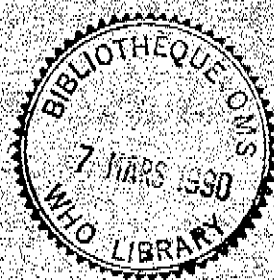


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IPCS

International Programme on Chemical Safety

THE WHO RECOMMENDED CLASSIFICATION

OF PESTICIDES BY HAZARD

and

GUIDELINES TO CLASSIFICATION 1990-1991



United Nations Environment Programme
Programme des Nations Unies pour l'Environnement



International Labour Organization
Bureau International du Travail



World Health Organization
Organisation mondiale de la Santé



UNITED NATIONS ENVIRONMENT PROGRAMME
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INTERNATIONAL LABOUR ORGANIZATION
BUREAU INTERNATIONAL DU TRAVAIL



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

THE WHO RECOMMENDED CLASSIFICATION
OF PESTICIDES BY HAZARD
and
GUIDELINES TO CLASSIFICATION 1990-91

1. INTRODUCTION

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 at 2-yearly intervals.

The document is arranged as follows:

Part I: The Classification as recommended by the World Health Assembly. This part is not subject to periodic review and the classification table and text can only be changed by resolution of the World Health Assembly.

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, and its physical state. 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 2 (single technical product) and 5 (mixtures) and the table in Part I. To assist in the classification of formulations, an annex is now provided giving numerical tables from which the classification may also be derived.

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, Division of Environmental Health, 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 WHO/VBC/88.953.

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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 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 border-line 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 guidepoints 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.

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 LD₅₀ value of a compound is such that it would place it in a more restrictive class than the oral LD₅₀ 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 LD₅₀ assessments alone.

Class	LD ₅₀ for the rat (mg/kg body weight)			
	Oral		Dermal	
	Solids ^a	Liquids ^a	Solids ^a	Liquids ^a
Ia Extremely hazardous	5 or less	20 or less	10 or less	40 or less
Ib Highly hazardous	5-50	20-200	10-1000	40-400
II Moderately hazardous	50-5000	200-2000	100-1000	400-4000
III Slightly hazardous ^b	Over 500	Over 2000	Over 1000	Over 4000 ^b

^a The terms "solids" and "liquids" refer to the physical state of the product or formulation being classified.

^b See also Part II, Guidelines, para. 7 of Notes.

¹The LD₅₀ 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.

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 reactions) 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 LD₅₀ 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 LD₅₀ values indicate greater hazard than oral LD₅₀ 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:

$$\frac{\text{LD}_{50} \text{ active ingredient} \times 100}{\text{Percentage of active ingredient in formulation}}$$

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 labelling¹

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.

¹ See also references 7 and 8, page 8.

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.

- - -

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, technical products have been classified as follows:

Table 1.	List of technical products classified in Class Ia (extremely hazardous)	11
Table 2.	List of technical products classified in Class Ib (highly hazardous)	13
Table 3.	List of technical products classified in Class II (moderately hazardous)	15
Table 4.	List of technical products classified in Class III (slightly hazardous)	18
Table 5.	List of technical products unlikely to present any acute hazard in normal use	21

The tables are arranged in alphabetical order. Each technical product appears in one table only.

In addition, the following tables show the details stated:

Table 6.	Technical products not included in the Classification and believed to be obsolete or discontinued for use as pesticides . .	26
Table 7.	List of gaseous or volatile fumigants not classified under the WHO Recommended Classification of Pesticides by Hazard	27
Table 8.	List of new entries in tables 1-5 and of major changes in existing entries in present revision	27
ANNEX	How to find the hazard class of a formulation	28
ALPHABETICAL INDEX	by name and table	33

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 technical compounds, 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 1 on page 3 to extrapolate the LD₅₀ of the formulation from that of the technical product. In this event, the single oral or dermal value of the LD₅₀ given in the tables below should be used in the formula, taking into account the physical state of the formulation. See also the Annex on page 28.

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. 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

$$\frac{C_A}{T_A} + \frac{C_B}{T_B} + \frac{C_Z}{T_Z} = \frac{100}{T_m}$$

where C = the % concentrations of constituent A, B ... Z in the mixture
where T = the oral LD₅₀ values of constituents A, B ... Z
where T_m = the oral LD₅₀ value of the mixture.

The formula can be 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. These figures are not median values, but a safety margin is incorporated by choosing the lower confidence limit in most cases. 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.

6. Pesticides have been classified on the basis of the physical state of the technical product. It may happen in a few cases that where the technical product is a solid, highly concentrated liquid formulations may need to be classified in a more hazardous class. In most cases, oils (used as a physical and not a chemical term) have been classified as liquids unless very viscous at ordinary temperatures.

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 oral LD₅₀ of 2000 mg/kg for solids and 3000 mg/kg for liquids. 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. Biological pesticides are not included in this Classification because the methods of the safety testing of live biological agents are not appropriate to classification procedures applied to chemical compounds.

ENTRIES AND ABBREVIATIONS USED IN THE TABLES

The following notes apply to Tables 1 to 5.

Status (Column 2):

- ISO: Common name 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, 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.
- N(): Approved by a national ministry or other body, which is shown in the parentheses as follows:
- A: United States Environmental Protection Agency or American National Standards Institute or the Weed Science Society of America or the Entomological Society of America:
- B: British Standards Institution, or the British Pharmacopoeia Commission
- F: Association française de Normalisation;
- J: Japanese Ministry of Agriculture and Forestry;
- U: Gosudarstvennyi Komitet Standartov, USSR.
- C: Chemical, trivial, or other common name.

Main use (Column 3): In most cases only a single use is given. This is only for identification purposes and does not exclude other uses.

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

Chemical type (Column 4): 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.

C	carbamate
CNP	chloronitrophenol derivative
OC	organochlorine compound
OM	organomercury compound
OP	organophosphorus compound
OT	organotin compound
P	pyridyl derivative
PA	phenoxyacetic acid derivative
PY	pyrethroid
T	triazine derivative
TC	thiocarbamate

These chemical classifications are included only for convenience, and do not represent a recommendation of 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.

Chemical type is not shown where it is apparent from the name.

Physical state (Column 5): refers only to the technical compound.

L	liquid, including solids with a melting point below 50 °C:
oil	oily liquid - refers to physical state only
S	solid, includes waxes.

Route (Column 6): 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.

D	dermal
O	oral

LD₅₀, mg/kg (Column 7): The LD₅₀ 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. A single value is given: "c" preceding the value indicates that it is a value within a wider than usual range, adopted for classification purposes: + preceding the value indicates that the kill at the stated dose was less than 50% of the test animals, and is used for typographical reasons in place of the symbol >.

Remarks (Column 8):

- (a) Where the classification of a technical product has been adjusted, the basis for this is indicated in this column.
- (b) Major irritant properties are noted: these do not affect classification.
- (c) Where the name of a technical product is cross-referenced, the referenced product will be found in the same table.
- (d) DS followed by a number indicates that a WHO/FAO Data Sheet of that number contains further information on the product.
- (e) EHC followed by a number indicates that an issue of that number in the Environmental Health Criteria Series has been published by the International Programme on Chemical Safety. In addition, other Environmental Health Criteria have been published on general topics relevant to some chemical classes of pesticides listed. These are given in References 8-38 below.

REFERENCES

The following references may provide a useful source of information on identification of pesticides.

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5. 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.
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10. WHO (1980), Environmental Health Criteria 15; Tin and Organotin Compounds, Geneva, World Health Organization, 109 pp.
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12. WHO (1984), Environmental Health Criteria 29; 2,4-Dichlorophenoxyacetic Acid (2,4-D), Geneva, World Health Organization, 109 pp.
13. WHO (1984), Environmental Health Criteria 34; Chlordane, Geneva, World Health Organization, 82 pp.
14. WHO (1984), Environmental Health Criteria 38; Heptachlor, Geneva, World Health Organization, 81 pp.
15. WHO (1981), Environmental Health Criteria 39; Paraquat and Diquat, Geneva, World Health Organization, 173 pp.
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30. WHO (1988), Environmental Health Criteria 78; Dithiocarbamate Pesticides, Ethylenethiourea, and Propylenethiourea, Geneva, World Health Organization, 140 pp.
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TABLE 1. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS 1a "EXTREMELY HAZARDOUS"

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
aldicarb	ISO	I-S	C	S	0	0.93	DS 53
arsenous oxide	C	R		S	0	180	Adjusted classification; see note 1, end of table EHC 18
brodifacoum	ISO	R		S	0	0.3	DS 57
bromadiolone	ISO	R		S	0	1.12	
bromethalin	ISO	R		S	0	2	
calcium cyanide	C	FM		S	0	39	Adjusted classification; see note 2, end of table
captafol	ISO	F		S	0	5 000	Adjusted classification; See note 8, end of table
chlorfenvinphos	ISO	I	OP	L	0	10	
chlormephos	ISO	I	OP	L	0	7	
chlorophacinone	ISO	R		S	0	3.1	DS 62
chlorthiophos	ISO	I	OP	L	0	9.1	
coumaphos	ISO	I	OP	L	0	7.1	
crimidine	ISO	R		S	0	1.25	
CVP	N(J)						See chlorfenvinphos
cycloheximide	ISO	F		S	0	2	
DBCP	N(J)						See dibromochloropropane
demephion-O and -S	ISO	I	OP	L	0	15	
demeton-O and -S	ISO	I	OP	L	0	1.7	DS 60
dibromochloropropane	C	F-S		L	0	170	Adjusted classification; see note 3, end of table
difenacoum	ISO	R		S	0	1.8	
difolatan	N(J)						See captafol
dimefox	ISO	I	OP	L	0	1	Volatile
diphacinone	ISO	R		S	0	2.3	
disulfoton	ISO	I	OP	L	0	2.6	DS 68
EPN	N(A,J)	I	OP	S	0	14	See note 7, end of table
ethoprophos	ISO	I-S	OP	L	D	26	DS 70
ethoprop	N(A)						See ethoprophos
ethylthiometon	N(J)						See disulfoton
fenamiphos	ISO	N	OP	L	0	15	
fensulfothion	ISO	I	OP	L	0	3.5	DS 44
flocoumafen	N(B)	R		S	0	0.25	
fonofos	ISO	I-S	OP	L	0	c8	
fosthietan	ISO	N	OP	L	0	5.7	
hexachlorobenzene	ISO	FST		S	D	10 000	Adjusted classification; see note 4, end of table DS 26
IPSP	N(J)	I-S	OP	L	D	28	
leptophos	ISO	I	OP	S	0	50	Adjusted classification; see note 5, end of table DS 38
M74	N(J)						See disulfoton
MBCP	N(J)						See leptophos
mephosfolan	ISO	I	OP	L	0	9	
mercuric chloride	ISO	F-S		S	0	1	
merkaptophos	N(U)						When mixed with merkaptophosteolovy, see demeton see parathion-methyl
metaphos	N(U)						
mevinphos	ISO	I	OP	L	D	4	DS 14
parathion	ISO	I	OP	L	0	13	DS 6
parathion-methyl	ISO	I	OP	L	0	14	DS 7
phenylmercury acetate	ISO	FST		S	0	30	Adjusted classification; see note 6, end of table DS 75
phorate	ISO	I	OP	L	0	2	DS 75
phosfolan	ISO	I	OP	L	0	9	
phosphamidon	ISO	I	OP	L	0	7	DS 74
prothoate	ISO	AC, I	OP	L	0	8	
red squill							See scilliroside
schradan	ISO	I	OP	L	0	9	
scilliroside	C	R		S	0	c0.5	Induces vomiting in mammals
sodium fluoroacetate	C	R		S	0	0.2	DS 16
sulfotep	ISO	I	OP	L	0	5	
TEPP	ISO	AC	OP	L	0	1.1	
terbufos	ISO	I-S	OP	L	0	c2	
thionazin	ISO	N	OP	L	0	11	
thiofos	N(U)						See parathion
timet	N(U)						See phorate
trichloronat	ISO	I-S	OP	L	0	16	

Notes to Class Ia

1. Arsenous oxide (also known as arsenic trioxide, arsenious oxide, and white arsenic) has a minimum lethal dose for humans of 2 mg/kg. Evidence of carcinogenicity for humans is sufficient.
2. 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 7).
3. Dibromochloropropane has been found to cause sterility in humans and is mutagenic and carcinogenic in animals.
4. Hexachlorobenzene has caused a serious outbreak of porphyria in humans. See also WHO Technical Report Series No. 555 (1974).
5. Leptophos has been shown to cause delayed neurotoxicity.
6. Phenylmercury acetate is highly toxic to mammals and very small doses have produced renal lesions: teratogenic in the rat.
7. EPN has been reported as causing delayed neurotoxicity in hens.
8. Captafol is carcinogenic in both rats and mice.

THE FINAL CLASSIFICATION OF ANY
PRODUCT DEPENDS ON ITS FORMULATION. See page 5, and the Annex.

TABLE 2. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS Ib "HIGHLY HAZARDOUS"

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
aldoxycarb	ISO	I, N	C	S	O	27	
aldrin	ISO	I	OC	S	D	98	DS 41: EHC 91
allyl alcohol	C	H		L	O	64	Highly irritant to skin and eyes
aminocarb	ISO	I	C	S	O	50	
antutu	ISO	R		S	O	8	Induces vomiting in dogs. Some impurities are carcinogenic
azinphos-ethyl	ISO	I	OP	S	O	12	
azinphos-methyl	ISO	I	OP	S	O	16	DS 59
azocyclotin	ISO	AC	OT	S	O	80	Adjusted classification See note 1, end of table
benfuracarb	N(B)	I	C	L	O	138	
bis(tributyltin) oxide	C	F, M		L	O	194	Irritant to skin. See table 8A, special note, DS 65: EHC 15
blasticidin-S	N(J)	F		S	O	16	
bromophos-ethyl	ISO	I	OP	L	O	71	
butocarboxim	ISO	I	C	L	O	158	
butoxycarboxim	ISO	I	C	L	D	288	
calcium arsenate	C	I		S	O	20	
carbofuran	ISO	I	C	S	O	8	DS 56
carbophenothion	ISO	I	OP	L	O	32	
3-chloro-1,2-propanediol	C	R		L	O	112	See note 2, end of table
cloethocarb	ISO	I	C	S	O	35	Low rat dermal toxicity: LD ₅₀ 4000 mg/kg
coumachlor	ISO	R		S	D	33	
coumatetralyl	ISO	R		S	O	16	
crotoxyphos	ISO	I	OP	L	O	74	
DDVF	N(U)						See dichlorvos
DDVP	N(J)						See dichlorvos
delnav	N(U)						See dioxathion
demeton-S-methyl	ISO	I	OP	L	O	40	DS 61
demeton-S-methylsulfon	ISO	I	OP	S	O	37	
dichlorvos	ISO	I	OP	L	O	56	Volatile, DS 2: EHC 79
dicrotophos	ISO	I	OP	L	O	22	
dieldrin	ISO	I	OC	S	O	37	DS 17: EHC 91
dimetilan	N(A, B)	I	C	S	O	47	
dinoseb	ISO	H	NCP	L	O	58	
dinoseb acetate	ISO	H	NCP	L	O	60	
dinoterb	ISO	H	NCP	S	O	25	
dioxathion	ISO	I	OP	L	O	23	
DMTP	N(J)						See methidathion
DNBP	N(J)						See dinoseb
DNBFA	N(J)						See dinoseb acetate
DNOC	ISO	I-S, H	NCP	S	O	25	
EDDP	N(J)						See edifenfos
edifenfos	ISO	F	OP	L	O	150	
endrin	ISO	I	OC	S	O	7	DS 1
ESP	N(J)	I	OP	L	O	105	
famphur	N(A)	I	OP	S	O	48	
fenthion	ISO	I, L	OP	L	D	330	DS 23
flucythrinate	ISO	I	PY	L	O	c67	Irritant to skin and eyes: See table 8A, special note
fluoroacetamide	C	R		S	O	13	
formetanate	ISO	AC	C	S	O	21	
furathiocarb	N(B)	I-S	C	L	O	137	
heptenophos	ISO	I	OP	L	O	96	
isozofos	ISO	I-S	OP	L	O	60	
isofenphos	ISO	I	OP	oil	O	28	
isothioate	ISO	I	OP	L	O	150	
isoxathion	ISO	I	OP	L	O	112	
lead arsenate	C	L		S	O	c10	
mecarbam	ISO	I	C	oil	O	36	
medinoterb acetate	ISO	H	NCP	S	O	42	
mercuric oxide	ISO	O		S	O	18	
methamidophos	ISO	I	OP	L	O	30	
methidathion	ISO	I	OP	L	O	25	
methomyl	ISO	I	C	S	O	17	DS 55

TABLE 2. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS Ib "HIGHLY HAZARDOUS" (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
methyl-merkaptophosphateolov	N(U)						See demeton-S-methyl
metilmarkaptophosoksid	N(U)						See oxydemeton-methyl
metriltriazotion	N(U)						See azinphos-methyl
monocrotophos	ISO	I	OP	S	O	14	
MPP	N(J)						See fenthion
nicotine	ISO			L	D	50	
nitrilacarb	ISO	I	C	S	O	9	
omethoate	ISO	I	OP	L	O	50	
oxamyl	ISO	I	C	S	O	6	DS 54
oxydemeton-methyl	ISO	I	OP	L	O	65	
oxydeprofos	N(B)						See ESP
paris green	C	L		S	O	22	Copper-arsenic complex
pentachlorophenol	ISO	I, F, H	NCP	S	D	80	Irritant to skin: EHC 71
phenylmercury nitrate	C	FST	OM	S			Oral LD ₅₀ not available, rat i.v. LD ₅₀ is 27 mg/kg
pirimiphos-ethyl	ISO	I	OP	L	O	140	
propaphos	N(J)	I	OP	L	O	70	
propramphos	ISO	I	OP	L	O	75	
sodium arsenite	C	R		S	O	10	
sodium cyanide	C	R		S	O	6	
strychnine	C	R		S	O	16	
TBTO							See bis-(tributyltin) oxide
tefluthrin	N(B)	I-S	PY	S	O	c22	See table 8A, special note
thallium sulfate		R		S	O	11	DS 10
thiofanox	ISO	I-S	C	S	O	8	
thiometon	ISO	I	OP	oil	O	120	DS 67
thioxamyl							See oxamyl
triamphos	ISO	F		S	O	20	
triazophos	ISO	I	OP	L	O	82	
triazotion	N(U)						See azinphos-ethyl
vamidothion	ISO	I	OP	L	O	103	
warfarin	ISO	R		S	O	10	DS 35
zinc phosphide	C	R		S	O	45	DS 24

Notes to Class IB

1. Azocyclotin has delayed systemic effects: irritant to skin.
2. 3-chloro-1,2-propanediol in nonlethal dosage is a sterilant for male rats. This compound is also known as alpha-chlorohydrin

THE FINAL CLASSIFICATION OF ANY PRODUCT
DEPENDS ON ITS FORMULATION. See page 5, and the Annex.

TABLE 3. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS II "MODERATELY HAZARDOUS"

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
allidochlor	ISO	H		L	0	700	Irritant to skin and eyes
alphacypermethrin	C	I	PY	S	0	c79	
anilofos	ISO	H		S	0	472	
bendiocarb	ISO	I	C	S	0	55	DS 52
bensulide	ISO	H		L	0	270	
benzofos	N(U)						See phosalone
BHC	ISO						See HCH
bifenthrin	N(B)	I	PY	S	0	c55	
binapacryl	ISO	AC		S	0	421	
bioallethrin	C	I	PY	L	0	c700	See note 5, end of table; also table 8A, special note
bisthiosemi	N(J)	R		S	0	c150	Induces vomiting in non rodents. See fenobucarb
BPMC							
bromoxynil	ISO	H		S	0	190	
bronopol	N(B)	B		S	0	c200	
bufencarb	ISO	I	C	S	0	87	
butamifos	ISO	H		L	0	630	
butylamine	ISO	F		L	0	380	Irritant to skin
camphochlor	ISO	I	OC	S	0	80	DS 20: EHC 45
carbaryl	ISO	I	C	S	0	c300	DS 3
carbosulfan	ISO	I		L	0	250	
cartap	ISO	I		S	0	325	
chinalphos	ISO						See quinalphos
chloralose	C	R		S	0	400	
chlordan	ISO	I	OC	L	0	460	DS 36: EHC 34
chlordimeform	ISO	F		S	0	340	
chlorfenprop-methyl	ISO	H	OC	L	0	1 190	
chlordimeform	ISO	AC	OC	S	0	340	
chlorphenamidine	N(J)						See chlordimeform
chlorphonium	ISO	PGR		S	0	178	Irritant to skin and eyes
chlorpyrifos	ISO	I	OP	S	0	135	DS 18
copper sulfate	C	F		S	0	300	
cryolite	C	I		S	0	200	
cuprous oxide	C	F		S	0	470	
cyanazine	ISO	H	T	S	0	288	
cyanofenphos	ISO	I	OP	S	0	89	See note 4, end of table
cyanophos	ISO	I	OP	L	0	610	
CYAP	N(J)						See cyanophos
cyhalothrin	ISO	Ix	PY	oil	0	c144	See table 8A, special note
cyfluthrin	ISO	I	PY	S	0	c250	See table 8A, special note
CYP	N(J)						See cyanofenphos
cypermethrin	ISO	I	PY	S	0	c250	See note 6, end of table; also table 8A, special note. DS 58: EHC 82
cyprofuram	ISO	F		S	0	174	
2,4-D	ISO	H	PA	S	0	375	DS 37: EHC 29: EHC 84
DAPA	N(J)						See fenaminosulf
DDT	ISO	I	OC	S	0	113	DS 21: EHC 9: EHC 83
deltamethrin	ISO	I	PY	S	0	c135	See table 8A, special note, DS 50
dialifor	N(A, J)						See dialifos
dialifos	ISO	I	OP	S	D	145	
di-allate	ISO	H	TC	L	0	395	
diazinon	ISO	I	OP	L	0	300	DS 45
dibrom	N(Denmark)						See naled
dichlofenthion	ISO	I-S	OP	L	0	270	
difenzoquat	ISO	H		S	0	470	
dimethoate	ISO	I	OP	S	0	c150	DS 42: EHC 90
dinobuton	ISO	AC, F		S	0	140	
dioxabenzophos	N(B)	I	OP	S	0	125	
dioxacarb	ISO	I	C	S	0	90	
diquat	ISO	H	P	S	0	231	Irritant to skin, and eyes, and damages nails: DS 40: EHC 39
drazoxolon	ISO	FST		S	0	126	
ECP	N(J)						See dichlofenthion
endosulfan	ISO	I	OC	S	0	80	DS 15: EHC 40
endothal-sodium	ISO	H		S	0	51	

TABLE 3. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS II "MODERATELY HAZARDOUS" (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EPBP	N(J)	I-S	OP	oil	O	275	
EPTC	ISO	H	TC	L	O	1 652	
esbiol							See bioallethrin
esbiothrin							See bioallethrin
esdepulléthrine	C						See bioallethrin
ethiofencarb	ISO	I	C	L	O	411	
ethion	ISO	I	OP	L	O	208	
etrimfos	ISO	I	OP	L	O	1 800	
fenaminosulf	ISO	F-S		S	O	60	
fenchlorphos	ISO	I	OP	L	O	1 740	DS 69
fentrothion	ISO	I	OP	L	O	503	DS 30
fenobucarb	N(B)	I	C	S	O	620	
fenpropathrin	ISO	I	PY	S	O	c66	See table 8A, special note
fentin acetate	ISO	F	OT	S	O	125	DS 22
fentin hydroxide	ISO	F	OT	S	O	108	DS 22
fenvalerate	ISO	I	PY	L	O	c450	See table 8A, special note
fluvalinate	ISO	I		oil	O	1 097	Irritant to skin and eyes
formothion	ISO	I	OP	L	O	365	
fosfamid	N(U)						See dimethoate
gamma-BHC							See gamma-HCH
gamma-HCH	ISO	I	OC	S	O	88	
guazatine	ISO	FST		S	O	230	LD ₅₀ value refers to triacetate
haloxyfop	N(A,B)	H		S	O	393	
HCH	ISO	I	OC	S	O	100	See note 1, end of table
heptachlor	ISO	I	OC	S	O	100	DS 19: EHC 38
imazalil	ISO	F		oil	O	320	
ioxynil	ISO	H		S	O	110	
ioxynil octanoate	ISO	H		S	O	390	
isoprocarb	ISO	I	C	S	O	403	
karbation	N(U)						See metam-sodium
lindane	ISO						See gamma-HCH: DS 12
MEP	N(J)						See fenitrothion
mercaptodimethur							See methiocarb
mercurous chloride	C	F		S	O	210	
metam-sodium	ISO	F-S		S	O	285	
methacrifos	ISO	I	OP	L	O	678	
methiocarb	ISO	I	C	S	O	100	
methyl isothiocyanate	ISO	F-S		S	O	175	
metolcarb	ISO	I	C	S	O	268	
MIPC	N(J)						See isoprocarb
molinate	ISO	H	TC	L	O	720	
MPMC							See xylilcarb
nabam	ISO	F	TC	S	O	395	Goitrogenic in rats
NAC	N(J)						See carbaryl
naled	ISO	I	OP	L	O	430	DS 39
norbormide	ISO	R		S	O	52	
2,4-PA	N(J)						See 2,4-D
PAP	N(J)						See phenthoate
paraquat	ISO	H	P	S	O	150	See note 2, end of table; DS 4: EHC 39
pebulate	ISO	H	TC	L	O	1 120	
permethrin	ISO	I	PY	L	O	c500	See table 8A, special note; DS 51
PHC	N(J)						See propoxur
phenthoate	ISO	I	OP	L	O	c400	DS 48
phosalone	ISO	I	OP	L	C	120	
phosmet	ISO	I,AC	OP	S	O	230	
phoxim	ISO	I	OP	L	D	1 975	DS 31
phthalofos	N(U)						See phosmet
pindone	ISO	R		S	O	50	
piperophos	ISO	H		oil	O	324	
pirimicarb	ISO	AP	C	S	O	147	
polychlorcamphene	N(U)						See camphochlor
profenfos	ISO	I	OP	L	O	358	
promacyl	N(Aust)	Ix	C	L	O	1 220	
promecarb	ISO	I	C	S	O	74	
propiconazole	ISO	F		L	O	1 520	
propoxur	ISO	I	C	S	O	95	DS 25

TABLE 3. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS II "MODERATELY HAZARDOUS" (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
prothiofos	ISO	I	OP	L	0	925	See prothiofos;
prothiophos							
pyrazophos	ISO	F		S	0	435	
pyrethrins	C	I		L	0	500- 1 000	Mixture of compounds present in <u>Pyrethrum Cineracifolium</u> and other flowers, DS 11
pyroquilon	ISO	F		S	0	320	
quinalphos	ISO	I	OP	S	0	62	
region	N(U)						See diquat
ronnel	N(A)						See fenchlorphos
rotenone	C	I		S	0	132- 1 500	Compounds from roots of <u>Derris</u> and <u>Lonohcarpus</u> spp.
salithion							See dioxabenzofos
SAP	N(J)						See bensulide;
sec-butylamine							See butylamine;
sevin	N(U)						See carbaryl
sodium fluoride	ISO	I		S	0	180	
sodium hexafluorosilicate	ISO	L-S		S	0	125	
sulfallate	ISO	H		oil	0	850	Irritant to skin and eyes
sulprofos	ISO	I	OP	oil	0	130	
2,4,5-T	ISO	H		S	0	500	See note 3, end of table, DS 13
TCA	ISO						See note 2 to table 5
terbumeton	ISO	H	T	S	0	483	
thiazafurion	ISO	H		S	0	278	
thiazfluron	N(B)						See thiazafurion
thiobencarb	ISO	H	TC	L	0	1 300	
thiocyclam	ISO	I		S	0	310	
thiodan	N(U)						See endosulfan;
thiodicarb	ISO	I		S	0	66	
tolyl-methyl-carbamate							See metolcarb
toxaphene	N(A)						See camphechlor
tralomethrin	N(B)	I	PY	S	0	c85	
trichloroacetic acid							See note 2 to table 5
tricyclazole	ISO	F		S	0	305	
tridemorph	ISO	F		oil	0	650	
vernolate	ISO	H	TC	L	0	1 780	
xylylcarb	N(B)	I	C	S	0	380	

Notes to Class II

1. 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.
2. Paraquat has serious delayed effects if absorbed. It is of low hazard in actual use but very dangerous if taken by mouth accidentally.
3. 2,4,5-T may contain a contaminant TCDD which affects toxicity: it should not exceed 0.01 mg/kg technical material
4. Cyanofenphos has been reported as causing delayed neurotoxicity in hens. It is no longer manufactured.
5. Bioallethrin, esbiothrin, esbiol, and esdepalléthrine are members of the allethrin series; their toxicity varies considerably within this series, according to concentrations of isomers.

TABLE 4. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS III "SLIGHTLY HAZARDOUS"

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
acephate	ISO	I	OP	S	0	945	
acetochlor	ISO	H		L	0	2 950	
acifluorfen	ISO	H		S	0	1 370	Strong irritant to eyes
alachlor	ISO	H		S	0	930	
allethrin	ISO	I	PY	oil	0	c685	See table 8A, special note, EHC 87
ametryn	ISO	H	T	S	0	1 110	
amitraz	ISO	AC		S	0	800	
azamethiophos	ISO	I	OP	S	0	1 010	
azidithion	N(F)						See menazon
barban	ISO	H		S	0	1 300	
bensultap	ISO	I		S	0	1 100	
bentazone	ISO	H		S	0	1 100	
benzoylprop-ethyl	ISO	H		S	0	1 555	
benzthiazuron	ISO	H		S	0	1 280	
bromofenoxim	ISO	H		S	0	1 217	
bromophos	ISO	I	OP	S	0	c1 600	
buthidazole	ISO	H		S	0	1 480	
cacodylic acid							See dimethylarsinic acid
carbofos	N(U)						See malathion
chlorfenac	ISO	H	OC	S	0	575	
chlorfenethol	ISO	AC	OC	S	0	930	
chlorfenson	ISO	AC	OC	S	0	c2 000	Irritant to skin
chlorinat	N(U)						See barban
chlormequat	ISO	PGR		S	0	670	
chloroacetic acid	C	H		S	0	650	Irritant to skin and eyes; data refers to sodium salt
chlorobenzilate	ISO	AC	OC	S	0	700	
chlorocholine chloride	C						See chlormequat
chlorthiamid	ISO	H		S	0	757	
cismethrin	ISO						See note 5, end of table, and resmethrin
citrex	N(U)						See dodine
clofop	ISO	H		L	0	1 208	
copper oxychloride	C	F		S	0	1 440	
crofosate	ISO	I	OP	S	0	770	
cycloate	ISO	H	TC	L	0	+2 000	
cyhexatin	ISO	AC	OT	S	0	540	
cymoxanil	ISO	F		S	0	1 196	
dazomet	ISO	F-S		S	0	640	Irritant to skin and eyes
2,4-DB	N(B)	H		S	0	700	
DCBN	N(J)						See chlorthiamid
deet							See dichthyl toluamide
dehydroacetic acid	C	F		S	0	1 000	
2,4-DP	N(U)						See dichlorprop
2,4-DES	N(B,U)						See disul
desmetryn	ISO	H	T	S	0	1 390	
diallyl dichloroacetamide							See dichlormid
dichlone	ISO	FST		S	0	1 300	
dichlormid	N(A)	H		L	0	2 080	
dichlorobenzene	C	FM		S	0		Mixture of isomers LD ₅₀ varies 500-5000 mg/kg
dichlorophen	ISO	F	OC	S	0	1 250	
dichlorprop	ISO	H		S	0	800	
diclofop	ISO	H		S	0	565	
dicofol	ISO	AC		S	0	c690	
diethyl toluamide	ISO	RP (insect)		L	0	c2 000	DS 80
difenoconazole	ISO	F	T	S	0	1 453	
dimethachlor	ISO	H		S	0	1 600	
dimethametryn	ISO	H	T	L	0	3 000	
dimethipin	ISO	H		S	0	1 180	
dimethylarsinic acid	C	H		S	0	1 350	
dinocap	ISO	AC,F	NCP	S	0	980	

TABLE 4. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS III "SLIGHTLY HAZARDOUS" (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD50 (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
diphenamid	ISO	H		S	0	970	
disul	ISO	H		S	0	730	
dithianon	ISO	F		S	0	640	
dodine	ISO	F		S	0	1 000	
doguadine	N(F)						See dodine
2,4-DP							See dichlorprop.
DSMA							See methylarsonic acid
ephirsulphonate	N(U)						See chlorfenson
etaçelaşil	ISO	PGR		L	0	2 065	
etaconazole	ISO	F		S	0	1 340	
ethohexadiol	N(A)	RP(insect)		L	0	2 400	
etridiazole	ISO	F		L	0	2 000	
fenoprop	ISO	H		S	0	650	
fenson	ISO	AC		S	0	1 550	
fenthiaaprop	N(B)	H		S	0	915	
fenothiocarb	ISO	L	C	S	0	1 150	
fenpropidin	ISO	F		S	0	1 440	
flamprop	ISO	H		S	0	1 210	
fluchloralin	ISO	H		S	0	1 550	
fluoroglycofen	N(B)	H		S	0	1 500	
flurprimidol	ISO	PGR		S	0	700	
flutriafol	ISO	F, FST	T	S	0	1 140	
fomesafen	ISO	H	OC	S	0	1 250	
fuberidazole	ISO	F		S	0	1 100	
furalaxyl	ISO	F		S	0	940	
glufosinate	ISO	H		S	0	1 625	
heptopargil	ISO	PGR		L	0	2 100	
hexazinone	ISO	H		S	0	1 690	
hydramethylnon	N(A,B)	I		S	0	1 200	
I8P							See iprobenphos
iprobenphos	N(B)	F		S	0	600	
isoprothiolane	ISO	F		S	0	1 190	
isoproturon	ISO	H		S	0	1 800	
isouron	ISO	H		S	0	630	
keithane	N(J)						See dicofol
malathion	ISO	I	OP	L	0	c2 100	See note 1, end of table, DS 29
malidison	N(Aus, NZ)						See malathion
MCPA	ISO	H		S	0	700	
MCPA-thioethyl	ISO	H		S	0	790	
MCPB	ISO	H		S	0	680	
mecoprop	ISO	H		S	0	930	
mefluidide	ISO	H		S	0	1 920	
menazon	ISO	AP	OP	S	0	1 950	
mepiquat	ISO	PGR		S	0	1 490	
metalaxyl	ISO	F		S	0	670	
metaldehyde	ISO	M		S	0	630	
metaxon	N(U)						See MCPA
methazole	N(A,B)	H		S	0	1 350	
2-methoxyethylmercury silicate	C	FST	OM	S	0	1 140	
methylarsonic acid	ISO	H		S	0	1 800	
metolachlor	ISO	H		L	0	2 780	
MSMA							See methylarsonic acid
myclobutanil	N(B)	F		S	0	1 600	
2-napthyl oxy acetic acid	ISO	PGR		S	0	600	
nitrapyrin	ISO	B-S		S	0	1 072	
N-octyl bicycloheptene dicarboximide	C	SY		L	0	2 800	
nusrimol	ISO	F		S	0	1 250	
octhilinone	ISO	F		S	0	1 470	
oxadixyl	N(B)	F		S	0	1 860	
psiclobutrazol	ISO	PGR		S	0	1 300	
palléthrine	N(F)						See allethrin

TABLE 4. LIST OF TECHNICAL PRODUCTS CLASSIFIED IN CLASS III "SLIGHTLY HAZARDOUS" (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
paradichlorobenzene							See dichlorobenzene
pendimethalin	ISO	H		S	O	1 050	
perfluidone	ISO	H		S	O	920	
pimaricin	N(B)	F		S	O	2 730	See note 2, end of table
piproctanyl	ISO	PCR		S	O	820	
pirimiphos methyl	ISO	I	OP	L	O	2 018	DS 49
prochloraz	ISO	F		S	O	1 600	
propachlor	ISO	H		S	O	1 500	DS 78
propanil	ISO	H		S	O	c1 400	
propargite	ISO	AC		L	O	2 200	
prothiocarb	ISO	F-S	TC	S	O	1 300	
pyridate	ISO	H		S	O	c2 000	
quizalofop	N(B)	H		S	O	1 670	
resmethrin	ISO	I	PY	S	O	2 000	See note 3, end of table, EHC 92
ryania	C	I		S	O	c750	LD ₅₀ varies: vegetable product
sesamex	N(A)	SY		L	O	2 000	
sethoxydim	ISO	H		L	O	3 200	
silvex	N(A)						See fenoprop
simetryn	ISO	H	T	S	O	1 830	
sodium chlorate	ISO	H		S	O	1 200	
sulfoxide	N(A)	SY		L	O	2 000	
2,3,6-TBA	ISO	H		S	O	1 500	
tebuthiuron	ISO	H		S	O	644	
thiram	ISO	F		S	O	560	DS 71
TMTD	N(U)						See thiram
2,4,5-TP	N(F,J,U)						See fenoprop
triadimefon	ISO	F		S	O	602	
triadimenol	ISO	F&T		S	O	900	
tri-allate	ISO	H	TC	L	O	2 165	
trichlorfon	ISO	I	OP	S	O	560	DS 27
triclopyr	ISO	H		S	O	710	
tridiphane	N(B)	H		S	O	1 740	
trifenmorph	ISO	M		S	O	1 400	DS 64
triflumizole	N(B)	F		S	O	695	
undecanone	C	RP(dogs, cats)		oil	O	2 500	
XMC	N(J)	I	C	S	O	542	
ziram	ISO	F		S	O	1 400	Irritant to skin. DS 73
zoocoumarin	N(U)						See warfarin

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.
2. Pimaricin: antibiotic, identical with tennecetin and natamycin.
3. Resmethrin is a mixture of isomers, the trans isomer (70-80%) being also known as bioresmethrin and the cis isomer (20-30%) as cismethrin. Bioresmethrin alone is of much lower toxicity (oral LD₅₀ 9000 mg/kg) and is the subject of DS 34. It appears in table 5.

THE FINAL CLASSIFICATION OF
ANY PRODUCT DEPENDS ON ITS FORMULATION See page 5, and the Annex.

TABLE 5. LIST OF TECHNICAL PRODUCTS UNLIKELY TO PRESENT ACUTE HAZARD
IN NORMAL USE (BUT SEE TEXT PRECEDING TABLES)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
aclonifen	N(B)	H		S	0	+5 000	
acrinathrin	C	MT		S	0	+5 000	
alloydim	ISO	H		S	0	2 260	
aminotriazole	N(F)						See amitrole
amitrole	ISO	H	T	S	0	5 000	
ammonium sulfamate	ISO	H		S	0	3 900	
ancymidol	ISO	FGR		S	0	4 500	
anilazine	ISO	F	T	S	0	2 710	Irritant to skin and eyes
anthraquinone	ISO	RP(birds)		S	0	+5 000	
asulam	ISO	H	TC	S	0	+4 000	
atrazine	ISO	H	T	S	0	c2 000	
aziprotryne	ISO	H	T	S	0	3 600	
benalaxyl	ISO	F		S	0	c4 200	
benazolin	ISO	H		S	0	3 200	Irritant to skin and eyes
benefin	N(A)						See benfluralin
benfluralin	ISO	H		S	0	+10 000	
benodanil	ISO	F		S	0	6 400	
benomyl	ISO	F	TC	S	0	+10 000	
benthrondine	N(J)						See benfluralin
benzamidole							See isoxaben
benzoximate	ISO	AC		S	0	+10 000	
bifenox	ISO	H		S	0	+ 6 400	
bioresmethrin	ISO	I	PY	L	0	+7 000	DS 34
biphenyl	ISO	F		S	0	3 280	
bitertanol	ISO	F		S	0	+5 000	
borax	ISO	F		S	0	4 500	
bromacil	ISO	H		S	0	5 200	
bromocyclen	ISO	I, AC		S	0	+10 000	
bromopropylate	ISO	AC		S	0	+5 000	
brompyrazon	ISO	H		S	0	+6 400	
bupirimate	ISO	F		S	0	c4 000	
buprofezin	ISO	I		S	0	2 200	
butachlor	ISO	H		L	0	3 300	
buthiobate	ISO	F		L	0	3 200	
butopyronoxyl	N(A)	RP(insects)		L	0	7 840	
butralin	ISO	H		S	0	+10 000	
buturon	ISO	H		S	0	3 000	
butylate	ISO	F	TC	L	0	+4 000	
captan	ISO	F		S	0	9 000	Irritant to skin: DS 9
carbendazim	ISO	F		S	0	+10 000	
carbetamide	ISO	H		S	0	+10 000	
carboxin	ISO	FST		S	0	3 820	
chinomethionat	ISO	AC, F		S	0	2 500	
chlomethoxyfen	N(B)	H		S	0	+10 000	
chloramben	ISO	H		S	0	5 620	
chlorbromuron	ISO	H		S	0	+5 000	
chlorbufam	ISO	H		S	0	2 500	
chlorfenidim	N(U)						See monuron
chlorflurecol	N(B)						See chlorflurenol
chlorflurenol	ISO	PCR	OC	S	0	+10 000	
chloridazon	ISO	H		S	0	2 420	
chloromethiuron	ISO	IX		S	0	2 500	
chloroneb	ISO	H	OC	S	0	+10 000	
chloropropylate	ISO	AC	OC	S	0	+5 000	
chlorothalonil	ISO	F		S	0	+10 000	
chlorotoluron	ISO	H		S	0	+10 000	
chloroxifenidim	N(U)						See chloroxuron
chloroxuron	ISO	H		S	0	+3 000	
chlorphoxim	ISO	I	OP	S	0	+2 500	DS 32
chlorpropham	ISO	H		S	0	+5 000	
chlorpyrifos methyl	ISO	I	OP	L	0	+3 000	DS 33
chlorsulfuron	ISO	H		S	0	5 545	
chlorthal-dimethyl	ISO	H		S	0	+3 000	
chlozolinate	N(B)	F		S	0	+4 000	
clofentezine	N(B)	AC		S	0	+3 200	
clonitralide	N(A)						See niclosamide
clopyralid	N(B)	H		S	0	4 300	Severe irritant to eyes

TABLE 5. LIST OF TECHNICAL PRODUCTS UNLIKELY TO PRESENT ACUTE HAZARD
IN NORMAL USE (BUT SEE TEXT PRECEDING TABLES) (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CNA	N(J)						See dicloran
COMU	N(J)						See cycluron
credazine	N(J)	H		S	0	3 090	
cycloxydim	N(B)	H		S	0	3 900	
cycluron	ISO	H		S	0	2 600	
cyometrinil	N(B)	H		S	0	2 277	
cyromazine	ISO	L		S	0	3 300	
dalapon	N(A,B,F)	H		S	0	9 330	
daminozide	ISO	H		S	0	8 400	
desmedipham	ISO	H		S	0	+9 600	
diafenthuron	ISO	AC		S	0	2 068	
dicamba	ISO	H		S	0	2 900	
dichlobenil	ISO	H		S	0	3 160	
dichlofluanid	ISO	F		S	0	5 000	
dichlorfenidim	N(U)						See diuron
dichloropicolinic acid							See clopyralid
diclobutrazol	ISO	F	T	S	0	+4 000	
dicloran	N(B)	F		S	0	4 000	
dienochlor	ISO	AC		S	0	3 160	
diethatyl	ISO	H		S	0	2 300	
difenoxuron	ISO	H		S	0	+7 750	
diflubenzuron	ISO	L		S	0	+4 640	
diflufenican	N(B)	H		S	0	+2 000	
difolatan	N(J)						See captafol
dikegulac	ISO	PGR		S	0	+10 000	
dimefuron	ISO	H		S	0	+2 000	
dimethirimol	ISO	F		S	0	2 350	
dimethyl phthalate	C	RP(insect)		I	0	8 200	
dinat	N(U)						See dicamba
dinitramine	ISO	H		S	0	3 000	
diphenyl							See biphenyl
dipropetryn	ISO	H	T	S	0	4 050	
dipropyl isocinch-omerate	C	RP(fly)		L	0	5 230	
disodium octaborate							See borax
ditalimfos	ISO	F	OP	S	0	5 660	Irritant to skin; allergenic
diuron	ISO	H		S	0	3 400	
dodemorph	ISO	H		L	0	4 500	
cglinazine	ISO	H		S	0	+10 000	
ethafluralin	ISO	H		S	0	+10 000	
ethephon	N(A)	PGR		S	0	+4 000	
ethidimuron	ISO	H		S	0	+5 000	
ethirimol	ISO	FST		S	0	6 340	
ethofumesate	ISO	H		S	0	+6 400	
fenarimol	ISO	F		S	0	2 500	
fenbutatin oxide	ISO	MT	OT	S	0	2 630	EHC 15
fenfuram	ISO	FST		S	0	+10 000	
fenidim	N(U)						See fenuron
fenitropan	ISO	F		S	0	3 230	
fenoxaprop-ethyl	N(B)	H		S	0	2 350	
fenoxycarb	ISO	I	C	S	0	+10 000	
fenpiclonil	ISO	FST		S	0	+5 000	
fenpropimorph	ISO	F		oil	0	3 515	
fenuron	ISO	H		S	0	6 400	
fenuron-TCA	N(A)	H		S	0	4 000	
ferbam	ISO	F	TC	S	0	+10 000	
flamprop-M	ISO	H		S	0	+3 000	
fluaazifop	ISO	H	P	L	0	3 330	
flubenzimine	ISO	AC		S	0	3 000	
flometralin	N(B)	PGR		S	0	+5 000	
fluometuron	ISO	H		S	0	+8 000	
fluorodifen	ISO	H		S	0	9 000	
fluoromide	N(J)	F		S	0	+10 000	
fluotrimazole	ISO	F	T	S	0	+5 000	
flurecol-butyl	N(B)						See flurenol
flurenol	ISO	PGR		S	0	+5 000	

TABLE 5. LIST OF TECHNICAL PRODUCTS UNLIKELY TO PRESENT ACUTE HAZARD
IN NORMAL USE (BUT SEE TEXT PRECEDING TABLES) (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
fluridone	ISO	H		S	0	+10 000	
flurochloridone	ISO	H		S	0	4 000	
fluroxypyr	N(B)	H		S	0	+5 000	
flutolanil	ISO	F		S	0	+10 000	
folpet	N(A,B,J)	F		S	0	+10 000	
fosamine	ISO	H		S	0	2 400	
fosetyl	N(B)	F		S	0	5 800	
furmecyclox	N(B)	FST		S	0	3 780	
gibberellic acid	N(B)	PGR		S	0	+10 000	
glyphosate	ISO	H		S	0	4 320	
glyphosine	ISO	H		S	0	3 920	
hexaconazole	N(B)	F		S	0	2 180	
hexythiazox	N(B)	AC		S	0	+5 000	
hydroprene	N(A)	IGR		L	0	+10 000	
2-hydroxyethyl octyl sulphide	C	RP(insect)		L	0	8 530	
hydroxyisoxazole	N(J)						See hymexazol
hymexazol	N(B)	FST		S	0	3 900	
imazamethabenz	C	H		S	0	+5 000	
imazapyr	ISO	H		S	0	+5 000	Irritant to eyes
imazaquin	ISO	H		S	0	+5 000	
imazethapyr	N(B)	H		S	0	+5 000	
iodofenphos	N(A,B)						See jodfenphos
iprodisone	ISO	F		S	0	3 500	
isocarbamid	ISO	H		S	0	+2 500	
isomethiozin	ISO	H		S	0	+10 000	
isopropalin	ISO	H		L	0	+5 000	
isoxaben	N(B)	H		S	0	+10 000	
jodfenphos	ISO	I	OP	S	0	2 100	DS 43
karbutilate	ISO	H		S	0	3 000	
kasugamycin	N(J)	F		S	0	+10 000	
kinoprene	ISO	IGR		S	0	4 900	
lenacil	ISO	H		S	0	+10 000	
linuron	ISO	H		S	0	4 000	
maleic hydrazide	ISO	PGR		S	0	6 950	
mancozeb	ISO	F	TC	S	0	+8 000	Irritant to skin on multiple exposure
maneb	ISO	F	TC	S	0	6 750	Irritant to skin on multiple exposure
mefenacet	ISO	H		S	0	+5 000	
mepronil	N(J)	F		S	0	+10 000	
metamitron	ISO	H		S	0	3 343	
metazachlor	ISO	H		S	0	2 150	
methabenzthiazuron	ISO	H		S	0	+2 500	
methoprene	ISO	IGR		L	0	+10 000	DS 47
methoprotryne	ISO	H		S	0	+5 000	
methoxychlor	ISO	I	OC	S	0	6 000	DS 28
methoxyphenone	N(J)	H		S	0	+4 000	
metiram	N(J)	F		S	0	+10 000	
metobromuron	ISO	H		S	0	2 500	
metoxuron	ISO	H		S	0	+3 200	
metribuzin	ISO	H	T	S	0	2 200	
metsulfuron	N(A,B)	H		S	0	+5 000	
monalide	ISO	H		S	0	+4 000	
monolinuron	ISO	H		S	0	2 250	
monuron	ISO	H		S	0	3 600	
monuron-TCA	N(A)	H		S	0	3 700	
myclozolin	N(B)	F		S	0	+5 000	
naphthalene	C	F		S	0	2 200	
naphthalic anhydride	C	PGR		S	0	+10 000	
2-(1-naphthyl)aceta- mide	ISO	PGR		S	0	6 400	
1-naphthyl acetic acid	ISO	PGR		S	0	c3 000	
napropamide	ISO	H		S	0	5 000	
naptalam	ISO	PGR		S	0	8 200	
neburon	ISO	H		S	0	+10 000	
niclosamide	ISO	M		S	0	5 000	DS 63
nitralin	ISO	H		S	0	+2 000	
nitrofen	ISO	H		S	0	c3 000	

TABLE 5. LIST OF TECHNICAL PRODUCTS UNLIKELY TO PRESENT ACUTE HAZARD
IN NORMAL USE (BUT SEE TEXT PRECEDING TABLES) (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
nitrothal-isopropyl	ISO	F		S	0	6 400	
norflurazon	ISO	H		S	0	+8 000	
(octylthio)ethanol	C						See 2-hydroxyethyl octyl sulphide
ofurace	ISO	F		S	0	2 600	
oryzalin	ISO	H		S	0	+10 000	
oxadiazon	ISO	H		S	0	+8 000	
oxine-copper	ISO	F		S	0	10 000	
oxycarboxin	ISO	F		S	0	2 000	
oxyfluorfen	ISO	H		S	0	+5 000	
pentanochlor	ISO	H		S	0	+10 000	
penconazole	N(B)	F		S	0	2 120	
pencycuron	ISO	F		S	0	+5 000	
phenisobromolate	N(J)						See bromopropylate
phenisopham	ISO	H		S	0	+4 000	
phenmedipham	ISO	H		S	0	+8 000	
phenothrin	ISO	I	PY	L	0	+5 000	
2-phenylphenol	ISO	F		S	0	2 480	
phosdiphen	N(J)	F		L	0	6 200	
phthalide	N(J)	F		S	0	+10 000	
picloram	ISO	H		S	0	8 200	
piperonyl butoxide	N(A)	SY		oil	0	+7 500	
pretilachlor	ISO	H		L	0	6 100	
procymidone	ISO	F		S	0	6 800	
profluralin	ISO	H		S	0	<10 000	
proglinazine	ISO	H		S	0	+8 000	
prometon	ISO	H	T	S	0	2 980	
prometryn	ISO	H	T	S	0	3 150	
pronamide	N(A)						See propyzamide
propamocarb	ISO	F		S	0	8 600	
propazine	ISO	H	T	S	0	+5 000	
propham	ISO	H		S	0	5 000	
propineb	ISO	H	TC	S	0	8 500	
propyzamide	ISO	H		S	0	8 350	
pyracarboiid	ISO	F		S	0	+10 000	
pyrazon	N(A)						See chloridazon
quinomethionate	N(B)						See chinomethionat
quinonamid	ISO	F		S	0	+10 000	
quintozene	ISO	F		S	0	+10 000	EHC 41
sebumeton	ISO	H	T	S	0	2 680	
siduron	ISO	H		S	0	+7 500	
simazine	ISO	H	T	S	0	+5 000	
sodium metaborate	C						See borax
sodium trichloracetate							See TCA and note 2, end of table
solan	N(A)						See pentanochlor
stirofos	N(A)						See tetrachlorvinphos
sulfometuron	N(B)	H		S	0	+5 000	
sulfur	N(A,J)						See sulphur
sulphur	ISO	F, I		S	0	+3 000	Irritant to skin and mucous membranes. See note 1, end of table
TCA	ISO	H		S	0	3 200	Irritant to skin and eyes: see note 2, end of table
tebutam	ISO	H		oil	0	6 210	
tecnazene	ISO	F		S	0	+10 000	EHC 42
tedion	N(U)						See tetradifon
teflubenzuron	N(B)	I		S	0	+5 000	
temphos	ISO	I	OP	L	0	8 600	DS 8
terbacil	ISO	H		S	0	+5 000	
terbuthylazine	ISO	H	T	S	0	2 160	
terbutryn	ISO	H	T	S	0	2 400	
tetrachlorvinphos	ISO	I	OP	S	0	4 000	
tetradifon	ISO	AC		S	0	+10 000	EHC 67
tetramethrin	ISO	I	PY	S	0	+5 000	
tetrasul	ISO	AC		S	0	6 810	
thiabendazole	ISO	F		S	0	3 330	

TABLE 5. LIST OF TECHNICAL PRODUCTS UNLIKELY TO PRESENT ACUTE HAZARD
IN NORMAL USE (BUT SEE TEXT PRECEDING TABLES) (Con'd)

Name	Status	Main use	Chemical type	Physical state	Route	LD ₅₀ (mg/kg)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
thidiazuron	ISO	PGR		S	O	+4 000	
thiophanate	ISO	F		S	O	+10 000	
thiophanate-methyl	ISO	F		S	O	+6 000	
tiocarbazil	ISO	H	TC	L	O	10 000	
tolclofos-methyl	ISO	F-S		S	O	c5 000	
tolylflusnid	ISO	F		S	O	+5 000	
triasulfuron	ISO	H		S	O	+5 000	
trietazine	ISO	H	T	S	O	2 830	
trifluralin	ISO	H		S	O	+10 000	
triforine	ISO	F		S	O	+6 000	
validamycin	N(J)	F		S	O	+10 000	
vinclozolin	ISO	F		S	O	10 000	
zineb	ISO	F		S	O	+5 200	

Notes: 1. Sulphur dust can spontaneously ignite unless diluted about 50% with inert material.

2. TCA: The ISO name and the data shown refer to sodium trichloroacetate. In many countries, the same term (TCA) refers to the free acid: this is a solid with an oral LD₅₀ of 400 mg/kg 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 page 5, and the Annex

TABLE 6. TECHNICAL PRODUCTS NOT INCLUDED IN THE CLASSIFICATION AND BELIEVED TO BE OBSOLETE OR DISCONTINUED FOR USE AS PESTICIDES

acrolein	hydroxyquinoline sulfate
allyxycarb	ipazine
amldithion	isobenzan
aramite	isobornyl cyanoacetate
athidithion	isocil
atraton	isodrin
szothoate	isonoruron
barium carbonate	isoprothiolane
benquinox	kelevan (EHC 66)
butacarb	lythidathion
butam	malonoben
butonate	MCC
calcium cyanamide	mebenil
carbamorph	mecarbinzid
carbanolate	mecarphon
chloraniformethan	medinoterb acetate
chloranil	methacarbate
chloranocryl	methiuron
chlorbenside	2-methoxymethyl mercury chloride
chlorbicyclen	methyl mercury dicyandiamide
chlordecone (EHC 43)	mexacarbate
chlorfensulphide	mipafox
chlorfentezine	mirex (EHC 44)
chloromebuform	morfamquat
chlorquinox	noruron
cyanthoate	oxapyrazon
cypendazole	oxapyrazon-sodium
cypromid	oxidisulfoton
dechlorodichormate	parafluron
diamidafos	phenkapton
dibutyl phthalate	phenobenzuron
dibutyl succinate	phenyl mercury dimethyl dithrocarbamate
dichlozoline	phosacetim
dimexano	potassium cyanate
dinex	propyl isome
dinocton	proxan-sodium
endothion	pydanon
erbon	pyridinitril
ethiolate	quinacetol sulfate
ethoate methyl	sabadilla
ethyleneglycol bis(trichloracetate)	salicylanilide
EXD	swep
fenazaflor	TDE
fluenetil	terbucarb
glyodin	thioquinox
griseofulvin	triarimol
halacrinat	tricamba
haloxydine	triflumuron
hexachloroacetone	trimethacarb
hexaflurate	

TABLE 7. LIST OF GASEOUS OR VOLATILE FUMIGANTS NOT CLASSIFIED UNDER THE WHO RECOMMENDED CLASSIFICATION OF PESTICIDES BY HAZARD¹

acrylonitrile
aluminium phosphide
carbon disulfide (EHC 10)
chloropicrin
epoxyethane
ethylene dibromide
ethylene dichloride
ethylene oxide (EHC 55)
formaldehyde
hydrogen cyanide
1,2-dichloropropane
1,3-dichloropropene
magnesium phosphide
methyl bromide (DS 5)
phosphine (DS 46; EHC 73)
sulfuryl fluoride

TABLE 8. LIST OF NEW ENTRIES IN TABLES 1-5 AND OF MAJOR CHANGES IN EXISTING ENTRIES IN PRESENT REVISION

A. New Compounds first listed in this revision

Class Ib (Table 2) thallium sulfate

Class III (Table 4) difenoconazole

Class III (Table 5) acrinathrin
diafenthiuron
fenpiclonil
triasulfuron

Special Note:

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. The variability is reflected in the prefix 'c' before LD₅₀ values. The single LD₅₀ value now chosen for classification purposes is based on administration in corn oil and is much lower than that in aqueous solutions. This has resulted in considerable changes in the classification of some products and also underlines the need for classification by formulation if labelling is to reflect true hazard.

B. Obsolete pesticides listed for the first time in this revision

Table 6 aramite
 isodrin
 kelevan

Table 7 ethylene oxide

1. 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.

HOW TO FIND THE HAZARD CLASS OF A FORMULATION

The following tables A - D 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 5.

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, column (6), what is the route used for the classification? What is the physical state of the formulation?
- If the route is O (oral) and the formulation is a solid, use table A of this Annex.
- If the route is O (oral) and the formulation is a liquid, use table C of this Annex.
- If the route is D (dermal) and the formulation is a solid, use table B of this Annex..
- If the route is D (dermal) and the formulation is a liquid, use table D of this Annex.
- Step 3. From the entry in the Guidelines, (column 7), what is the LD₅₀ of the active ingredient?
- Using the table A, B, C, or D 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, B, C, or D, 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 LD₅₀ 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 5 para. 4 of the Guidelines and select the method to be used to arrive at the LD₅₀ 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.

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tetradifon	Table 5	ziram	Table 4
tetramethrin	Table 5	zocoumarin	Table 4
tetrasul	Table 5		
thallium sulfate	Table 2		
thiabendazole	Table 5		
thiazafuron	Table 3		
thiazfluron	Table 3		
thidiazuron	Table 5		
thiobencarb	Table 3		
thiocyclam	Table 3		
thiodan	Table 3		
thiodicarb	Table 3		
thiofanox	Table 2		
thiofos	Table 1		
thiometon	Table 2		
thionazin	Table 1		
thiophanate	Table 5		
thiophanate-methyl	Table 5		
thioquinox	Table 6		
thioxamyl	Table 2		
thiram	Table 4		
timet	Table 1		
tiocarbazil	Table 5		