



Global tools to support action on Highly Hazardous Pesticides

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PUBLIC HEALTH AND ENVIRONMENT

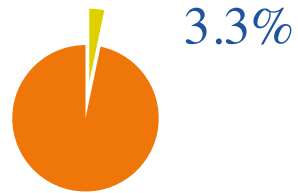




Human health impact of pesticides

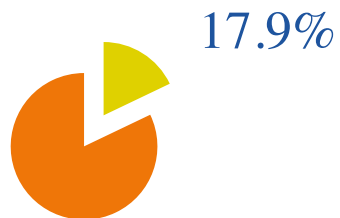


Switzerland



Proportion of the
workforce
working in the
agricultural
sector

Colombia

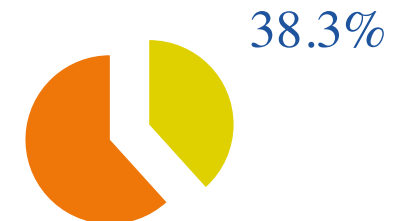


51.1%

India



Indonesia



International Labour
Organization
Key Indicators of the
Labour Market (2010)
Agriculture, Forestry +
Fisheries Sector

Global tools to support action on Highly Hazardous Pesticides

Public Health Impact of Highly Hazardous Pesticides

57 per million children (Central America)

750,000 ?

2 million ?

25 million agricultural workers per year

7.4 per million children (USA)

1 million severe cases of unintentional acute poisoning per year (global)

6,000 cases per year (Canada)



Public Health Impact of Highly Hazardous Pesticides

What do we know?

- An estimated **186,000 deaths**, and **4.4 million years** of healthy life lost in one year, due to self-poisoning
- An estimated **18.2** cases of acute pesticide poisoning per 100,000 agricultural workers in Developed Countries
 - Likely to be higher in Developing Countries
 - Other estimates are available

Public Health Impact of Highly Hazardous Pesticides

- Available data are too limited to estimate the global health impacts of pesticide poisoning
 - Lack of surveillance systems in low resource settings
 - Inconsistent recording methodology
- Available estimates are likely to be under-estimates
 - Less severe effects are under-reported
 - Only acute effects are likely to be identified

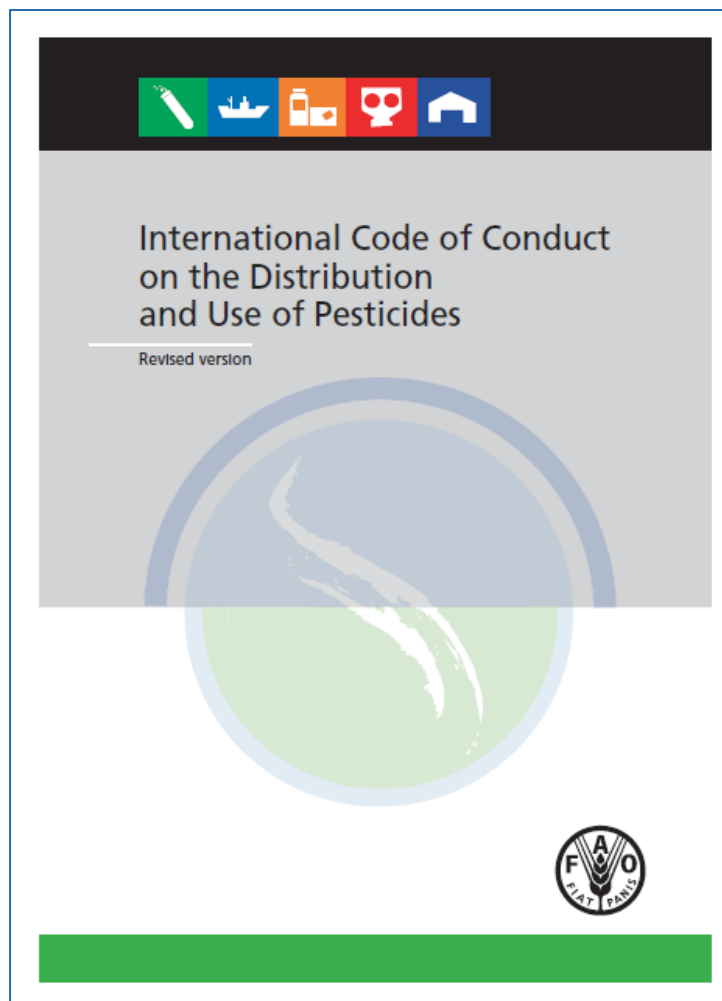
Identification of Highly Hazardous Pesticides

➤ JMPM# recommended criteria:-

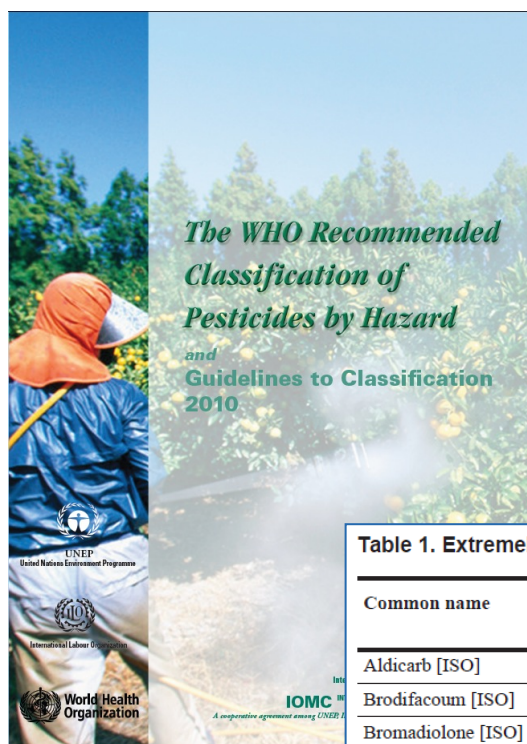
- High acute toxicity
 - WHO Classification classes 1A and 1B
- Carcinogenicity - GHS Categories 1A and 1B
- Mutagenicity - GHS Categories 1A and 1B
- Reproductive Toxicity - GHS Categories 1A and 1B
- Stockholm Convention
 - Annexes A and B, paragraph 1 of Annex D
- Rotterdam Convention Annex III
- Montreal Protocol listing
- Pesticide active ingredients and formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment

Joint Meeting of the FAO and WHO Expert Panels on Pesticides Management

Global tools to support action on Highly Hazardous Pesticides



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WHO Class		LD ₅₀ for the rat (mg/kg body 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 or higher	

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

Common name	CAS no	UN no	Chem type	Phys state	Main use	GHS	LD ₅₀ mg/kg	Remarks
Aldicarb [ISO]	116-06-3	2757	C	S	I-S	1	0.93	DS 53; EHC 121 ; HSG 64; IARC 53 ; ICSC 94 ; JMPR 1993, 1996a
Brodifacoum [ISO]	56073-10-0	3027	CO	S	R	1	0.3	DS 57; EHC 175 ; HSG 93
Bromadiolone [ISO]	28772-56-7	3027	CO	S	R	1	1.12	DS 88; EHC 175 ; HSG 94
Bromethalin [ISO]	63333-35-7	2588		S	R	1	2	
Calcium cyanide [C]	592-01-8	1575		S	FM	2	39	Adjusted classification; see note 1; ICSC 407
Captafol [ISO]	2425-06-1			S	F	5	5000	Adjusted classification; see note 2; HSG 49; IARC 53 ; ICSC 119 ; JMPR 1978, 1986a ; see note 3
Chlorethoxyfos [ISO]	54593-83-8	3018	OP	L	I	1	1.8	Extremely hazardous by skin contact (LD ₅₀ = 12.5 mg/kg); ICSC 1681
Chlormephos [ISO]	24934-91-6	3018	OP	L	I	2	7	ICSC 1682

Global tools to support action on HHPs

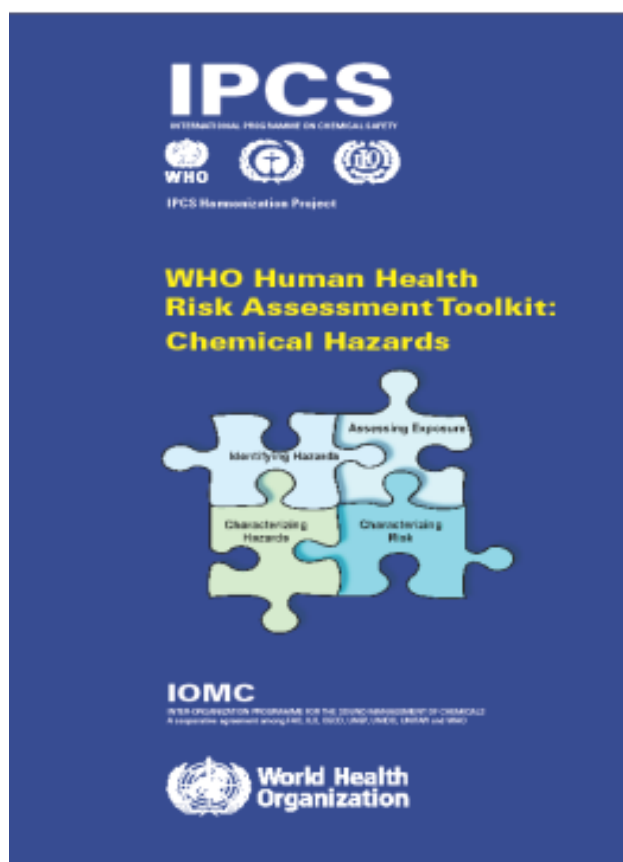
NITRIC ACID		ICSC: 0183	
Concentrated Nitric Acid (>70%)		Date of Peer Review: October 2006	
CAS #	7697-37-2	HNO ₃	
UN #	2031	Molecular mass: 63.0	
EINECS/ELINCS	231-714-2		
EC Annex 1 Index #	007-004-00-1		
ACUTE HAZARDS		PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire. Heating will cause rise in pressure with risk of bursting.	NO contact with flammable substances. NO contact with combustibles or organic chemicals.	In case of fire in the surroundings: NO foam.
	Risk of fire and explosion on contact with many common organic compounds.		In case of fire: keep drums, etc., cool by spraying with water.
AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!			
	SYMPTOMS	PREVENTION	FIRST AID
INHALATION	Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer immediately for medical attention.
SKIN	Serious skin burns. Pain. Yellow discoloration.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
EYES	Redness. Pain. Burns.	Face shield or eye protection in combination with breathing protection.	First rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.
INGESTION	Sore throat. Abdominal pain. Burning sensation in the throat and chest. Shock or collapse. Vomiting.	Do not eat, drink, or smoke during work.	Do NOT induce vomiting. Give one or two glasses of water to drink. Rest. Refer for medical attention.
SPILLAGE DISPOSAL		CLASSIFICATION & LABELLING	
Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Collect leaking liquid in sealable containers. Cautiously neutralize remainder with sodium carbonate. Then wash away with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents.		According to UN GHS Criteria	
STORAGE			
Separated from combustible and reducing substances, bases, organics food and feedstuffs. Cool. Dry. Keep in a well-ventilated room.		DANGER	
PACKAGING		May be corrosive to metals Fatal if swallowed Causes severe skin burns and eye damage Causes damage to respiratory tract if inhaled Causes damage to digestive tract if swallowed Causes damage to respiratory tract and teeth through prolonged or repeated exposure if inhaled	
Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.		Transportation UN Classification UN Hazard Class: 8 UN Subsidiary Risks: 5.1 UN Pack Group: I	
IPCS International Programme on Chemical Safety   		Prepared in the context of cooperation between the International Programme on Chemical Safety and the Commission of the European Communities ©IPCS, CEC 2005 SEE IMPORTANT INFORMATION ON BACK	

International Chemical Safety Cards



Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

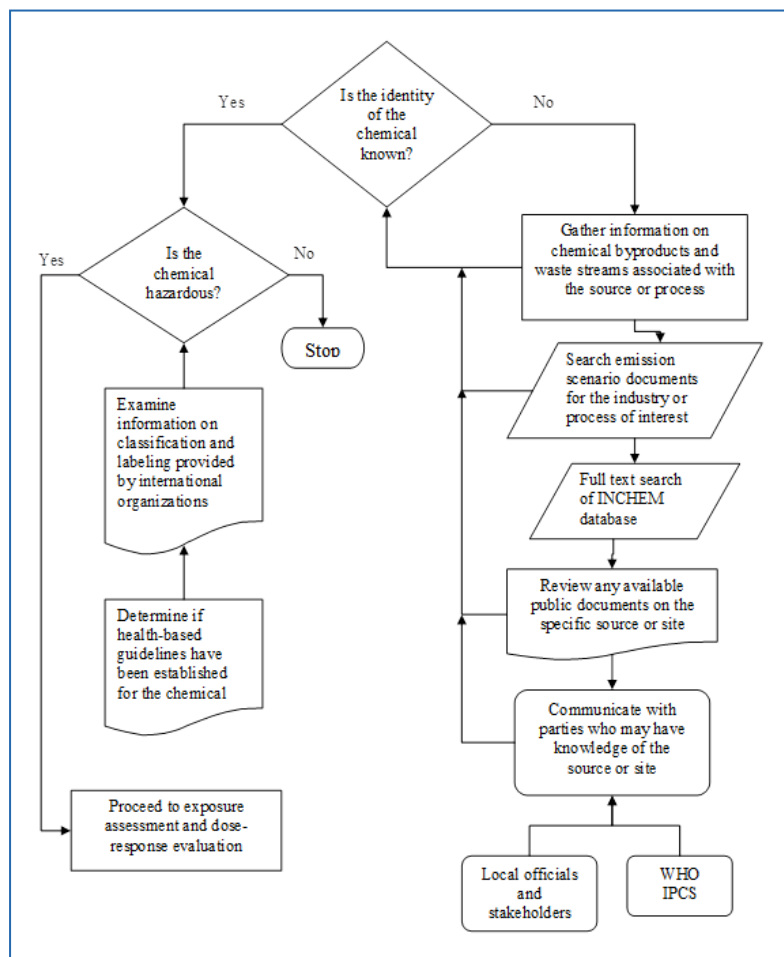
Global tools to support action on HHPs



Assists users to perform HH risk assessments (various sectors)

Uses information developed by International Organizations

Human Health Risk Assessment Toolkit



Uses roadmaps
(flow charts /
decision trees)
to guide the
user through
risk
assessments

Human Health Risk Assessment Toolkit

- ❑ Directories of resources
- ❑ Generic resources on risk assessment
- ❑ Chemical-specific resources
- *Hazard identification resources*
- *Hazard characterization/ guidance or guideline value resources*
- *Exposure assessment resources*
- *Risk characterization resources.*



Human Health Risk Assessment Toolkit

Road maps



Information
needed



References /
Links



Case Studies

Pesticide Case Study

Public health officials in a country with limited resources for regulatory activity observe cases of poisoning in workers using a highly toxic insecticide.

Regulatory action to severely restrict the use of this insecticide is proposed and a risk assessment is conducted.



Inter-Organization Programme for the Sound Management of Chemicals

IOMC Toolbox for Decision Making in Chemicals Management

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IOMC toolbox home

[IOMC toolbox home](#)

Next Step

☐ Gap analysis

Welcome to the IOMC Toolbox for Decision Making In Chemicals Management

The IOMC Internet based Toolbox for Decision-Making in Chemicals Management (IOMC Toolbox) is aimed at countries who wish to address specific national issues regarding chemicals management.


The IOMC Toolbox is a problem-solving tool that enables countries to identify the most appropriate and efficient national actions to address specific national problems related to chemicals management.

The toolbox identifies the available IOMC resources that will help the country address the identified national problem(s) or objectives. Special focus is given to identifying simple cost-effective solutions to national chemicals management issues.

Please use the left-hand buttons to proceed.

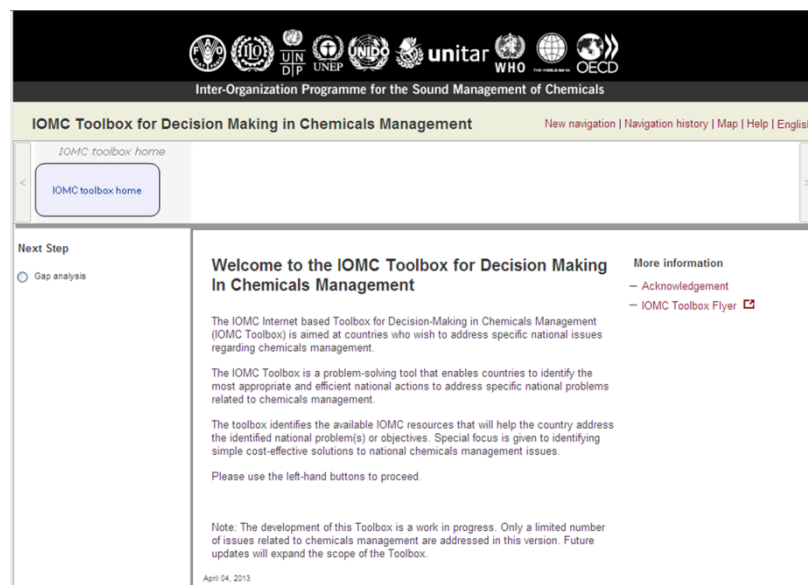
Note: The development of this Toolbox is a work in progress. Only a limited number of issues related to chemicals management are addressed in this version. Future updates will expand the scope of the Toolbox.

More information

- [Acknowledgement](#)
- [IOMC Toolbox Flyer](#) 

April 04, 2013

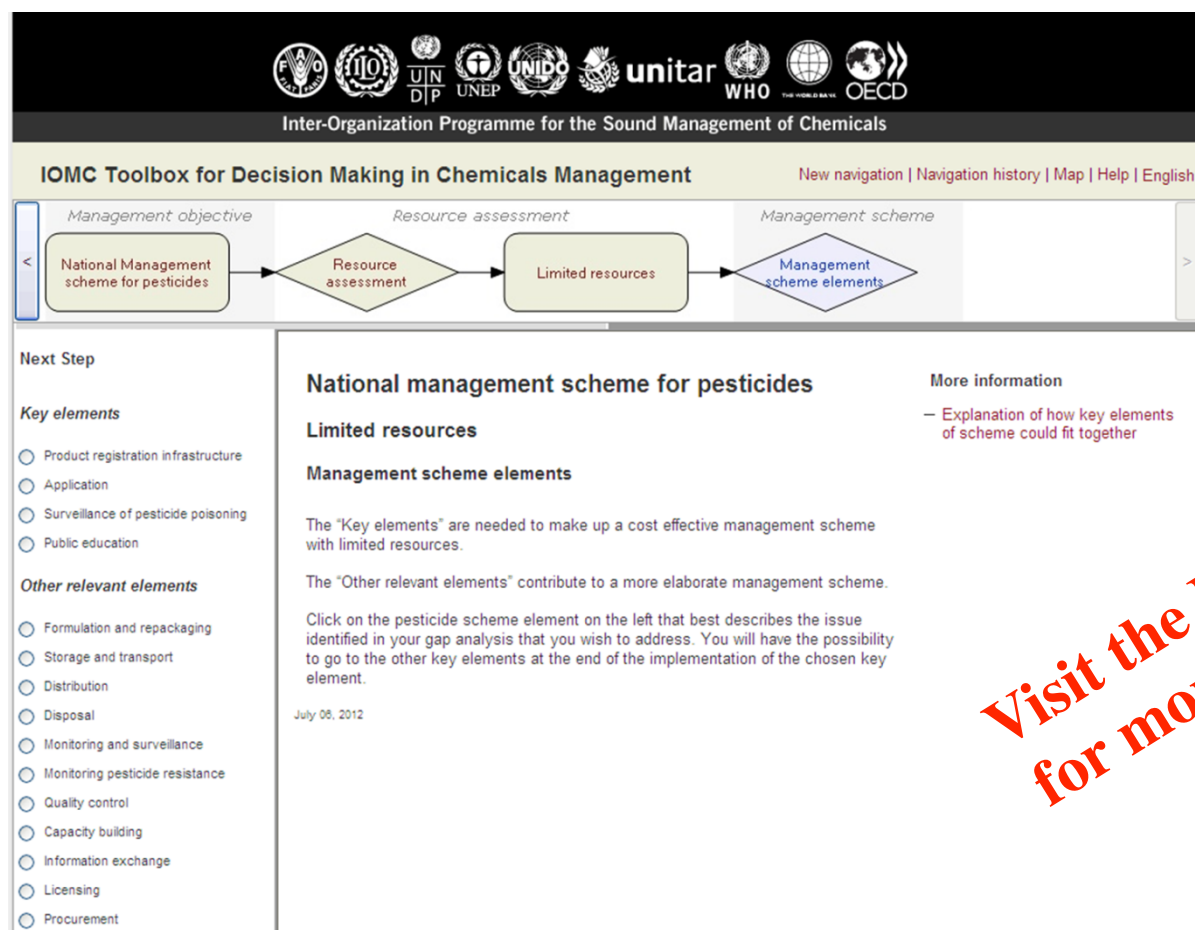
IOMC Toolbox



A web-based problem-solving tool to enable countries to identify appropriate actions to address chemical management problems in their country.

Guides the user through the tools and guidance available from IOMC Participating Organizations – relevant to their resource situation

IOMC Toolbox



Visit the IOMC Stand
for more information

Includes a scheme for management of
pesticides

Poisons Centre Networks

Poisons Centres provide specialized information on the diagnosis and management of poisoning.

Evidence based



Cost-effective



Avoiding unnecessary or ineffective treatments

Poisons Centres can also share experiences and provide advice on prevention

Poisons Centre Networks

Many countries lack Poisons Centres, or they are poorly resourced.

WHO helps countries to establish Poisons Centres, and to form networks to share experiences and training.

SAICM Quick Start Programme Project



Sub-regional poisons centre in East Africa



Shared resource for 16 countries

Further information