

**SECTIONS 58, 63 AND 96-THE PESTICIDES AND
TOXIC SUBSTANCES REGULATIONS**
Regulations by the Minister

Statutory
Instrument
20 of 1994
Act No.
13 of 1994

PART I
PRELIMINARY

1. These Regulations may be cited as the Pesticides and Toxic Substances Regulations.

Title

2. In these Regulations unless the context otherwise requires-

Interpretation

"application" means the way and means of using the pesticide or toxic substance on its intended target as prescribed by the manufacturer;

"banned pesticide or toxic substance" means a pesticide or toxic substance for which all registered uses are prohibited or for which requests for registration have not been granted;

"bundling" means an upraised area surrounding the floor of a warehouse to contain any spillages and washings from pesticides or toxic substances and from cleaning water of the pesticides and toxic substances;

"chemical treatment" means the reaction of a pesticide or toxic substance with another under optimum conditions of pH, temperature and others;

"dangerous poison" shall mean highly hazardous in accordance with the World Health Organisation Classification;

"disposal" means the final location of pesticides or toxic substances, their wastes or contaminated packaging materials by burial, chemical or thermal destruction;

"experimental pesticides or toxic substances" means a pesticide or toxic substance to be assessed in Zambia for primary biological activity, and not available to the public for sale or use;

"incineration" means the subjection of a pesticide or toxic substance to an appropriate high temperature for a specified period of time to achieve complete destruction;

"inspectorate" means the Environmental Inspectorate established under section *eighty-one* of the Act;

"label" means the written, printed or graphic matter on, or attached to, the pesticide and toxic substance or the immediate container thereof and the outside container or wrapper of the retail package of the pesticide or toxic substance;

"packaging" means the containers together with the protective wrapping used to carry and or store pesticides and toxic substances or their products for wholesale and retail distribution to users;

"packaging material" means the material which the container is made of;

"pesticide" means a substance or mixture of substances or organisms intended for controlling, repelling or mitigating any pest, and substance or mixture of substances intended for use as a plant regulator, defoliant or desfoliant;

"protective clothing" means any cloth, material or device designed to provide protection from pesticides or toxic substance when they are handled or applied;

"recognised research institution" means a research institution recognised by the Minister as competent to carry out research into pesticide or toxic substance use;

"repackaging" means the transfer of pesticide from any commercial package into any other, usually smaller container, for subsequent sale;

"residue" means any substance in food, soil agricultural commodities or animal feed resulting from the use of pesticides and toxic substances and includes any derivatives or a pesticide or toxic substance considered to be of toxicological significance;

"severely restricted" means a pesticide or toxic substance whose general registered uses are prohibited but whose certain registered uses are permitted under these regulations;

"toxic substance" means a poisonous substance which causes significant adverse physiological effects to man, animal or the environment;

"toxicity" means a physiological or biological property which determines the capacity of a substance to injure or harm living organism by being absorbed in the body;

"trader" means any person engaged in the trade of pesticides or toxic substances and includes any person exporting, importing, or selling small substances; and

"withholding period" means the period between the last application for the product and the harvest of plant products; grazing of treated areas and slaughter of treated animals for food.

PART II

REGISTRATION

3. (1) A person intending to manufacture, import, export, improve, or process a new pesticide or toxic substance shall apply for registration to the Inspectorate in Form PTS 1 of the First Schedule and shall pay the appropriate application fee set out in the Second Schedule.

Application for registration of pesticide or toxic substance

(2) The application referred to in sub-regulation (1) shall-

- (a) indicate the categories of use of proposed pesticide or toxic substance;
- (b) indicate the trade mark, chemical identity, molecular structure, an estimate of the amounts, by-products, processing, disposal of the pesticide or toxic substance and any test data relating to health and environmental effects; and
- (c) be accompanied by a copy of the approved label or a facsimile thereof.

(3) The application under this regulation shall be made at least ninety days before importing, exporting, or the commencement of manufacturing, processing or reprocessing activities, of the pesticide or toxic substance.

(4) A person who has manufactured, imported or processed a pesticide or toxic substance in use before the commencement of these Regulations shall apply for registration within thirty days from the commencement of these Regulations.

(5) The proprietary rights in the data and information referred to in paragraphs (3) of sub-regulation (2) (a) and (b) shall be duly protected.

4. (1) The Inspectorate shall register a pesticide or a toxic substance

and issue a certificate of registration in Form PTS 2 in the First Schedule, if satisfied that the pesticide or toxic substance which is the subject of the application is suitable and effective for the purposes for which it is intended without causing damage to the environment.

(2) A certificate of registration shall be-

(a) valid for a period of thirty-six months and may be renewed for a like period:

Provided that the Inspectorate may limit the validity of registration for any period less than thirty-six months but not less than six months; and

(b) subject to the conditions which shall be determined by the Inspectorate.

(3) A pesticide or toxic substance registered under this regulation shall not be altered in any way without approval of the Inspectorate so as to change its formulation, composition or usage or in any other manner.

5. (1) No person, except a recognised research or educational institution, shall import into Zambia, any experimental pesticide or toxic substance which is not registered under these regulations without authority from the Inspectorate on Form PTS 4 set out in the First Schedule.

Import of
experimental
pesticide or
toxic substance

(2) An application to import any experimental pesticide and toxic substance shall be made in Form PTS 3 set out in the First Schedule and shall be accompanied by the appropriate fee.

(3) Any recognised research or education institution which imports an experimental pesticide or toxic substance shall not later than seven days after the arrival of the pesticide or toxic substance in Zambia, complete in triplicate and forward to the Inspectorate Form PTS 5 set out in the Second Schedule.

(4) No experimental pesticide or toxic substance shall be offered to any person other than a person approved by the Inspectorate to participate in the experimentation.

(5) No plants or products treated with experimental pesticide or toxic substance shall be sold or disposed of or consumed without the prior written authority of the Inspectorate.

(6) The label affixed to a container in which a pesticide or toxic substance is imported for purposes of experiment, shall be clearly marked with the words "FOR EXPERIMENTAL USES ONLY- NOT FOR SALE."

6. (1) No person shall transport pesticides or toxic substances unless they are registered under these Regulations.

Transportation
of registered
pesticides or
toxic substances

(2) Any person who transports pesticides or toxic substances shall use vehicles with clear warning signs with symbols set out in the Third Schedule.

(3) A person who transports pesticides or toxic substances shall only transport pesticides and toxic substances which are-

- (a) clearly labelled in accordance with these Regulations;
- (b) in packaging that will not allow leakage or spillage of product during loading, transportation and offloading;
- (c) not loaded in the same space with foodstuff or goods intended for human or animal consumption or a container for human and animal use or clothing;
- (d) conveyed by drivers who carry First Aid equipment and have necessary basic handling and poisoning information on pesticides and toxic substances; and
- (e) in accordance with the guidelines set out in the Fourth Schedule.

(4) No person shall transport severely restricted pesticides or toxic

substances-

- (a) without the consent in writing of the Inspectorate;
- (b) which are not labelled in accordance with these Regulations; or
- (c) which results in deliberate disposal, or spillage into the environment.

PART III

LABELLING AND PACKAGING

7. (1) No person shall sell any pesticide or toxic substance without a label which has been approved by the Inspectorate and which is securely fixed to the container. Labelling

(2) The Inspectorate shall not approve a label for a pesticide or toxic substance unless it states-

- (a) the name and address of the company producing and distributing the pesticide or toxic substance;
- (b) the trade name and formulation of the pesticide or toxic substance;
- (c) the common name of pesticide or toxic substance;
- (d) the quantity by mass or volume of the pesticide or toxic substance;
- (e) the use for which the pesticide or toxic substance is registered;
- (f) the directions for use;
- (g) the withholding period;

- (h) in pictograms in accordance with the schedule of instructions set out in the Fifth Schedule and warnings on safe use of the pesticide or toxic substance;
- (i) the hazard warnings of the contents of the pesticide or toxic substance in accordance with the warnings set out in Part I and II of the Third Schedule;
- (j) the warning against the re-use of containers and instructions for safe disposal of surplus or expired pesticide or toxic substance or decontamination of empty containers in accordance with the Ninth Schedule;
- (k) the first aid instructions and medical advice treatment;
- (l) the date of manufacture and the date of expiry;
- (m) the net contents of the pesticide or toxic substance; and
- (n) any other information the Inspectorate may require.

(3) The label on a pesticide or toxic substance shall be large enough to be read easily and shall be of durable quality.

(4) No pesticide or toxic substance shall be transported within Zambia to a destination where it will be further processed, packed or re-packed for retail trade without the label affixed in accordance with sub-regulation (1), (2) and (3).

(5) No person shall use a label which contains inaccurate or untrue claims relating to the safety, non-toxicity or harmlessness or composition of the pesticide or toxic substance.

8. (1) No person shall pack a pesticide or toxic substance in a container which- Packaging

- (a) will react chemically or physically with the substance it is to contain; and

(b) is not of sufficient strength for handling and transportation to prevent the escape of the pesticide or toxic substance.

(2) No person shall re-pack, decant or dispense any pesticide or toxic substance into food or beverage containers.

(3) No person shall load for transportation any packages which are damaged, severely corroded or which show evidence of leakage.

(4) No person shall use very dangerous or dangerous pesticide or toxic substance which are set out in Part III of the Seventh Schedule or open the container and repack such a substance in any other container, unless there is adequate provision for-

(a) all the persons involved to be made aware of the hazardous nature of the pesticide or toxic substance and take all the necessary precautions in the handling of that substance, including the wearing of appropriate protective clothing;

(b) appropriate measures for the safety of any other person who may be at risk from exposure to that substance; and

(c) the immediate availability of facilities for the administration of the appropriate First Aid treatment, and the right personnel to deal with emergency situations.

(5) No person other than that person in whose name a pesticide or toxic substance is registered in terms of these regulations may open the container of that pesticide or toxic substance and repack it for sale.

(6) The Inspectorate may direct any person in whose name a pesticide or toxic substance is registered in terms of these regulations to submit for inspection and approval the container of that pesticide or toxic substance.

PART IV

GENERAL HANDLING, USE AND SAFETY

9. (1) A person who uses a pesticide or toxic substance, in the form of dust, vapours or very small spray droplets, the container of which bears or is required to bear a label with a warning "very dangerous poison" or "poison" or where application of the pesticide or toxic substance is in confined places, shall use suitable and effective cartridge type respirators, or masks with special canisters, in accordance with the Eighth Schedule, whichever is appropriate.

(2) A person who fumigates or applies a pesticide or toxic substance, the container of which bears or is required to bear a label with a warning "very dangerous poison" or "poison" shall use a suitable respiratory so that none of the contaminated ambient air is inhaled.

(3) No person shall authorise or order the wearing of a respirator when the canister or cartridge has exceeded the service life specified by the manufacturer.

(4) No woman who is pregnant or child who is under 16 years of age shall be employed in the handling of pesticides or toxic substances.

(5) All employees shall display or make available a copy of this regulation to all the employees who are involved in the handling of a pesticide or toxic substance.

(6) All employers of persons handling pesticides and toxic substances shall cause their employees to undergo medical checkups every six (6) months to assess the pesticides or toxic substance levels and effects.

(7) All manufacturers, formulators and those involved in repackaging of pesticides or toxic substances shall install dust and vapour extractors.

(8) All employers shall provide washing facilities for persons handling pesticides or toxic substances.

(9) No person shall be allowed to eat, drink or smoke whilst handling pesticides or toxic substances.

(10) All employers shall ensure availability of adequate, suitable and accessible fire extinguishers in the handling area.

PART V

STORAGE AND DISPOSAL

10. (1) Pesticides and toxic substances shall be stored in a warehouse which-

Conditions of
storage of
pesticide or
toxic substance

- (a) can be securely locked;
- (b) has walls and frames made of material that is non-combustible;
- (c) has floors made of concrete and is impervious to liquids;
- (d) has a roof designed to prevent smoke accumulating in it in case of fire;
- (e) contains two clearly labelled and accessible emergency exits;
- (f) is separated from office accommodation;
- (g) contains a handling area where the floor is at the height of a vehicle bed;
- (h) is adequately lit and ventilated on the lower and upper parts of the walls and roof;
- (i) has a separate drainage system for rain water drainage;

- (j) has floor surrounded by bunding and has hazard and safety signs displayed at appropriate places;
- (k) has compartments for separating pesticides or toxic substances according to uses, classes and other appropriate categories;
- (l) has adequate, suitable and accessible fire extinguishers; and
- (m) meets the conditions set out in the Seventh Schedule.

(2) Pesticides and toxic substances shall be stored out of doors only if-

- (a) they are fenced and locked in;
- (b) the floor of the storage area is made of concrete and is bunded; and
- (c) hazard and safety signs are displayed at appropriate places.

11. Pesticides and toxic substances shall be disposed of in accordance with-

Disposal of pesticides or toxic substances

- (a) the scheme of disposal submitted with the application to register the pesticide or toxic substance;
- (b) the instructions on the label and accompanying leaflet of a pesticide or toxic substance; and
- (c) the requirements and conditions set out in the Ninth Schedule.

PART V

MISCELLANEOUS

12. (1) The Minister may, by statutory order and in consultation with the Council, ban or severely restrict the use of any pesticide or toxic substance specified in such notice.

Banned or severely restricted

pesticides or
toxic substances

(2) The pesticide or toxic substance which is banned under this regulation shall-

- (a) be withdrawn from sale and all other uses within six months from the date of publication of the statutory order; and
- (b) be exported only with the approval of the Inspectorate and on such conditions as it may determine.

13. The Inspectorate shall maintain a register of the registered pesticides and toxic substances and of banned and severely restricted pesticides and toxic substances.

Register of
pesticides and
toxic substances

14. (1) Any person who has in his possession surplus expired pesticides or toxic substances shall within three months of the expiry inform the Inspectorate in Form PTS 6 set out in the Second Schedule.

Duty to report
possession and
supply
information
about expired
pesticide or
toxic substances

(2) Any person who manufactures imports or processes pesticides or toxic substances registered under these Regulations shall submit a record of quantities used and not used and associated storage or other problems relating to the pesticides or toxic substances to the Inspectorate every six months from the date of registration.

15. (1) If the Inspectorate has reasonable cause to believe that a person is contravening any of the provisions of these Regulations or a condition of registration the Inspectorate shall serve an enforcement notice on that person.

Enforcement
notice

(2) An enforcement notice shall-

- (a) state the belief regarding the contravention or the likely contravention of the provisions of these Regulations or a

- condition of the registration and specify the matters constituting the contravention or making it likely that the contravention will arise, as the case may be;
- (b) specify the steps that have to be taken to remedy the contravention or avoid the contravention, as the case may be; and
 - (c) specify the time limit within which the steps described under paragraph (d) have to be taken.

16. Any person who contravenes any of the provisions of these Regulations or a condition of registration after an enforcement notice has been issued under regulation 15-

Offences and penalties

- (a) shall have the registration cancelled; and
- (b) shall be guilty of an offence and shall be liable upon conviction to a fine provided in section *sixty-four* of the Act.

FIRST SCHEDULE

(PRESCRIBED FORMS)

(Regulations 3, 4, 5 and 14)
Form PTS 1

REPUBLIC OF ZAMBIA

ENVIRONMENTAL COUNCIL

Pollution (Pesticides and Toxic Substances) Regulations

(To be completed in triplicate)

To: The Chief Inspector (Pollution Control)
Environmental Council
P.O. Box 35131
LUSAKA

1. Name of Applicant:

2. Address of applicant:

(a) Postal..

(b) Business

3. Type of pesticide (insecticide, herbicide, fungicide, etc) or toxic substances (e.g. cyanide, benzene);

A. Information to be submitted with this application for all pesticides, toxic substances and for which registration is sought.

1. Trade name:.....

2. Full chemical name of each ingredient:.....

3. Common name of each active ingredient:.....

4. The empirical and structural formula for each active ingredient:

5. Formulation (type of formulation: wettable powder, emulsifiable concentrate, etc.)

6. Percentage of purity on a mass-by-mass or mass by volume basis (specify) of each

active ingredient and other ingredients (including inert matter) in the pesticide/toxic substance stating which percentage applies to each ingredient:

7. Physical and chemical properties of each ingredient with specific reference to type of formulation:

7.1. Appearance:.....

7.2 Density (for liquids only)

7.3 Flammability: liquids flash point

solids; statement to be made as to whether product is flammable

7.4 Wettability (for dispersible powders)

7.5 Suspensibility (for dispersible powders, suspension concentrates)

7.6 Emulsion stability (for emulsifiable concentrates).

7.7 Corrosiveness.....

7.8 Known incompatibilities with other products (specify)

8. Size of containers in which pesticides or toxic substance is to be sold and the net weight or volume:.....

9. Nature of containers in which pesticide or toxic substance is to be sold:.....

10. Stability of formulation:

(a) on storage (at temperature of 25 degree C+3 degree C):

(b) on dilution:..

(c) Shelf life in general..

11. Corrosiveness of equipment:..

12. Phytotoxicity:.....

13. Safety precautions to be observed in handling, use and storage:.....

- 14. Hazard to wildlife:.....
- 15. Residue data:.....
- 16. Proposed use:.....
- 17. Directions of use:.....
- 18. Directions for safe disposal of expired pesticide or toxic substance:

- 19. Directions for safe disposal of used container

- 20. Biological effectiveness and benefit in use:

I hereby apply for registration, under the Pesticides and Toxic Substances Regulations, of the Pesticide/Toxic Substance of which particulars are given above, and I certify that these particulars are to the best of my knowledge, true and correct.

.....

Date

*Signature of applicant and
Official stamp*

REPUBLIC OF ZAMBIA
Form PTS 2

ENVIRONMENTAL COUNCIL

Pollution Control (Pesticides and Toxic Substances) Regulations

CERTIFICATE OF REGISTRATION

(Regulation 4(1))

Number:

To:

of:.....

is hereby registered as a

Registration is from19

Registration is subject to the following conditions:

It is hereby:

(a) Certified that the pesticide/toxic substance referred to in Form PTS 1 has been registered; and

(b) Approval has been granted of the labels and advertisements copies of which are attached hereto, and which are to be used in connection with the said pesticide/toxic substance.

.....
Date and Official stamp

.....
Chief Inspector
(Pollution Control)

REPUBLIC OF ZAMBIA

ENVIRONMENTAL COUNCIL

**Pollution Control (Pesticides and Toxic Substances) Regulations
Form PTS 3**

APPLICATION TO IMPORT EXPERIMENTAL PESTICIDE OR TOXIC SUBSTANCE
TO BE USED ONLY FOR EXPERIMENTATION

(Regulation 5 (2))

(To be completed in triplicate)

To: The Chief Inspector (Pollution Control)
Environmental Council
P.O. Box 35131
Lusaka

1. Name of applicant:

2. Address of applicant:

(a) Postal:

(b) Business:.

3. Types of pesticide or toxic substance (insecticide, herbicide, cyanide etc):

4. Active ingredient:

5. Toxicological data; and animals (state type of animal)

(a) Oral LD 50:

(b) Dermal LD 50:

(c) Inhalation LD 50.

6. Trade name

7. Common name:

- 8. Approximate quantity:
- 9. Intended use:
- 10. Proposed duration of experiment (commencing date and finishing date):

- 11. Person conducting trials and academic qualification:

- 12. Name of manufacturer:
- 13. Address of manufacturer:

I hereby apply to import, under the Pollution Control (Pesticide and Toxic Substances) Regulations, the Pesticide/Toxic Substance for experimental purposes particulars of which are given above.

.....

Date

*Signature of applicant and
Official stamp*

For Official use only:

Date application received

Experimental Registration Number:

The Application to import: has/has not been approved.

Reasons for non-approval.

.....

Date and Official stamp

*Chief Inspector
(Pollution Control)*

REPUBLIC OF ZAMBIA

Form PTS 4

ENVIRONMENTAL COUNCIL

Pollution Control (Pesticides and Toxic Substances) Regulations

AUTHORITY TO IMPORT EXPERIMENTAL PESTICIDES FOR TOXIC
SUBSTANCES

(Regulation 5)

Number:

To:

of

Date application received

I hereby certify that authority to import pesticide/toxic substance
for experimental purposes only has been granted.

The experimental registration number is:

The registration expires on:

and is subject to the following conditions: .

The application to import

has/has not been approved.

Reasons for non-approval

.....
Date and Official stamp

*Chief Inspector
(Pollution Control)*

SECOND SCHEDULE

(Regulation 3)

PRESCRIBED FEES

Application of or registration of pesticide or toxic substance	Fee units 78,750 (1,000 US Dollars)
LUSAKA [MENR]	

*Minister of Environment and
Natural Resources*

(As amended by Act No. 13 of 1994)

REPUBLIC OF ZAMBIA

ENVIRONMENTAL COUNCIL
Form PTS 5

Pollution Control (Pesticides and Toxic Substances) Regulations

NOTICE OF IMPORT OF EXPERIMENTAL, PESTICIDE OR TOXIC SUBSTANCES

(Regulation 5(3))

(To be submitted in triplicate)

1. Name of Research Institute

2. Address of the Research Institute:

(a) Postal

(b) Business

Telephone Telex

Telefax

3. Type of pesticide/toxic substances (insecticide, herbicide, rodenticide, cyanide, benzene, etc)

4. Registration number

5. Trade name

6. Common name

7. Approximate quantity

8. Expiry date

9. Proposed use

.....

.....
Date

.....
*Signature of Scientist and
Official stamp*

REPUBLIC OF ZAMBIA

ENVIRONMENTAL COUNCIL
Form PTS 6

Pollution Control (Pesticides and Toxic Substances) Regulations

NOTICE OF POSSESSION OF EXPIRED PESTICIDES OR TOXIC SUBSTANCES

(Regulation 14)

(To be submitted in triplicate)

To: The Chief Inspector (Pollution Control)
Environmental Council
P.O. Box 31531
LUSAKA

1. Name of owner of expired pesticide or toxic substance

2. Address
 - (a) Postal
 - (b) Business
3. Type of pesticide or toxic substance

4. Trade name
5. Full chemical name
6. Common name of each active ingredient

7. Formulation

8. Toxicology Data on Humans and laboratory animals (specify)
 - (a) Oral LD 50
 - (b) Dermal LD 50
 - (c) Inhalation LD 50
9. Phyto-toxicity
10. Quantity of expired pesticide or toxic substance

11. Instructions on handling precautions

12. Directions for safe disposal

13. Pesticide or toxic substance registration number

I hereby notify you of the above expired pesticide/toxic substance in my possession. The pesticides/toxic substance expired before use because

.....

Date

*Signature of applicant and
Official stamp*

For official use only:

Date notification received:

Date Registration number checked

Your notification has been received and the inspectorate (state action)

.....

Date

*Chief Inspector (Pollution Control)
Environmental Council*

THIRD SCHEDULE

(Regulations 6(2) and 7)

SYMBOLS FOR WARNING SIGNS FOR VEHICLES

TRANSPORTING PESTICIDE OR TOXIC SUBSTANCES

PART I

B

1. The hazardous-warning signs that shall be used on hazard-warning panels and compartment labels during transportation of toxic substances are set out in part II.

2. The hazard-warning signs that shall be used when transporting pesticides are set out in Part III.

3. Each hazard-warning panel for pesticides and toxic substances shall be in form of an equilateral triangle and a square set with its side at an angle of 45 degrees to the verticle respectively and the length of the sides shall be-

(a) in the case of signs on hazard-warning panels, 200 millimetres or

(b) in the case of signs on compartments labels 95 millimetres.

4. Signs for hazard-warning panels shall, for any part of the sign that is not black, have a black border at least 5 millimetre wide.

<i>Toxic</i>		<i>Part II</i>	
<i>Description of sign</i>	<i>Symbol</i>	<i>Lettering</i>	<i>Background</i>
Flammable liquids	Black	Black	Red
Flammable gases	Black	Black	Red
Flammable solid	Black	Black	White with verticle red stripes
Corrosive substances half	Black	White	White upper half black lower
Toxic gases	Black	Black	White
Organic peroxides	Black	Black	Yellow
Oxidising substances	Black	Black	Yellow
Substances emitting flammable gases when in contact with water	Black	Black	Blue
Spontaneously half combustible	Black	Black	White upper half
Harmful substances	Black	Black	Red lower half white upper

half

PART III

		<i>Symbol colour code</i>	<i>Warning</i>	<i>Additional</i>
<i>Pesticide Toxicity</i>				
(i)	Acute oral LD 50 up to 50mg/kg:	Red	Very dangerous poison	Skull and cross bones
(ii)	Acute dermal LD50 up to 200mg/kg	Red	Very dangerous poison	Skull and cross bones
(iii)	Acute inhalation LC50 up to 200mg/m ³ /4h	Red	Very dangerous poison	Skull and cross bones
(iv)	Acute oral LD50 51-500mg/kg	Purple	Dangerous poison	Skull and cross bones
(v)	Acute dermal LD50 201-2,000mg/kg	Purple	Purple poison	Dangerous Skull and cross bones
(vi)	Acute inhalation LD50 201-2,000mg/m ³ /4h	Purple	Dangerous poison	Skull and cross bones
(vii)	Acute oral LD50 501-2,001mg/kg		Amber	Poison
(viii)	Acute dermal LD50 2,001mg/kg		Amber	Poison
(ix)	Acute inhalation LC50 2,001-20,000mg/m ³ /4h		Amber	Poison
(x)	Acute oral LD50 greater than 20,000mg/kg		Green	Harmful if swallowed
(xi)	Acute dermal LD 50		Green	Harmful
(xii)	Acute inhalation LC50 greater than 20,000mg/m ³		Green	Harmful
(xiii)	Acute inhalation LC50 greater than 20,000mg/m ³		Green	Harmful

Pesticide shall be classified according to colour, symbol and warning it carries;

<i>Symbol Colour code</i>	<i>Warning</i>
Red	Very dangerous poison
Purple	Dangerous poison
Amber	Poison
Green	Harmful

FOURTH SCHEDULE

(Regulation 6)

GUIDELINES FOR TRANSPORTATION OF PESTICIDES AND TOXIC SUBSTANCES

1. Ensure that the emergency procedure information relating to the pesticide(s) or toxic substances card is in the vehicle.
2. Ensure that all hazard warnings are displayed, not obstructed and that they are kept clean at all times.
3. Follow the route as advised by the transporter or operator.
4. Ensure that the vehicle is not left unattended at any time.
5. Ensure that the vehicle has certificate of fitness.
6. Ensure that the First Aid Equipment is in the vehicle.

FIFTH SCHEDULE

(Regulation 7)

PICTOGRAMS (FAO, WHO and GIFAP)

The following pictograms shall be put on labels to complete labelling; they will be put on labels either as singly or in combination with appropriate one stop give complete instructions:

A pictogram showing a product kept in safety by key and lock	Pictogram showing instruction on washing	Pictogram to show that product is dangerous to animals
Dangerous to aquatic life gloves	Instructions to	Instructions to wear safety goggles wear protective
Instructions on type of wear	Instructions to use complete face shield	Instructions to use respirators

SEVENTH SCHEDULE

(Regulation 10)

1. *Warehousing and Storage*

(a) The pesticide and toxic substances warehouse should be located away from homes, highly populated areas, drinking water sources and areas liable to flooding.

(b) The floors in the building should be of concrete with a load bearing capacity sufficient to withstand the weight of the stock, racking and any mechanical handling equipment to be used. Floors should be impervious to liquids, free from cracks and smooth to facilitate cleaning.

(c) The building should be designed such that escape in case of emergency should be possible from any enclosed area in at least two directions. Emergency exits should be clearly marked.

(d) The warehouse should have access from at least two sides to facilitate fire fighting, regardless of wind directions and also facilitate easy escape from an enclosed area.

(e) All warehouses constructed above ground level should have special provision for bunding. This can be achieved, for example by constructing ramps across external doorways of existing warehouses.

(f) The building should permit reasonable movement of materials and enough space to allow hygienic working conditions and clear access to fire-fighting equipment.

(g) The walls of the warehouse should be of non-flammable type and all pipings and electrical wiring should be sealed.

(h) The roof of the warehouse should be able to effectively keep out rain, be able to provide both ventilation to allow fumes and heat to escape in case of fire and at the same time provide protection against direct sunlight.

(i) The warehouse should have drains which should not be directly linked to waterways or public sewers. They should instead be linked by a closed system, to an evaporation tank.

(j) The evaporation tank should be emptied from time to time depending on the accumulation of solid waste. It should be covered during the rainy season to avoid filling by rain water.

2. (a) All products should be stored under lock and key with proper warning signs displayed clearly to keep away unauthorised persons. Pesticides and toxic substances must be stored in a separate warehouse, away from any other goods especially foods and stockfeeds.

(b) Before storing any pesticides ensure that they are properly labelled and are of good quality and acceptable condition. If any of the products are not in good condition, do not store them together with other products but take appropriate action.

(c) If pesticides and toxic substances are to be stacked inside the

warehouse, stacking heights should not exceed three metres unless the use of racking prevents overloading of the lower tiers.

(d) Persons loading pesticides and toxic substances in the warehouse should pay special attention to "THIS SIDE UP" signs on cartoned packs.

(e) Pesticides and toxic substances should be stored separately, preferably according to their use in the field e.g. herbicides, insecticides etc. The objective of this is to prevent cross contamination as well as minimise the risk of fire and consequent environmental contamination often presented by mixed storage arrangements.

3. (a) All stocks in the warehouse should be frequently inspected for leakages, caking of powders, pulverisation of granules, sedimentation or gelling of liquids, change in colour due to oxidation, dampness of packages and corrosion or deterioration of containers. All leakages must be treated as being extremely toxic.

(b) Spillages should not be cleaned out with water. They must be swept up and kept in a special labelled container awaiting safe disposal. Liquids should first be absorbed by saw dust, earth or any other absorbent before being swept out.

(c) Every warehouse must have an emergency spills treatment kit consisting of a PVC apron, neoprene gloves, a gas mask, a brush or broom, a dust pan, an empty clearly labelled container (for collecting wastes) a container of sawdust and a spade.

(d) Always strictly follow the rule "First-in First-out" i.e. new stocks should be moved to the rear.

EIGHTH SCHEDULE

(Regulation 9)

PROTECTIVE CLOTHING AND EQUIPMENT

A. Any person involved in the manufacture and formulation of pesticides or toxic substances must ensure that the following protective clothing is available to the employees:

- (i) acid resistant or chemical resistant overalls or dust coats with buttons to the neck;
- (ii) acid resistant or chemical resistant trousers and coat or suit;
- (iii) PVC gloves;
- (iv) PVC aprons;

- (v) rubber boots;
- (vi) respirator canisters with filters specific for dust, mist, fumes, gases and vapour;
- (vii) face shields covering eyes and face;

B. To clean-up spills the following should be available:

- (i) absorbent material (saw dust, sand, earth or powdered lime);
- (ii) washing detergent;
- (iii) brooms
- (iv) shovels, spades; and
- (v) funnels.

When self contained breathing apparatus is to be used only persons properly trained and experienced in the correct procedure should be allowed to use them.

NINTH SCHEDULE

(Regulation 11)

Disposal Options

Pesticides, toxic substances, wastes, those which are expired, spillage and left over diluted product and packaging material can be disposed of in the following manner:

1. Product use by Recycling

If an alternative use exists the product may be reused or may be reformulated for the purpose for which it is intended to be used.

2. High Temperature Incineration (High Temperature Thermal Oxidation)

Should be considered when disposing of most pesticides and toxic substances, but should NOT be used when disposing-

- (a) inorganic materials;
- (b) organic products containing heavy metals such as mercury and lead;

3. Chemical Treatment

To be used as a disposal technology for a few specific unformulated pesticides and some other toxic substances. The products of decomposition from such treatment should not present toxic or environmental hazard.

4. Long Term Storage

Certain compounds cannot be disposed of safely using existing technology. Such compounds include those containing heavy metals and in particular, organomercury compounds.

The only available option is to contain and store these products safely until a suitably acceptable disposal technology is developed.

A full risk analysis should be made for all materials stored to ensure maximum safety over the longest foreseeable period of time.

5. Landfill (for Incinerator Ash and SLG Only)

Landfilling is not an acceptable disposal option for pesticides and toxic wastes which can be leached. Incinerator ash and slag can be disposed of at approved landfill sites.

6. Waste Solidifications/Fixation

The process involves the mixing of chemical and other waste with building materials such as cement, silicates and polymers, causing the mixtures to solidify into an impervious mass. Waste treated in this way can be disposed of at a landfill. This should be applicable to inorganic wastes. Organic wastes could easily leach into ground water with time, and should therefore not be used in disposing organic pesticides or toxic substances.

7. Packaging Materials Disposal

Contaminated packaging material shall be disposed of as follows:

(a) *Contaminated Packaging material*-Cartons, boxes and bags should be cut and rendered non-usable. The waste should be overpacked in plastic bags to minimise the risk for exposure during handling:

- (i) Burning in a simple incinerator, or on a hot fire in isolated area downwind of the nearest habitation.
- (ii) Burial in an approved landfill

(b) *Small Packs*

Small packaging shall be drained well to reduce residues to a minimum by triple-rinsing with water or an appropriate solvent such as diesel fuel. The triple rinsed packaging material should be made unusable by shredding or crushing. Combustible packaging material should be incinerated.

Non-combustible crushed containers should be buried in a landfill site.

Small packs which cannot be or have not been triple rinsed should be over-packed in strong polyethylene bags or preferably 200 litre steel drums for disposal as toxic wastes.

(c) *Large containers*

Effort must be made to drain the maximum amount of residue from each container prior to triple rinsing with water or suitable solvent and disposed of as follows:

(i) *Steel Drums*

Triple-rinsed and drained drums should be crushed, to render them unusable and disposed of by either:

-STEEL SMELTING-This is the preferred option. Where the drums are processed at high temperature for metal recovery

-BURIAL-Burial in an approved landfill site at least one metre below ground level.

(ii)

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After triple rinsing, plastic drums must be punctured and shredded to avoid any form of reuse and packed for disposal by burial at approved landfill sites. Large quantities of plastic wastes must not be burned except in approved incinerator with the flue-gas scrubbing facilities.

9. *Export* -Where no "safe disposal" facilities exist in Zambia, export of pesticide and toxic wastes to another country with facilities can be done.

10. *Return to Manufacturer*-Where a manufacturer is willing to accept pesticides or toxic substances wastes or expired obsolete stocks, this will be accepted as a disposal option.