Derris* and *Lonchocarpus* spp

THE FINAL CLASSIFICATION OF ANY PRODUCT DEPENDS ON ITS FORMULATION See Pages 7 & 8, and the Annex

Table 4. Slightly hazardous (Class III) technical grade active ingredients in pesticides

Common name	CAS no	UN Ch no ty	Chem I type s	Phys state	Main use	GHS	LD _{s0} mg/kg	Remarks
Acetochlor [ISO]	34256-82-1			Г	Н	5	2950	
Alloxydim	55634-91-8			S	Н	5	2260	
Ammonium sulfamate	7773-06-0			S	Н	5	3900	
Ancymidol [ISO]	12771-68-5			S	PGR	5	4500	
Asulam [ISO]	3337-71-1			S	Н	5	4000	
Atrazine [ISO]	1912-24-9		L	S	Н	4	c2000	DS 82; HSG 47; IARC 53; ICSC 99
Bacillus thuringiensis (Bt)	68038-71-1			S	П	5	>4000	EHC 217
Benalaxyl [ISO]	71626-11-4			S	Ľ	S	4200	JMPR 1988, 2006
Benazolin [ISO]	3813-05-6			S	Н	5	3200	Irritant to skin and eyes
Benfuresate	68505-69-1			S	Н	5	2031	
Biphenyl	92-52-4			S	Ţ	5	3280	ICSC 106
Bispyribac	125401-75-4			S	Н	5	2635	
Borax [ISO]	1303-96-4			S	F	5	4500	ICSC 567
Bupirimate [ISO]	41483-43-6			S	F	5	c4000	
Buprofezin [ISO]	69327-76-0			S	I	5	2200	JMPR 1992
Butachlor	23184-66-9			Г	Н	5	3300	
Butylate [ISO]	2008-41-5	I	TC	Г	F	5	>4000	
Carboxin [ISO]	5234-68-4			S	FST	5	3820	
Chinomethionat [ISO]	2439-01-2			S	AC,F	5	2500	JMPR 1988
Chloridazon [ISO]	1698-60-8			S	Н	5	2420	
Chlorimuron	99283-00-8			S	Н	5	4102	
Chlorpyrifos methyl [ISO]	5598-13-0)	OP	S	I	5	>3000	DS 33; JMPR 1993
Chlorthal-dimethyl [ISO]	1861-32-1			S	Н	5	>3000	
Chlozolinate	84332-86-5			S	Ц	5	>4000	

Соттоп пате	CAS no	Chem	Phys state	Main use	CHS	LD ₅₀ mg/kg	Remarks
Cinmethylin	87818-31-3		T	Н	5	3960	
Clofentezine [ISO]	74115-24-5		S	AC	5	>3200	JMPR 1987a, 2006b
Clopyralid	57754-85-5		S	Н	5	4300	Severe irritant to eyes; ICSC 443
Cycloate [ISO]	1134-23-2	TC	Г	Н	4	>2000	
Cycloxydim	101205-02-1		S	Н	5	3900	JMPR 1993
Cyromazine	66215-27-8		S	Г	5	3300	JMPR 1991
Diafenthiuron [ISO]	6-60-09008		S	AC	5	2068	
Dichlobenil [ISO]	1194-65-6		S	Н	5	3160	ICSC 867
Dichlormid	37764-25-3		T	Н	5	2080	
Dicloran	99-30-9		S	H	5	4000	ICSC 871; JMPR 1999
Diethyltoluamide [ISO]	134-62-3		Г	RP	4	c2000	DS 80
				(insect)			
Diffubenzuron	35367-38-5		S	Т	5	>4640	DS 77, EHC 184; HSG 99; JMPR 2002
Diflufenican [ISO]	83164-33-4		S	Н	4	>2000	
Dimefuron [ISO]	34205-21-5		S	Н	4	>2000	
Dimethametryn [ISO]	22936-75-0	Т	Г	Н	5	3000	
Dimethirimol	5221-53-4		S	H	5	2350	
Dimethomorph [ISO]	110488-70-5		S	F	5	3500	JMPR 2009b
Dinitramine [ISO]	29091-05-2		S	Н	5	3000	
Diuron [ISO]	330-54-1		S	Н	5	3400	
Dodemorph [ISO]	1593-77-7		L	Н	5	4500	
Empenthrin [(1R) isomers] [ISO]	54406-48-3	ΡΥ	Oil	I	5	>2280	
Esprocarb [ISO]	85785-20-2	TC	Γ	Н	4	>2000	Skin and eye irritant
Ethephon	16672-87-0		S	PGR	5	>4000	JMPR 2004; 2003b
Etridiazole [ISO]	2593-15-9		Г	Ц	4	2000	

		no type	pe state	te		mg/kg	
Fenarimol [ISO]	60168-88-9		S	H	5	2500	JMPR 1996b
Fenbuconazole	114369-43-6		S	Ţ	4	>2000	JMPR 1998
Fenbutatin oxide [ISO]	13356-08-6	0	S LC	MT	S	2630	EHC 15; JMPR 1993
Fenpropimorph	67564-91-4		lio	I F	S	3515	JMPR 1995b, 2002, 2005
Flamprop-M	90134-59-1		S	Щ	S	>3000	
Fluazifop-p-butyl [ISO]	83066-88-0			Н	S	2451	
Flufenoxuron	101463-69-8		S	I	5	>3000	
Flurochloridone	61213-25-0		S	Н	S	4000	
tau-Fluvalinate	102851-06-9	P	PY oil	I I	5	>3000	Skin and eye irritant
Fosamine [ISO]	25954-13-6	0	S dC	Н	S	2400	
Glyphosate [ISO]	1071-83-6		S	Н	S	4230	EHC 159, DS 91; ICSC 160; JMPR 1987a
Halofenozide	112226-61-6		S	Ι	S	2850	
Hexaconazole	79983-71-4		S	H	5	2180	JMPR 1991
Hymexazol	10004-44-1		S	FST	5	3900	
Iprodione [ISO]	36734-19-7		S	Ľ	5	3500	JMPR 1996b
Linuron [ISO]	330-55-2		S	H	5	4000	ICSC 1300
Malathion [ISO]	121-75-5	3082 O	Т дС	I	5	c2100	See note 1; DS 29; IARC 30; ICSC 172; JMPR 1998b, 2004
Metazachlor	67129-08-2		S	Н	5	2150	
Methabenzthiazuron [ISO]	18691-97-9		S	Н	5	>2500	
Methyldymron	42609-73-4		S	Н	5	3948	
Metobromuron [ISO]	3060-89-7		S	Н	5	2500	
Metolachlor [ISO]	51218-45-2		Т	Н	5	2780	ICSC 1360
Metoxuron	19937-59-8		S	Н	5	>3200	
Monolinuron	1746-81-2		S	Н	5	2250	ICSC 1273

Соттоп пате	CAS no	UN Chem no type	em Phys e state	Main use	GHS	$\frac{LD_{50}}{mg/kg}$	Remarks
1-Naphthylacetic acid	86-87-3		S	PGR	5	c3000	
N-octylbicycloheptene dicarboximide [C]	113-48-4		П	SY	S.	2800	
Ofurace	58810-48-3		S	ഥ	S	2600	
Oxycarboxin [ISO]	5259-88-1		S	Ţ	4	2000	
Penconazole	66246-88-6		S	ഥ	S	2120	JMPR 1993
2-Phenylphenol [C]	90-43-7		S	Ţ	S	2480	ICSC 669; IARC 30; JMPR 2000
Pimaricin	7681-93-8		S	江	5	2730	See note 2
Probenazole	27605-76-1		S	Ţ	S	2030	
Prometon [ISO]	1610-18-0	T	S	Н	S	2980	
Prometryn [ISO]	7287-19-6	T	S	Н	S	3150	
Propargite [ISO]	2312-35-8		Г	AC	5	2200	JMPR 2000
Pyridate [ISO]	55512-33-9		S	Н	5	c2000	
Pyrifenox [ISO]	88283-41-4		Т	Ŧ	4	2900	
Pyrimethanil [ISO]	53112-28-0		S	Щ	5	4150	JMPR 2009b
Pyrithiobac sodium [ISO]	123343-16-8		S	Н	5	3200	
Quinclorac	84087-01-4		S	Н	5	2680	
Resmethrin [ISO]	10453-86-8	PY	s s	I	4	2000	See note 3; EHC 92, DS 83, HSG 25; ICSC 324
Sethoxydim [ISO]	74051-80-2		Г	Н	5	3200	
Spinosad [ISO]	168316-95-8		S	I	5	3738	For Spinosyn A and D, CAS numbers are 131929-60-7 and 131929-63-0; JMPR 2002; ICSC 1502
Spirotetramat [ISO]	203313-25-1		S	I	4	>2000	JMPR 2009a
Sulphur	7704-34-9	1350	S	F,I	5	>3000	Skin and mucous membrane irritant. See note 4; ICSC 1166
TCA (sodium salt) [ISO]	650-51-1		S	Н	5	3200	ICSC 1139; Irritant to skin and eyes: see note 5
Temephos [ISO]	3383-96-8	OP	P L	I	5	4000	DS 8; ICSC 199; JMPR 2008

Common name	CAS no	N Ou	Chem type	Phys state	Main use	GHS	LD _{s0} mg/kg	Remarks
Terbuthylazine [ISO]	5915-41-3		Т	S	Н	5	2160	
Terbutryn [ISO]	0-05-988		Т	S	Н	5	2400	
Tetrachlorvinphos [ISO]	22248-79-9		OP	S	I	5	4000	
Thiabendazole [ISO]	148-79-8			S	Ц	5	3330	3330 JECFA 1997, 2002
Thidiazuron	51707-55-2			S	PGR	5	>4000	
Tri-allate [ISO]	2303-17-5		TC	Г	Н	5	2165	2165 HSG 89; ICSC 201
Trietazine [ISO]	1912-26-1		Τ	S	Н	5	2830	2830 ICSC 202
Triticonazole [ISO]	131983-72-7			S	Ц	4	>2000	
Undecan-2-one [C]	112-12-9			Oil	Oil RP, (dogs,cats)	5	2500	

EHC = Environmental Health Criteria Monograph; DS = Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JECFA = Evaluation by the Joint FAO/WHO Expert Committee on Food Additives; JMPR = Evaluation by the Joint FAO/WHO Meeting on Pesticide Residues.

Notes to Class III

- 1. Malathion: LD₅₀ value can vary according to impurities. This value has been adopted for classification purposes and is that of a technical product conforming to WHO specifications.
- Pimaricin: antibiotic, identical with tennecetin and natamycin.
- Resmethrin is a mixture of isomers, the trans isomer (70-80%) also being known as bioresmethrin and the cis isomer (20-30%) as cismethrin. Bioresmethrin alone is of much lower toxicity (oral $LD_{s_0} > 7000 \text{ mg/kg}$) and is the subject of DS 34. It appears in Table 5.
 - 4. Sulphur dust can spontaneously ignite unless diluted about 50% with inert material.
- TCA: The data shown refer to sodium trichloroacetic acid. In many countries, the same term (TCA) refers to the free acid (now accepted by ISO): this is a solid with an oral LD₅₀ of 400 mg/kg bw and if used as a pesticide would be placed in Class II. It is highly corrosive to skin.

THE FINAL CLASSIFICATION OF ANY PRODUCT DEPENDS ON ITS FORMULATION See Pages 7 & 8, and the Annex

Table 5. Technical grade active ingredients of pesticides unlikely to present acute hazard in normal use

Соттоп пате	CAS no U	UN no	Chem type	Phys state	Main use	GHS	LD _{s0} mg/kg	Remarks
Aclonifen	74070-46-5			S	H	5	>5000	
Acrinathrin [ISO]	101007-06-1		PY	S	MT	5	>5000	
Aminopyralid [ISO]	150114-71-9			S	Н	5	>5000	JMPR 2009b
Amitrole [ISO]	61-82-5			S	Н	2	2000	EHC 158, DS 79; HSG 85; IARC 79; ICSC 631; JMPR 1998b
Anthraquinone	84-65-1			S	RP (birds)	5	>5000	ICSC 1605
Azimsulfuron [ISO]	120162-55-2			S	Н	5	>5000	
Azoxystrobin [ISO]	131860-33-8			S	Ľη	5	>5000	JMPR 2009a
Benfluralin [ISO]	1861-40-1			S	H	5	>10000	
Benomyl [ISO]	17804-35-2			S	ഥ	5	>10000	EHC 148, DS 87; HSG 81; ICSC 382; JMPR 1996b. See note I
Benoxacor [ISO]	98730-04-2			S	Н	5	>5000	This molecule is not an active substance as such but is a "safener"
Bensulfuron-methyl	83055-99-6			S	Н	5	>5000	
Bifenazate [ISO]	149877-41-8			S	AC	5	>5000	JMPR 2008
Bifenox [ISO]	42576-02-3			S	Н	5	>6400	
Bioresmethrin [ISO]	28434-01-7		PY	Г	I	5	>7000	DS 34; EHC 92; HSG 25; ICSC 229; JMPR 1992
Bitertanol	55179-31-2			S	Ŧ	5	>5000	JMPR 1999
Boscalid [ISO]	188425-85-6			S	F	5	>5000	JMPR 2008
Bromacil [ISO]	314-40-9			S	Н	5	5200	ICSC 1448
Bromobutide	74712-19-9			S	Н	5	>5000	
Bromopropylate [ISO]	18181-80-1			S	AC	5	>5000	JMPR 1994
Captan [ISO]	133-06-2			S	ഥ	5	0006	Irritant to skin; DS 9; HSG 50; IARC 30, Suppl 7; ICSC 120; JMPR 1996b, 2005

Common name	CAS no	UN no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Carbendazim [ISO]	10605-21-7			∞	í.	\$	>10000	DS 89; EHC 149; HSG 82; ICSC 1277; JMPR 1996b, 2006b
Carbetamide [ISO]	16118-49-3		C	S	H	5	>10000	
Carpropamid [ISO]	104030-54-8			Γ	Ħ	5	>5000	
Chloransulam methyl	14750-35-4			S	Н	5	>5000	
Chlorantraniliprole [ISO]	500008-45-7			S	I	5	>5000	JMPR 2009a
Chlorfluazuron	71422-67-8			S	IGR	5	8500	
Chlorothalonil [ISO]	1897-45-6			S	ഥ	5	>10000	EHC 183; HSG 98; IARC 30; ICSC 134; JMPR 1993
Chlorotoluron [ISO]	15545-48-9			S	Н	5	>10000	ICSC 1327
Chlorpropham [ISO]	101-21-3		၁	S	PGR	5	>5000	IARC 12; JMPR 2001; ICSC 1500
Chlorsulfuron	64902-72-3			S	Н	5	5545	
Cinosulfuron [ISO]	94593-91-6			S	Н	5	>5000	
Clomeprop	84496-56-0			S	Н	5	>5000	
Cloxyfonac	32791-87-0		PAA	S	PGR	5	>5000	
Cryolite [C]	15096-52-3			S	I	5	>10000	
Cycloprothrin	63935-38-6		ΡΥ	П	П	5	>5000	
Cyclosulfamuron [ISO(*)]	136849-15-5			S	Н	5	>5000	
Cyhalofop [ISO]	122008-85-9			S	Н	5	>5000	
Daimuron	42609-52-9			S	Н	5	>5000	
Dalapon	75-99-0			S	Н	5	9330	
Daminozide [ISO]	1596-84-5			S	Н	5	8400	JMPR 1993
Desmedipham [ISO]	13684-56-5			S	Н	5	0096<	
Dichlofluanid [ISO]	1085-98-9			S	Ŧ	5	>5000	JMPR 1985a
Diclomezine	62865-36-5			S	F	5	>10000	
Diclosulam [ISO]	145701-21-9			S	Н	5	>5000	
Diethofencarb	87130-20-9			S	Ľ	5	>5000	

Common name	CAS no	UN no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Dikegulac [ISO]	18467-77-1			S	PGR	5	>10000	
Dimethomorph [ISO]	110488-70-5			S	Ľη	S	>5000	
Dimethyl phthalate [C]	131-11-3			Г	RP	5	8200	ICSC 261
					(insect)			
Dipropyl isocinchomerate [C]	3737-22-2			Γ	RP (fly)	5	5230	
Dithiopyr [ISO]	97886-45-8			S	Н	S	>5000	
Ethalfluralin [ISO]	55283-68-6			S	Н	5	>10000	
Ethirimol [ISO]	23947-60-6			S	FST	5	6340	
Ethofumesate [ISO]	26225-79-6			S	Н	S	>6400	
Ethyl butylacetylaminopropionate	52304-36-6			J	RP (insect)	S.	>5000	
Etofenprox	80844-07-1			S	l .	S	>10000	JMPR 1994
Famoxadone [ISO(*)]	131807-57-3			S	Ľη	5	>5000	JMPR 2004
Fenchlorazole [ISO]	103112-35-2			S	Н	S	>5000	
Fenctorim	3740-92-9			S	Н	5	>5000	
Fenfuram [ISO]	24691-80-3			S	FST	S	>10000	
Fenhexamid [ISO]	126833-17-8			S	H	5	>5000	JMPR 2006b
Fenoxycarb	79127-80-3		C	S	Ι	5	>10000	
Fenpiclonil	74738-17-3			S	FST	5	>5000	
Ferbam [ISO]	14484-64-1			S	দ	5	>10000	DS 94; EHC 78; IARC 12, 42; ICSC 792; JMPR 1997b
Florasulam	145701-23-1			S	Н	5	>5000	
Flucarbazone-sodium	181274-17-9			S	Н	5	> 5000	
Flucycloxuron [ISO]	94050-52-9			S	AC	5	>5000	
Fludioxonil [ISO]	131341-86-1			S	F	5	>5000	JMPR 2006a
Flumetralin	62924-70-3			S	PGR	5	>5000	

Flumetsulam [ISO] 98967-40-9 Fluometuron [ISO] 2164-17-2 Flupyrsulfuron [ISO] 144740-54-5 Fluridone [ISO] 467-69-6 Fluridone [ISO] 59756-60-4 Fluthiacet 149253-65-6 Flutolanil 66332-96-5 Folnet 133.07.3	0 07 17	2475	state			mg/kg	
eturon [ISO] panate sulfuron [ISO] ol [ISO] one [ISO] ypyr cet	0/-40-9		S	Н	5	>5000	
panate sulfuron [ISO] ol [ISO] ne [ISO] ypyr cet nil	2164-17-2		S	Н	S	>8000	
sulfuron [ISO] ol [ISO] one [ISO] ypyr cet	756-09-2		S	Н	S	>10000	
one [ISO] 59 ypyr 69 cet 149 nil 66	144740-54-5		S	Н	S	>5000	
one [ISO] ypyr cet nil	467-69-6		S	PGR	S	>5000	
ypyr cet nil	59756-60-4		S	Н	S	>10000	
cet	69377-81-7		S	Н	S	>5000	
nil	149253-65-6		S	Н	S	>5000	
	66332-96-5		S	Ľ	S	>10000	ICSC 1265; JMPR 2003b
	133-07-3		S	ഥ	S	>10000	HSG 72; ICSC 156; JMPR 1996b
Fosetyl 1584	15845-66-2		S	ц	5	5800	
Gibberellic acid 7	77-06-5		S	PGR	5	>10000	
Hexaflumuron [ISO] 8647	86479-06-3		S	Ι	5	>5000	ICSC 1266
Hexythiazox 7858	78587-05-0		S	AC	5	>5000	JMPR 1992, 2009a
Hydroprene [ISO] 4120	41205-09-8		П	IGR	5	>10000	
2-Hydroxyethyl octyl sulphide [C] 354	3547-33-9		ı	RP (insect)	5	8530	
Imazamethabenzmethyl [(ISO)] 8140	81405-85-8		S	Н	5	>5000	
Imazapyr 8133	81334-34-1		S	Н	5	>5000	Irritant to eyes
Imazaquin 8133	81335-37-7		S	Н	5	>5000	
Imazethapyr 8133	81335-77-5		S	Н	5	>5000	
Imibenconazole [ISO] 8659	86598-92-7		S	F	5	>5000	
Inabenfide 8221	82211-24-3		S	PGR	5	>10000	
Iprovalicarb 14092	140923-17-7		S	F	5	>5000	
Isoxaben 8255	82558-50-7		S	Н	5	>10000	

Kasugamycin 19408-46-9 Lenacil [ISO] 2164-08-1 Maleic hydrazide [C] 123-33-1 Mancozeb 8018-01-7 Mandipropamid [ISO] 374726-62-2 Maneb [ISO] 12427-38-2 Mepanipyrim [ISO] 110235-47-7 Methoprene [ISO] 40596-69-8 Methoxychlor [ISO] 72-43-5 Methoxychlor [ISO] 72-43-5 Metram 9006-42-2 Metram 9006-42-2 Metrosulam 139528-85-1 Metosulfuron methyl 74223-64-6 2-(1-Naphthyl) acetamide 86-86-2 Napropamide 15299-99-7 Napropamide 15209-99-7 Neburon [ISO] 555-37-3 Niclosamide [ISO] 565-37-3 Nicrothal iconrowal [ISO] 10552-74.6	type state			mg/kg	
2164-08-1 123-33-1 8018-01-7 8018-01-7 374726-62-2 12427-38-2 13250-68-7 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	H	5	>10000	
123-33-1 8018-01-7 8018-01-7 374726-62-2 12427-38-2 13250-68-7 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7 111991-09-4	S	H	S	>10000	
8018-01-7 374726-62-2 12427-38-2 12427-38-2 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	PGR	5	0569	IARC 4, 42; JMPR 1997b CAS10071-13-3
374726-62-2 12427-38-2 110235-68-7 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	ΙΉ	5	0008<	Irritant to skin on multiple exposure; DS 94; EHC 78; ICSC 754; JMPR 1994
12427-38-2 73250-68-7 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7 111991-09-4	S	F	s	>5000	JMPR 2009a
73250-68-7 110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	Ţ	2	6750	Irritant to skin on multiple exposure; DS 94; EHC 78; ICSC 173; JMPR 1994
110235-47-7 55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7 111991-09-4	S	Н	5	>5000	
55814-41-0 40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	ΙΉ	S	>5000	
40596-69-8 72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7	S	Т	5	>10000	
72-43-5 161050-58-4 9006-42-2 139528-85-1 74223-64-6 86-86-2 15299-99-7 132-66-1 555-37-3 50-65-7 111991-09-4	T	IGR	5	>10000	DS 47; JMPR 1987b, 2002
	S OC S	I	5	0009	DS 28; IARC 5, 20; ICSC 1306; JMPR 1978
	S	I	5	>5000	Dermal $LD_{50} > 5000$; JMPR 2004
	S	F	5	>10000	JMPR 1994
	S	H	5	>5000	
	S	Н	5	>5000	
	S	PGR	5	6400	
	S	Н	5	5000	
	S	PGR	5	8200	
	S	Н	5	>10000	
1	S	M	5	5000	DS 63
	S	Н	5	>5000	Irritant to eyes
	S	F	5	6400	
Norflurazon [ISO] 27314-13-2	S	Н	5	>8000	
Novaluron [ISO] 116714-46-6	S	I	5	>5000	JMPR 2006b

Common name	CAS no	UN no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Noviflumuron	121451-02-3			S	I	5	>5000	$Dermal LD_{50} > 5000$
Oryzalin [ISO]	19044-88-3			S	H	S	>10000	
Oxabetrinil	74782-23-3			S	Н	S	>5000	
Oxadiazon [ISO]	19666-30-9			S	H	S	0008<	
Oxine-copper [ISO]	10380-28-6		CU	S	ഥ	S	7792	
Oxyfluorfen [ISO]	42874-03-3			S	Н	S	>5000	
Pencycuron	66063-05-6			S	ഥ	S	>5000	
Penoxsulam	219714-96-2			S	H	S	>5000	Dermal LD ₅₀ > 5000
Pentanochlor	2307-68-8			S	Н	S	>10000	
Phenmedipham [ISO]	13684-63-4			S	H	S	0008<	
Phenothrin [ISO]	26002-80-2		PY	П	П	5	>5000	DS 85; EHC 96; HSG 32; ICSC 313; JMPR 1989
Phosphorus acid [C]	13598-36-2			ı	Ħ	S	>5000	
Phthalide	27355-22-2			S	Н	5	>10000	
Picloram [ISO]	1918-02-1			S	Н	5	8200	ICSC 1246
Piperonyl butoxide	51-03-6			Oil	SY	5	>7500	IARC 30; JMPR 1996b; ICSC 1347
Pretilachlor [ISO]	51218-49-6			Г	Н	5	6100	
Primisulfuron [ISO]	113036-87-6			S	Н	5	>5050	
Procymidone [ISO]	32809-16-8			S	F	5	0089	JMPR 1990, 2009b
Prodiamine [ISO]	29091-21-2			S	Н	5	>5000	
Propamocarb	24579-73-5			S	Ħ	S	0098	JMPR 1987a
Propaquizafop	111479-05-1			S	Н	5	>5000	ICSC 1271
Propazine [ISO]	139-40-2		L	S	Н	5	>5000	ICSC 697
Propham [ISO]	122-42-9			S	Н	5	5000	IARC 12; JMPR 1993
Propineb [ISO]	12071-83-9			S	Н	5	8500	DS 94; EHC 78; JMPR 1994
Propyzamide [ISO]	23950-58-5			S	Н	5	5620	

Соттоп пате	CAS no	UN no	Chem	Phys state	Main use	CHS	LD ₅₀ mg/kg	Remarks
Prothioconazole [ISO]	178928-70-6			S	F	5	>6200	JMPR 2009a
Pyrazolynate [ISO]	58011-68-0			S	H	5	9550	
Pyrazosulfuron [ISO]	98389-04-9			S	Н	5	>5000	
Pyriminobac	136191-56-5			S	Н	5	>5000	
Pyriproxyfen [ISO]	95737-68-1			S	П	5	>5000	ICSC 1269; JMPR 2000
Quinmerac [ISO]	90717-03-6			S	H	5	>5000	
Quinoxyfen [ISO]	124495-18-7			S	Ľ	5	>5000	JMPR 2008
Quintozene [ISO]	82-68-8			S	Ľή	5	>10000	EHC 41; HSG 23; IARC 5; JMPR 1996b; ICSC 745
Rimsulfuron [C]	122931-48-0			S	Н	5	>5000	
Siduron [ISO]	1982-49-6			S	Н	5	>7500	
Simazine [ISO]	122-34-9		Т	S	Н	5	>5000	ICSC 699
Spinetoram [ISO]	187166-40-1			S	I	5	>5000	JMPR 2009a
Sulfometuron	74223-56-6			S	Н	5	>5000	
Tebufenozide	112410-23-8			S	I	5	>5000	Dermal LD50 > 5000; JMPR 1997b, 2004
Tebutam	35256-85-0			Oil	Н	5	6210	
Tecnazene [ISO]	117-18-0			S	Ŧ	5	>10000	EHC 42; HSG 12; JMPR 1995b
Teflubenzuron	83121-18-0			S	I	5	>5000	JMPR 1995b
Terbacil [ISO]	5902-51-2			S	Н	5	>5000	
Tetradifon [ISO]	116-29-0			S	AC	5	>10000	EHC 67; HSG 11; ICSC 747
Tetramethrin [ISO]	7696-12-0		ΡΥ	S	0	5	>5000	EHC 98; HSG 31; ICSC 334
Thifensulfuron-methyl	79277-27-3			S	Н	5	>5000	
Thifluzamide	130000-40-7			S	Ŧ	5	>5000	Dermal $LD_{50} > 5000$
Thiophanate-methyl [ISO]	23564-05-8			S	F	5	0009<	JMPR 1996b, 1999, 2008
Tiocarbazil	36756-79-3		TC	Τ	Н	5	10000	
Tolclofos-methyl [ISO]	57018-04-9			S	F-S	5	c5000	JMPR 1995b

Соттоп пате	CAS no	UN no	Chem type	Phys state	Phys Main use state	GHS	LD ₅₀ mg/kg	Remarks
Tolylfluanid [ISO]	731-27-1			S	ᅜ	5	>5000	>5000 JMPR 1989, 2003b
Transfluthrin [ISO]	118712-89-3		PY	S	ы	S	>5000	
Triasulfuron	82097-50-5			S	Н	5	>5000	
Tribenuron [ISO]	106040-48-6			S	Н	S	>5000	
Trifloxystrobin [ISO]	141517-21-7			S	Т	5	>5000	>5000 JMPR 2006a
Triflumuron	64628-44-0			S	PGR	5	>5000	
Trifluralin [ISO]	1582-09-8			S	Н	5	>10000	>10000 IARC 53; ICSC 205
Triflusulfuron-methyl [ISO]	126535-15-7			S	Н	5	>5000	
Triforine [ISO]	26644-46-2			S	F	5	0009<	>6000 JMPR 1998b
Validamycin	37248-47-8			S	Т	5	>10000	
Vinclozolin [ISO]	50471-44-8			S	Ŧ	5	10000	10000 JMPR 1996b
Zineb [ISO]	12122-67-7			S	Ŧ	5	>5000	DS 94; EHC 78; IARC 12; ICSC 350; JMPR 1994
Zoxamide [ISO]	156052-68-5			S	F	5	>5000	>5000 JMPR 2009b

EHC = Environmental Health Criteria Monograph; DS= Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JMPR = Evaluation by the Joint FAO/WHO Meeting on Pesticide Residues.

Notes to Table 5

1. The international trade of benomyl is regulated by the Rotterdam convention on Prior Informed Consent (see http://www.pic.int/), which entered into force on 24 February THE FINAL CLASSIFICATION OF ANY PRODUCT DEPENDS ON ITS FORMULATION See Pages 7 & 8, and the Annex 2004. See Table 7, p. 51.

TABLE 6. ACTIVE INGREDIENTS BELIEVED TO BE OBSOLETE OR DISCONTINUED FOR USE AS PESTICIDES

Ingredients discontinued have been identified from the previous edition of this classification, from the Pesticide Manual (Pesticide Manual, 1991, 1994; 1997, 2003), and in some cases from the manufacturer. It is difficult, in some cases, to be sure whether or not all commercial activity in a substance has ceased; some of these materials are known to be still in use for non-agricultural purposes. IPCS will be grateful for details of any materials in this Section, which are still in commercial use. The common name and CAS number are indicated.

Active ingredient	CAS no	Active ingredient	CAS no
Acrylonitrile	107-13-1	Butonate	126-22-7
Aldoxycarb	1646-88-4	Butopyronoxyl	532-34-3
Aldrin ^{1,2}	309-00-2	Buturon	3766-60-7
Allidochlor	93-71-0	Calcium cyanamide	156-62-7
Allyxycarb	6392-46-7	Camphechlor ^{1,2}	8001-35-2
Amidithion	919-76-6	Carbamorph	31848-11-0
Aminocarb	2032-59-9	Carbanolate	671-04-5
Anilazine	101-05-3	Carbon disulfide	75-15-0
ANTU	86-88-4	Carbophenothion	786-19-6
Aramite	140-57-8	Chlomethoxyfen	32861-85-1
Arsenous oxide	1327-53-3	Chloramben	133-90-4
Athidathion	19691-80-6	Chloraniformethan	20856-57-9
Atraton	1610-17-9	Chloranil	118-75-2
Aziprotryne	4658-28-0	Chloranocryl	2164-09-2
Azothoate	5834-96-8	Chlorbenside	103-17-3
Barban	101-27-9	Chlorbufam	1967-16-4
Barium carbonate	513-77-9	Chlorbicyclen	2550-75-6
Benodanil	15310-01-7	Chlorbormuron	13360-45-7
Benquinox	495-73-8	Chlordecone	143-50-0
Benzoximate	29104-30-1	Chlordimeform ¹	6164-98-3
Benzoylprop-ethyl	33878-50-1	Chlorfenac	85-34-7
Benzthiazuron	1929-88-0	Chlorfenethol	80-06-8
Binapacryl ¹	485-31-4	Chlorfenprop-methyl	14437-17-3
Bis(tributyltin) oxide	56-35-9	Chlorfenson	80-33-1
Bisthiosemi	39603-48-0	Chlorfensulfide	22274-74-0
Bromocyclen	1715-40-8	Chlorflurenol	2536-31-4
Bromofenoxim	13181-17-4	Chlormebuform	37407-77-5
Bromophos	2104-96-3	Chlormethiuron	28217-97-2
Bromophos-ethyl	4824-78-6	Chlornitrofen	1836-77-7
Bufencarb	8065-36-9	Chlorobenzilate ¹	510-15-6
Butacarb	2655-19-8	Chloroneb	2675-77-6
Butam	35256-85-0	Chloropropylate	5836-10-2
Butenachlor	87310-56-3	Chloroxuron	1982-47-4
Buthidazole	55511-98-3	Chlorquinox	3495-42-9
Buthiobate	51308-54-4	Chlorphoxim	14816-20-7

TABLE 6. ACTIVE INGREDIENTS BELIEVED TO BE OBSOLETE OR DISCONTINUED FOR USE AS PESTICIDES, continued

Active ingredient	CAS no	Active ingredient	CAS no
Chlorthiamid	1918-13-4	Dinex	131-89-5
Chlorthiophos	21923-23-9	Dinocton	32534-96-6
Cloethocarb	51487-69-5	Dinoseb ¹	88-85-7
Clofop	26129-32-8	Dinoseb acetate ¹	2813-95-8
Coumachlor	81-82-3	Dioxabenzophos	3811-49-2
Crimidine	535-89-7	Dioxacarb	6988-21-2
Credazine	14491-59-9	Dioxathion	78-34-2
Crotoxyphos	7700-17-6	Dipropetryn	4147-51-7
Crufomate	299-86-5	Disul	149-26-8
Cyanofenphos	13067-93-1	Ditalimfos	5131-24-8
Cyanthoate	3734-95-0	Drazoxolon	5707-69-7
Cycloheximide	66-81-9	Eglinazine	6616-80-4
Cycluron	2163-69-1	Endothion	2778-04-3
Cyometrinil	63278-33-1	Endrin ²	72-20-8
Cypendazole	28559-00-4	EPBP	3792-59-4
Cyprofuram	69581-33-5	Erbon	136-25-4
Cypromid	2759-71-9	ESP (Oxydeprofos)	2674-91-1
Delachlor	24353-58-0	Etacelasil	37894-46-5
Demephion-O	682-80-4	Etaconazole	60207-93-4
Demephion-S	2587-90-8	Ethidimuron	30043-49-3
Demeton-O	298-03-3	Ethiolate	2941-55-1
Demeton-S	126-75-0	Ethirimol	23947-60-6
Demeton-S-methylsulphon	17040-19-6	Ethoate-methyl	116-01-8
Desmetryn	1014-69-3	Ethohexadiol	94-96-2
Dialifos	10311-84-9	Ethyleneglycolbis	2514-53-6
Di-allate	2303-16-4	(trichloroacetate)	2314-33-0
Diamidafos	1754-58-1	Etrimfos	38260-54-7
Dibromochloropropane	96-12-8	EXD	502-55-6
Dibutyl phthalate	84-74-2	Fenaminosulf	140-56-7
Dibutyl succinate	141-03-7	Fenazaflor	14255-88-0
Dichlofenthion	97-17-6	Fenchlorphos	299-84-3
1,2-Dichloropropane	78-87-5	Fenitropan	65934-95-4
Dichlozoline	24201-58-9	Fenoprop (Silvex)	93-72-1
Diclobutrazol	75736-33-3	Fenoxaprop-ethyl	82110-72-3
Dieldrin ^{1,2}	60-57-1	Fenson	80-38-6
Dienochlor	2227-47-0	Fensulfothion	115-90-2
Diethatyl	38727-55-8	Fenthiaprop	95721-12-3
Difenoxuron	14214-32-5	Fenuron	101-42-8
Dimefox	115-26-4	Fenuron-TCA	4482-55-7
Dimethirimol	5221-53-4	Flamprop	58667-63-3
Dimetilan	644-64-4	Fluazifop	69335-91-7
Dimexano	1468-37-7	Flubenzimine	37893-02-0

TABLE 6. ACTIVE INGREDIENTS BELIEVED TO BE OBSOLETE OR DISCONTINUED FOR USE AS PESTICIDES, continued

Active ingredient	CAS no	Active ingredient	CAS no
Fluenetil	4301-50-2	Malonoben	10537-47-0
Fluorodifen	15457-05-3	Mebenil	7055-03-0
Fluoromide	13577-71-4	Mecarbinzid	27386-64-7
Fluotrimazole	31251-03-3	Mecarphon	29173-31-7
Fluvalinate	69409-94-5	Medinoterb acetate	2487-01-6
Fonofos	944-22-9	Menazon	78-57-9
Formothion	2540-82-1	Mephospholan	950-10-7
Fosmethilan	83733-82-8	Methazole	20354-26-1
Fosthietan	21548-32-3	Methiuron	21540-35-2
Furconazole-cis	112839-32-4	Methoprotryne	841-06-5
Furmecyclox	60568-05-0	Methoxyethylmercury	64491-92-5
Glyodin	556-22-9	silicate ¹	04471-72-3
Glyphosine	2439-99-8	Methoxyphenone	41295-28-7
Griseofulvin	126-07-8	Methoxymethyl	123-88-6
Halacrinate	34462-96-9	mercurychloride ¹	
Haloxydine	2693-61-0	Methylmercury dicyan- diamide ¹	502-39-6
Heptachlor ^{1,2}	76-44-8	Metobromuron	3060-89-7
Heptopargil	73886-28-9	Metsulfovax	21542-18-6
Hexachloroacetone	116-16-5	Mexacarbate	315-18-4
Hexaflurate	17029-22-0	Mipafox	371-86-8
Hydroxyquinoline sulfate	134-31-6	Mirex ²	2385-85-5
Ipazine	1912-25-0	Monalide	7187-36-7
IPSP	5827-05-4	Monuron	150-68-5
Isazofos	42509-80-8	Monuron-TCA	140-41-0
Isobenzan	297-78-9	Morfamquat	4636-83-3
Isobornyl thiocyano acetate	115-31-1	Myclozolin	54864-61-8
Isocarbamid	30979-48-7	Naphthalene	91-20-3
Isocil	314-42-1	Naphthalic anhydride	81-84-5
Isodrin	465-73-6	Nitralin	4726-14-1
Isofenphos	25311-71-1	Nitrilacarb	29672-19-3
Isomethiozin	57052-04-7	Nitrofen	1836-75-5
Isonoruron	28805-78-9	Norbormide	991-42-4
Isopropalin	33820-53-0	Noruron	2163-79-3
Isothioate	36614-38-7	Oxapyrazon	4489-31-0
Isoxapyrifop	87757-18-4	Oxydisulfoton	2497-07-6
Jodfenphos	18181-70-9	Parafluron	7159-99-1
Karbutilate	4849-32-5	Perfluidone	37924-13-3
Kelevan	4234-79-1	Phenisopham	57375-63-0
Kinoprene	42588-37-4	Phenkapton	2275-14-1
Leptophos	21609-90-5	Phenobenzuron	3134-12-1
Lythidathion	2669-32-1	1 HOHOOCHZUIOH	J1JT-12-1

TABLE 6. ACTIVE INGREDIENTS BELIEVED TO BE OBSOLETE OR DISCONTINUED FOR USE AS PESTICIDES, continued

Active ingredient	CAS no	Active ingredient	CAS no
Phenylmercurydimethyl-	32407-99-1	Secbumeton	26259-45-0
dithiocarbamate ¹	32407-33-1	Sesamex	51-14-9
Phenylmercury nitrate ¹	8003-05-2	Sodium fluoride	7681-49-4
Phosacetim	4104-14-7	Sodium hexafluorosilicate	16893-85-9
Phosdiphen	36519-00-3	Sulfallate	95-06-7
Phosfolan	947-02-4	Sulfoxide	120-62-7
Pindone	83-26-1	Sulprofos	35400-43-2
Piproctanyl	69309-47-3	SWEP	1918-18-9
Pirimiphos-ethyl	23505-41-1	$2,4,5-T^1$	93-76-5
Potassium cyanate	590-28-3	TDE	72-54-8
Profluralin	26399-36-0	TEPP	107-49-3
Proglinazine	68228-20-6	Terbucarb	1918-11-2
Promacyl	34264-24-9	Tetrasul	2227-13-6
Promecarb	2631-37-0	Thiazafluron	25366-23-8
Propaphos	7292-16-2	Thicyofen	116170-30-0
Propyl isome	83-59-0	Thionazin	297-97-2
Prothiocarb	19622-08-3	Thiophanate	23564-06-9
Prothoate	2275-18-5	Thioquinox	93-75-4
Proxan	108-25-8	Triamiphos	1031-47-6
Pydanon	22571-07-9	Triapenthenol	76608-88-3
Pyracarbolid	24691-76-7	Triarimol	26766-27-8
Pyridinitril	1086-02-8	Tricamba	2307-49-5
Quinacetol sulfate	57130-91-3	Trichlamide	70193-21-4
Quinonamid	27541-88-4	Trichloronat	327-98-0
Ryania	8047-13-0	Tridiphane	58138-08-2
Sabadilla	8051-02-3	Trifenmorph	1420-06-3
Salicylanilide	87-17-2	Trimethacarb	12407-86-2
Schradan	152-16-9	Vernolate	1929-77-7
Scilliroside	507-60-8		

¹ The international trade of aldrin, binapacryl, camphechlor (toxaphene), chlordimeform, chlorobenzilate, dieldrin, dinoseb and dinoseb salts, heptachlor, mercury compounds, and 2,4,5-T is regulated by the Rotterdam convention on Prior Informed Consent (see http://www.pic.int/), which entered into force on 24 February 2004, with subsequent amendments. See Table 7, p. 51.

² The use and production of aldrin, camphechlor (toxaphene), *chlordecone*, dieldrin, endrin, heptachlor and mirex is prohibited or severely restricted by the Stockholm convention on persistent organic pollutants, which entered into force on 17 May, 2004, with subsequent amendments. See http://www.pops.int/

Table 7. Pesticides subject to the Rotterdam Convention¹

Class	Pesticide	CAS number
О	Aldrin ²	309-00-2
О	Binapacryl	485-31-4
Ia	Captafol	2425-06-1
II	Chlordane ²	57-74-9
О	Chlordimeform	6164-98-3
О	Chlorobenzilate	510-15-6
II	DDT^2	50-29-3
	1,2-Dibromoethane (EDB)	106-93-4
О	Dieldrin ²	60-57-1
О	Dinoseb and dinoseb salts	88-85-7
Ib	DNOC and its salts (such as ammonium salt, potassium salt and sodium salt)	534-52-1; 2980-64-5; 5787-96-2; 2312-76-7
	Ethylene dichloride	107-06-2
	Ethylene oxide	75-21-8
Ib	Fluoroacetamide	640-19-7
II	HCH (mixed isomers)	608-73-1
О	Heptachlor ²	76-44-8
Ia	Hexachlorobenzene ²	118-74-1
II	Lindane ²	58-89-9
	Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds	
Ib	Pentachlorophenol	87-86-5
О	2,4,5-T	93-76-5
О	Camphechlor (Toxaphene)	8001-35-2
	Dustable powder formulations containing a combination of benomyl at or above 7%, carbofuran at above 10%, thiram at or above 15%	17804-35-2; 1563-66-2; 137-26-8
Ib	Methamidophos (soluble liquid formulations of the substance that exceed 600 g active ingredient/L)	10265-92-6
Ia	Methyl-parathion (emulsifiable concentrates (EC) with 19.5%, 40%, 50%, 60% active ingredient and dusts containing 1.5%, 2% and 3% active ingredient	298-00-0
Ib	Monocrotophos (all formulations)	6923-22-4

Ia	Parathion (all formulations – aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (GR) and wettable powders (WP) of this substance are included, except capsule suspensions (CS)	56-38-2
Ia	Phosphamidon (soluble liquid formulations of the substance that exceed 1000 g active ingredient/L)	13171-21-6 [mixture, (E) & (Z) isomers] 23783-98-4 [(Z)-isomer] 297-99-4 [(E)-isomer]
	Tributyltin compounds, including: tributyltin oxide; tributyltin benzoate; tributyltin chloride; tributyltin fluoride; tributyltin linoleate; tributyltin methacrylate; tributyltin naphthenate	

According to the Rotterdam Convention, export of a chemical can only take place with the prior informed consent of the importing Party. The Prior Informed Consent (PIC) procedure is a means for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of a certain chemical and for ensuring compliance to these decisions by exporting countries. The aim is to promote a shared responsibility between exporting and importing countries in protecting human health and the environment from the harmful effects of such chemicals (further information can be found at: http://www.pic.int/). The Rotterdam Convention (which entered into force on 24 February 2004) built on the voluntary PIC procedure which was initiated by UNEP and FAO in 1989.

² The use and production of aldrin, chlordane, DDT, dieldrin, heptachlor, hexachlorobenzene and lindane is prohibited or severely restricted by the Stockholm convention on persistent organic pollutants, which entered into force on 17 May, 2004. See http://www.pops.int/

TABLE 8. GASEOUS OR VOLATILE FUMIGANTS NOT CLASSIFIED UNDER THE WHO RECOMMENDED CLASSIFICATION OF PESTICIDES BY HAZARD

The Classification does not set out any criteria for air concentrations on which classification could be based. Most of these compounds are of high hazard and recommended exposure limits for occupational exposure have been adopted by national authorities in many countries.

Pesticide	CAS number	Remarks
Aluminium phosphide	20859-73-8	DS 46; EHC 73; HSG 28; JMPR 1967
Chloropicrin	76-06-2	JMPR 1965b
1,2-Dibromoethane	106-93-4	EHC 177; IARC 15
1,3-Dichloropropene	542-75-6	EHC 146; HSG 76; IARC 41
Ethylene dichloride	107-06-2	EHC 62, 176; HSG 55; IARC 20
Ethylene oxide	75-21-8	EHC 55; HSG 16; JMPR 1969; IARC 11, 36, 42
Formaldehyde	50-00-0	EHC 89; HSG 57
Hydrogen cyanide	74-90-8	JMPR 1965b
Magnesium phosphide	12057-74-8	EHC 73; HSG 28
Methyl bromide	74-83-9	DS 5; EHC 166; HSG 86; IARC 41, 45; JMPR 1967
Phosphine	7803-51-2	DS 46; EHC 73; HSG 28; JMPR 1967
Sulfuryl fluoride	2699-79-8	JMPR 2006b

EHC = Environmental Health Criteria Monograph; DS = Pesticide Data Sheet; HSG = Health and Safety Guide; IARC = IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; ICSC = International Chemical Safety Card; JMPR = Evaluation by the Joint FAO/WHO Meeting on Pesticide Residues.

ANNEX

HOW TO FIND THE HAZARD CLASS OF A FORMULATION

The following tables A and B can be used to find the hazard class of a formulation. These should be used only if toxicity data is not available on the formulation itself; see the note at the top of page 7.

The tables should be used as follows:

- Step 1: What is the approved name of the active ingredient in the pesticide? Use the index to find the entry in tables 1-5 of the Guidelines.
- Step 2: From the entry in the Guidelines, what is the route of application used for the classification?

If the route is O (oral), use table A of this Annex. The same table is used for solids and liquids.

If the route is D (dermal), use table B of this Annex. The same table is used for solids and liquids.

- Step 3: From the entry in the Guidelines, what is the LD₅₀ of the active ingredient?
 Using the table A or B, selected in Step 2, find the column along the top line which most nearly includes the LD₅₀ figure.
- Step 4: What is the concentration % of the active ingredient in the formulation?

 Using the same table A or B, find the figure in the left hand column which most nearly includes this percentage figure.
- Step 5: Find the square where the column selected in Step 3 crosses the line selected in Step 4. The number in this square is the approximate LD_{50} of the formulation.
- Step 6: The hazard classes are shown by blocks of squares. The hazard class of the formulation is that of the block in which lies the square selected in Step 5.

These tables can also be used to find the hazard class of mixtures. First see page 7, para. 4 of the Guidelines and select the method to be used to arrive at the LD_{50} of the mixture. For method (b), use the above method from Step 1, using the name of the more or most toxic ingredient. For method (c), pass to Step 4 using the total percentages of all active ingredients in the mixture.

Table A. $\mathrm{LD}_{\mathrm{so}}$ values and classification of formulations when the route is ORAL

First row = Oral LD $_{50}$ of the active ingredient First column = Percent concentration of the active ingredient in the formulation

	000	5000																									
	500 5	500 5	737	5000																							
	300 4	300 4	211 4	144 5	902	000																					
	500 4	500 4	684 43	889 4	118 4	375 5	299	000									չ										
	300	300	158 3	333 3	529 4	750 4:	200	286 5	315	5000							UNLIKELY										
Class III	500 30	200 30	332 3	778 33	941 3	125 37	3333 4000 4667	571 42	346 46	167 50	545	5000					D		SENT								
Ö	000	000	105 26	222 27	353 29	200 3	367 33	357 38	32 38	333 4	336 4	000	144	5000					TO PRESENT		8						
	500 20	500 20	579 2	367 22	765 23	875 2	200	143 28	308 30	500 33	727 36	000	333 4	750 50	586	5000			ĭ		ACUTE HAZARD						
	1 000	1 000	153 1	111 1	176 1.	250 18	333 20	429 2	538 2:	367 2	318 2	300	222 33	200 3.	357 4:	333 50	00C	000			OUTE		SE				
	900 1000 1500 2000 2500 3000 3500 4000 4500 5000	900 1000 1500 <u>2000</u> 2500 3000 3500 4000 4500	947 1053 1579 2105 2632 3158 3684 4211 4737	889 1000 1111 1667 2222 2778 3333 3889 4444	941 1059 1176 1765 2353 2941 3529 4118 4706	125 13	200 1;	286 14	385 1	500	636 1	800 20	000	250 2	571 28	33	600 4	500 50			⋖		IN NORMAL USE				
	800	800	842	889	941	000	1 290	143	231 1	333 1	455 1	600	778 2	000	286 2	667 3	200 3	000					NOR				
	200	200	737	278	824	875 1000 1125 1250 1875 2500 3125 3750 4375 5000	933 1067 1200 1333 2000 2667	857 1000 1143 1286 1429 2143 2857 3571 4286 5000	923 1077 1231 1385 1538 2308 3077 3846 4615	167 1	273 1	400	556 1	750 2	000	333 2	800 3	500 4	299				≤				
	009	009	632	299	902	750	800	857 1	923 1	833 1000 1167 1333 1500 1667 2500 3333 4167	909 1091 1273 1455 1636 1818 2727 3636 4545	800 1000 1200 1400 1600 1800 2000 3000 4000	889 1111 1333 1556 1778 2000 2222 3333 4444	875 1000 1250 1500 1750 2000 2250 2500 3750	1000 1143 1429 1714 2000 2286 2571 2857 4286	000	400 2	000	.000								
	200	200	526	556	288	625	299	714	692	833 1	909	1000	1111	1250 1	1429	2 2991	2000	2500	3333 4	2000							
	400	400	421	444	471	200	533	571	615	299	727	800	688	1000	1143	1333	1600	2000	2667	4000 (
	350	350	368	389	412	438	467	200	538	583	989	700	778	875	1000	1167	1400	1750	2333	3500							
	300	300	316	333	353	375	400	429	462	200	545	009	299	750	857	833 1000 1167 1333 1667 2000 2333 2667 3000 3333	1200	1500	2000	3000							
	250	250	263	278	294	313	333	357	385	417	455	200	556	625	714		800 1000 1200 1400 1600 2000 2400 2800 3200 3600 4000	900 1000 1250 1500 1750 2000 2500 3000 3500 4000 4500 5000	933 1067 1200 1333 1667 2000 2333 2667 3333 4000 4667	1200 1400 1600 1800 2000 2500 3000 3500 4000 5000	5000						
	200	200	211	222	235	250	267	286	308	333	364	400	444	200	571	299		1000	1333	2000	4000						
	180	180	189	200	212	225	240	257	277	300	327	360	400	450	514	009	720		1200	1800	3600						
	160	160	168	178	188	200	213	229	246	267	291	320	356	400	457	533	640	800	1067	1600	3200		1				
	140	140	147	156	165	175	187	200	215	233	255	280	311	350	400	467	260	200		1400	00 2800 3200 3600 4000 5000	4667					
	120	120	126	133	141	150	160	171	185	, 200	218	240	267	300	343	400	480	009	800		2400	3333 4000 4667					
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= g	08 C	08 C	3 84	68 2	1 94	2 100) 107	5 114	2 123	133	9 145	091	3 178	200	1 229) 267	320	004	533	008 C	0091	2667					
Class	09 0	09 0	3 63	9 67	9 71	3 75	2 80	1 86	7 92	3 100	109	0 120	1 133	5 150	3 171	7 200	0 240	300	3 400	009 0	0 1200	7 2000	0	l			
	45 50	45 50	47 53	50 56	53 59	56 63	9 09	64 71	69	75 83	82 91	90 100	0 111	3 125	9 143	0 167	0 200	5 250	0 333	0 200	0 1000	0 1667	0 2000				
	40 4	40 4	42 4	44 5	47 5	50 5	53 6	9 29	62 6	2 29	73 8	6 08	89 100	100 113	4 129	150	180	00 225	2 300	00 450	800 900	3 1500	00 4500				
	35 4	35 4	37 4	39 4	41 4	44 5	47 5	50 5	54 6	28	64 7	3 02	8 82	88 10	100 114	117 133	140 160	175 200	233 267	350 400	700 80	37 1333	000400				
	30	30	32	33	32	38	40	43 6	46	50	9 22	2 09	2 29	3 92	86 10	100	120 14	150 17	200 23	300 36	009	1000 1167	3500				
	25	25	26	28	29	31	33	36	38	42	45	9 09	99	93	71 8	83 10	100	125 15	167 20	250 30	200 פנ	833 100	00 3000	00			
	20	20	21	22	24	25	27	39	31	33	36	40	44	20	. 29	29	80 10	100 13	133 10	200 2	400 5	8 299	2000 2500	4000 5000			
	15	15	16	17	18	19	20	21	23	25	27	30	33	38	43	20	09	75 1	100	150 2	300 4	200 6	1500 20	3000 40	2000		
Class lb	10	10	11	11	12	13	13	14	15	17	18	20	22	25	29	33	40	20	67 1	100	200 3	333 5	1000	2000 30	3333 50		
Ö	2	2	2	9	9	9	7	7	8	8	6	10	11	13	14	17	20	25	33	50 1	100	167 3	500 1C	1000 20	1667 33	2000	
_	3	3	3	3	4	4	4	4	2	2	2	9	7	8	6	10	12	15	20	30	60 1	100	300	600 1C	1000 16	3000 20	
Class la	_	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	4	2	7	10	20	33	100	200	333 10	1000 30	200
O	Н	100	92	06	85	80	75	20	92	09	22	20	45	40	35	30	25	20	15	10	2	3	1	0.5	0.3	0.1 10	4.00.0
									Ш	_	_						_										1

Table B. $\mathrm{LD}_{\mathrm{so}}$ values and classification of formulations when the route is DERMAL

First row = Dermal ${\rm LD_{50}}$ of the active ingredient First column = Percent concentration of the active ingredient in the formulation

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	5000	5000																								
	1500	1500	1737	0009										귀												
	000	000	2114	444	902	000								UNLIKELY												
	500 4	500 4	384 4	389 4	118 4	375 5	299	000						\supset			SENT									
	00 35	00 35	58 36	33 38	29 47	50 43	00 46	86 50	15	00	l						TO PRESENT			R						
Class III	30 30	30	32 31	78 33	11 35	25 37	33 40	71 42	3846 4615	37 50	45	00	I				2			MZA						
Ö	900 1000 1500 2000 2500 3000 3500 4000 4500 5000	900 1000 1500 2000 2500 3000 3500 4000 4500 5000	947 1053 1579 2105 2632 3158 3684 4211 4737	889 1000 1111 1667 2222 2778 3333 3889 4444 5000	941 1059 1176 1765 2353 2941 3529 4118 4706	875 1000 1125 1250 1875 2500 3125 3750 4375 5000	933 1067 1200 1333 <u> 2000 </u> 2667 3333 4000 4667	857 1000 1143 1286 1429 2143 2857 3571 4286 5000	77 38	833 1000 1167 1333 1500 1667 2500 3333 4167 5000	909 1091 1273 1455 1636 1818 2727 3636 4545	00 20	4	2	ı					ACUTE HAZARD			Ш			
	0 200	0 200	9 210	7 222	5 235	5 250	0 266	3 285	1385 1538 2308 3077	0 333	7 363	0 400	3 444	0 500	9	0	ı			AC			IN NORMAL USE			
	0 150	0 150	3 157	1 166	3 176	187	3 200	9 214	8 230	7 250	8 272	300 c	2 333	375	7 428	3 500	0	0	ı				ORM			
	100	100	105	111	117	125	133	1429	153	166	181	200	222	250	285	333	400) 200(Z Z			
				1000	1058	1125	1200	1286	138	1500	1636	1800	2000	2250	2571	3000	3600	4500								
	800	800	842			1000	1067	1143	923 1077 1231	1333	1455	1600	1778	2000	2286	2667	3200	4000								
	700	700	737	778	824			1000	1077	1167	1273	1400	1556	1750	2000	2333	2800	3500	4667							
	600	009	632	667	706	750	800	857	923	1000	1091	1200	1333	1500	1714	2000	2400	3000	4000							
	500	200	526	556	588	625	299	714	692	833	606	900 1000 1200 1400 1600 1800 2000 3000 4000 5000	889 1000 1111 1333 1556 1778 2000 2222 3333 4444	1250	1429	1667	2000	2500	3333	5000						
	450	450	474	200	529	563	009	643	692	750	818	006	0001	125	1286	0091	800	250	3000	1500						
	400	400	421	444	471	200	533	571	615	299	727	800	889	000	143	333	009	000	299	7 0001						
	350	350	368	389	412	438	467	200	538	583	989	200	778	875 1000 1125 1250 1500 1750 2000 2250 2500 3750 5000	1000 1143 1286 1429 1714 2000 2286 2571 2857 4286	167 1	400	750 2	333 2	500						
	300	300	316	333	353	375	400	429	462	200	545	009	299	750	857 1	1 000	200 1	500 1	000	000						
Class II	250	250	263	278	294	313	333	357	385	417	455	200	929	. 979	714	833 1000 1167 1333 1500 1667 2000 2333 2667 3000 3333 5000	1;	250 1	367 20	200	000					
0	200	200	211	222	235	250	267	286	308	333	364	400	444	200	571	299	800 1000 1200 1400 1600 1800 2000 2400 2800 3200 3600 4000	900 1000 1250 1500 1750 2000 2250 2500 3000 3500 4000 4500 5000	333 16	200	000					
	180	180	189	200	212	225	240	257	277	300	327	360	400	450	514	009	720 8	900 10	200 13	300 2	300 4					
	160	160	168	178	188	200		229	246		291		356	400	457	533 (640	800	1067 1200 1333 1667 2000 2333 2667 3000 3333 4000 4667	1600 1800 2000 2500 3000 3500 4000 4500 5000	3200 3600 4000 5000					
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Acrinathrin	U	39	Azidithion (Menazon)	O	47
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Acrylonitrile	O	47	Azinphos-methyl	Ib	21
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Chlorfenapyr	II	25	Chlorquinox	О	47
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Chlorimuron	III	34	Clofop	O	48
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Chloropropylate	0	47	Crimidine	O	48
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Cycluron	O	48	Demeton-S	O	48
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