

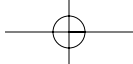
# **VOLUME 6**

## **SECTION 14**

### **PESTICIDES MANAGEMENT IN JAMAICA**

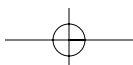
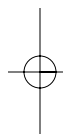
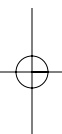
#### **Pesticides Regulation**

**The Responsibility of  
The Pesticides Control Authority  
2-4 Kings Street  
Kingston**



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# CHAPTER I

## PESTICIDES MANAGEMENT IN JAMAICA

### 1.0 BACKGROUND

Pesticides play an important role in global trade of agricultural produce and in preserving the health of a population. Developing countries need to prove that there are systems in place to guarantee the production of safe foods, if they are to increase and maintain existing market share. In response to these demands, the Pesticides Control Authority (PCA) develops and implements strategies to improve the regulation of pesticides.

Pesticides management in Jamaica is the mandate of the Pesticides Act 1975. The Pesticides Control Authority (PCA) is a statutory body established to administer the Pesticides Act which “regulates and control the importation, manufacture, sale and usage of pesticides in Jamaica”.

### 1.1 PESTICIDES CONTROL AUTHORITY

The PCA through its offices in Kingston and Montego Bay offers the following services:

- i Registration of pesticides
- ii Licencing of persons to import or manufacture registered pesticides
- iii Authorization of persons to sell restricted pesticides
- iv Registration of premises in which a restricted pesticide may be sold
- v Licencing of Pest Control Operators
- vi Dealing with all aspects of importation, manufacture, packaging, preparation for sale, disposal and use of pesticides
- vii Pesticides analysis for testing quality and residues in food and water
- viii Monitoring pesticide advertising and providing a source of information to the public

This section of the Development and Investment Manual was prepared to give information to the public on matters pertinent to pesticides management and the procedures governing their importation, manufacturer and use.

## CHAPTER 2

### REGISTRATION OF PESTICIDES

#### 2.0 REGISTRATION AND CATEGORIES OF PESTICIDES

In Jamaica, a pesticide cannot be legally used unless it is registered by the Pesticides Control Authority (PCA). Registration is a process to screen scientific information about a pesticide for the purpose of deciding whether or not it can be used safely under local conditions.

There are different categories of registration depending on the toxicity and intended use pattern. Pesticides which are to be sold are termed normal registrations. Within the category of normal registration, some products may be restricted to certain crops, location or to certified users. Usually, restricted products have high levels of toxicity.

##### 2.0.1

In order to encourage less use of toxic pesticides, a category known as “less stringent” has been developed. The requirement for information on these products is less than that required for normal registrations.

Another category is known as “minor use” and this is relevant to products that will not be sold. These pesticides are imported in small quantities and used only by the registrants. For the purpose of importing products specifically for use by certified pest control operators, a new category known as “Public Health Products” was introduced.

Details of the requirements for registration in each category is presented in this Chapter.

#### 2.1 PESTICIDES WITH NORMAL REQUIREMENTS

##### 2.1.0 Application

Application dossiers should be bound in binders, and be submitted in triplicate. They should be correctly indexed in the order presented below:

- i The package size/s in which the product will be imported.

- ii Detailed literature in respect of the chemistry and composition of the product (including percentages of all ingredients), its efficacy, toxicology, antidotes (together with any available references) and precautions to be observed before, during and after use.

**N.B. If the active ingredient is registered, only information on the formulation and the composition of the product is required.**

- iii Six sample copies of the label proposed to be used in connection with the new pesticide, along with samples of the packaging materials and inserts to be used for trade packages. Labels should be in the English language, and should conform to the labeling standards of the Bureau of Standards located at 6 Winchester Road, Kingston 10.
- iv Certificate of analysis which contains:
- An assay report on a recent batch of the product analysed
  - The method of analysis used (This is only required if the active ingredient is not registered).
- v A duly authenticated and legalised certificate of free sale from the competent authority with whom the product is registered in the country of origin, and the conditions under which it may be sold in that country, also a copy of the label stamped as being approved by that Authority.
- vi A statement showing:
- The countries in which the product is registered for Free Sale other than the country of origin.
  - Any country in which the product has been refused registration for Free Sale and the reasons for refusal.
- vii A certificate in the English language from the manufacturer, in respect of the safety of the new pesticide, recommended conditions for use, and the conditions under which it is recommended for sale.

Certificates should be authenticated by the Jamaican Embassy or

- Jamaican Consulate in the country of manufacture and in cases where none is present, by the British High Commission or the British Embassy.
- viii A copy of the Material Safety Data Sheet (MSDS) or Product Data Sheet.
  - ix An analytical standard is required (on request) for all products with a new active ingredient.
  - x The prescribed application fee of Ten Thousand Jamaican Dollars (\$10,000.00) made payable to the Ministry of Health/Pesticides Control Authority.

## **2.2 REGISTRATION OF PESTICIDES WITH LESS STRINGENT REQUIREMENTS**

Less stringent requirements for registration of pesticides will apply to any product or substance that is manufactured, represented, sold or used as a means of directly or indirectly attracting or repelling any pest. This includes any compound or substance that enhances or modifies or is intended to enhance or modify the physical or chemical characteristic of a pesticide to which it is added. For such pesticides, the active ingredient must have a toxicity level classified above the World Health Organisation (WHO) Class III category.

### **2.1.0 Requirements for Registration**

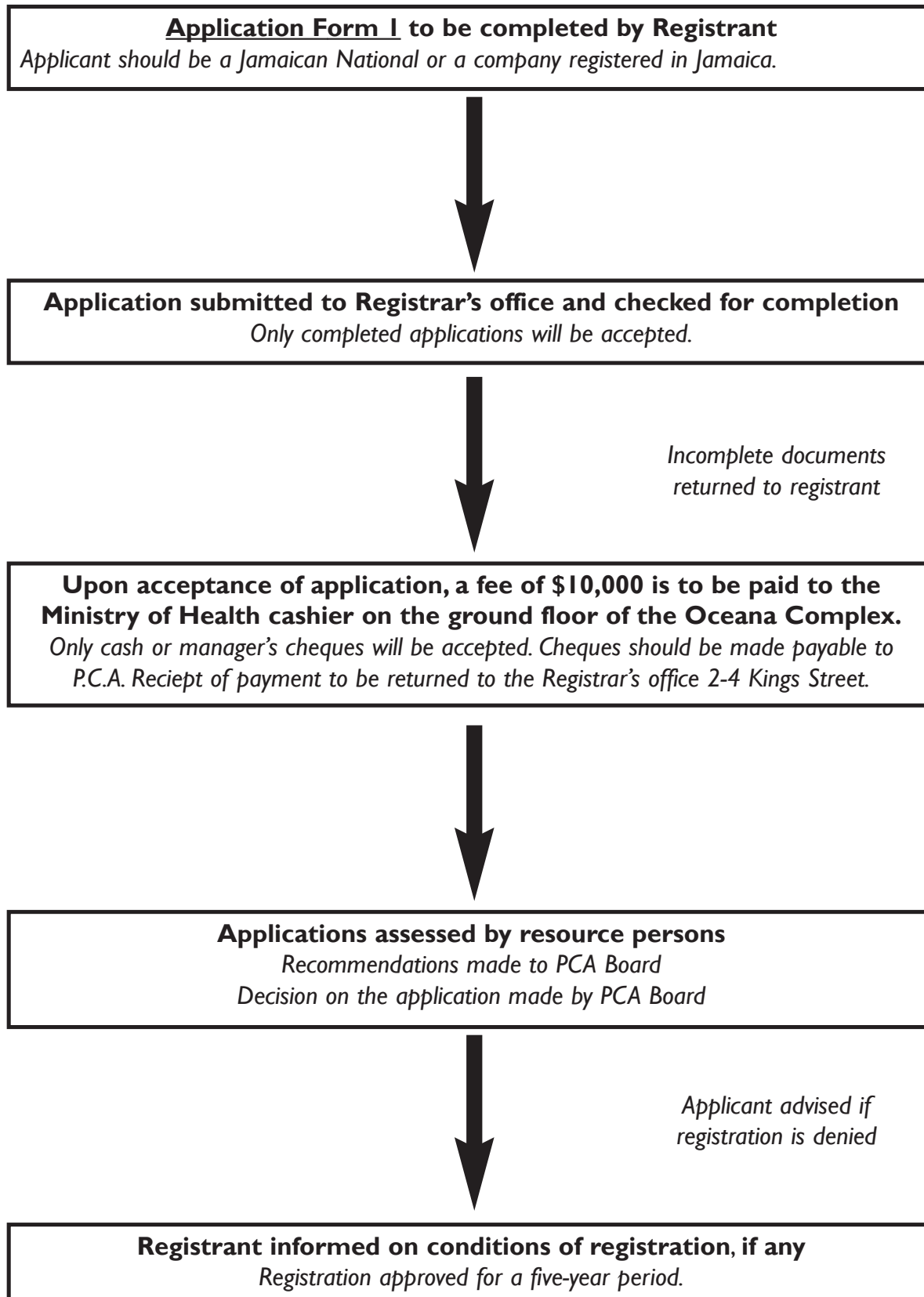
The requirements for registration of pesticides in this category include:

- i A completed application form (Form 1) (Appendix 1)
- ii Material Safety Data Sheet (MSDS)
- iii Label (3 copies)
- iv Name and Address of the manufacturer
- v Package sizes to be imported
- vi Crops and pest to be covered in Jamaica

Dossiers are to be submitted in triplicate. The Pesticides Control Authority reserves the right to request additional information.

## 2.3 PROCEDURE FOR REGISTRATION OF A PESTICIDE

The following chart outlines the registration process:



## 2.4 RE-REGISTRATION OF A PESTICIDE

For various reasons, the manufacturer may choose to discontinue the sale of a product. After five (5) years when the registration period comes to an end, the manufacturer may choose not to re-register the product. If however the manufacturer decides to again sell the product after the period of registration has elapsed then the product can be reviewed in light of new information and a decision is again made by the PCA Board.

### 2.4.0 Application

Application dossiers should be bound in hard cover binders. The information required includes:

- i Three (3) copies of the original label (not photocopies);
- ii A Materials Safety Data Sheet (MSDS) on the product;
- iii Details regarding the uses of the pesticide. Specify the crops/pests to be covered
- iv State the common and scientific names (where possible); and
- v The prescribed application fee of Seven Thousand Five Hundred Jamaica dollars (\$7,500) is to be paid to the Pesticides Control Authority and is due upon acceptance of a completed application.

### 2.4.1 Additional Information

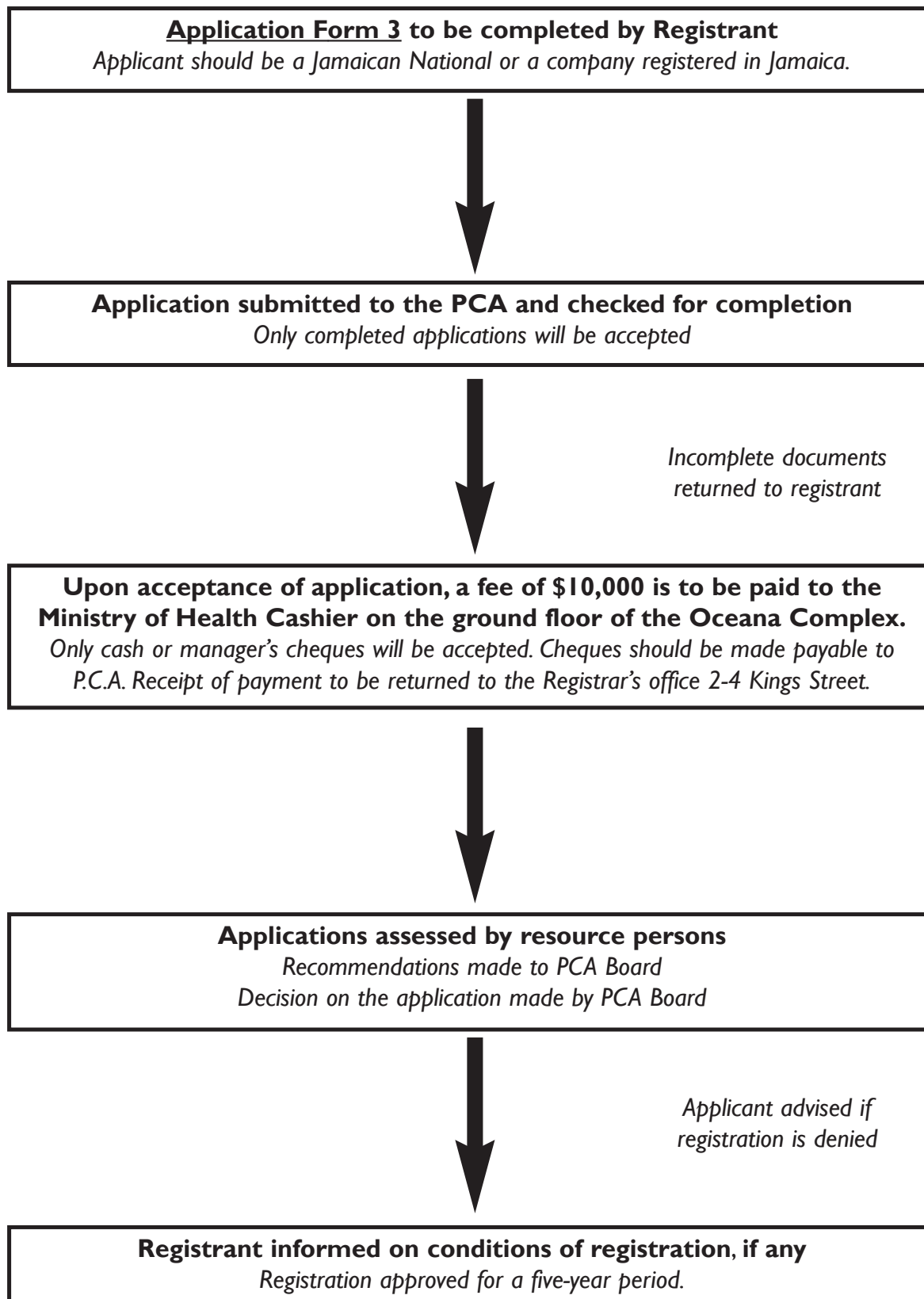
Other information that may be required includes:

- i The package size(s) in which the product will be imported or sold;
- ii Detailed literature with regard to the chemistry and composition of the product (including percentages of all ingredients);
- iii A duly authenticated and legalised certificate of free sale from the competent authority with whom the product is registered in the country of origin, and the conditions under which it may be sold in that country, also a copy of the label stamped as being approved by that Authority; and
- iv An analytical standard for the active ingredient/s.



## 2.5 PROCEDURE FOR RE-REGISTRATION OF A PESTICIDE

The following chart outlines the Re-Registration Procedure



## 2.6 REGISTERING LOCALLY MANUFACTURED PESTICIDE

No person shall manufacture any pesticide unless he first obtains in the prescribed manner, a licence to manufacture that pesticide. The Register of manufacturers provides details of licences issued to manufacture pesticides.

### 2.6.1 Requirements for Registration

The requirements for registration are set out below:

- i Application dossiers are to be bound and submitted in triplicate. These should be correctly indexed for easy reference
- ii Completed application form
- iii A Material Safety Data Sheet (MSDS) for the pesticide (see application package for a format MSDS)
- iv A sample copy of the label and inserts proposed to be used in connection with the product. Labels are to conform to the labeling standards of the Jamaica Bureau of Standards
- v A detailed method of the manufacturing process
- vi A test report from the Jamaica Bureau of Standards on the percentage of the active ingredient in a recent batch of the product
- vii A test report from the Jamaica Bureau of Standards on the packaging material in which the pesticide will be sold
- viii A letter of endorsement in the English language from the manufacturer of the product, respect of its safety, recommended conditions for use and the conditions under which it is recommended for sale

### 2.6.2 Active Ingredients

For each active ingredient, the following information must be supplied:

- i A Material Safety Data Sheet which must include detailed literature on the chemistry & composition of the ingredient (including percentages) as well as toxicology, antidotes (together with any references), physical and chemical data, environmental guidelines,

storage and handling, first aid measures and precautions to be observed before and after use;

- ii The name and address of the manufacturer from which the active ingredient will be obtained and
- iii The name and address of the supplier from which the active ingredient will be obtained.

### 2.6.3 Material Safety Data Sheet Format

The following information is designed to assist local manufacturers in preparing their Material Safety Data Sheet (MSDS).

#### i **Product Identification**

This should include the following:

- Trade name (name by which product is sold)
- Product use (e.g. Insecticide)
- Synonyms/common name (other names by which the product is known)
- Class of pesticide (e.g. organophosphate, carbamate)
- Toxicity class (e.g. class I, II, III)
- Hazard identification (e.g. skull or crossbones or cross only)

#### ii **Company Details**

Details on the company should include the following

- Manufacturer
- Contact persons (name of manufacturer)
- Address of manufacturer
- Telephone Number
- Fax Number
- Email address
- Website address

#### iii **Presentation and Packaging**

- Packaging material (state what the packaging material is made of)

#### iv **Composition/Information on Ingredients**

<b>Components</b>	<b>CAS No.</b>	<b>% By Weight/Volume</b>
All active ingredients		
All inert ingredients considered hazardous		

#### v **Health Hazard Identification**

For active ingredient:

Potentially acute health effects:

- Swallowed (include all relevant data on known short-term health effects)
- Eye
- Skin
- Inhaled

Potentially chronic health effects:

- Swallowed (include all relevant data on known long-term health effects)
- Eye
- Skin
- Inhaled

#### vi **First Aid Measures**

- After inhalation (state the first aid measure/s for each case)
- After skin contact
- After eye contact
- After swallowing
- Advice to doctors
- Antidote

#### vii **Fire Fighting Measures**

- Flash Point
- Extinguishing media (state the recommended method of extinguishing a fire, eg. water, carbon dioxide, foam)

- Unusual fire and explosion hazards
- Special exposure hazard
- Fire/explosion hazard (define explosive and flammability characteristics; list possible dangerous decomposition products)
- Hazardous decomposition/combustion products (list hazardous products that may result from decomposition and/or combustion)
- Protective equipment (list the personal protective equipment required to fight fire related to a product)
- Other information

#### viii **Accidental Release Measures**

- Personal precautions
- Environmental precautions (state measures to protect the environment, e.g. keep out of drains etc.)
- Methods for cleaning up spills and disposal (identify materials to be used for absorbing spills; specify where and how materials should be disposed)

#### ix **Handling and Storage**

- Handling and storage (define safe storage requirements e.g. location, temperature or incompatibility)

#### x **Exposure Control/Personal Protection**

- Personal protective equipment (list all relevant equipment required, e.g., type of respirator, goggles etc.)

#### xi **Physical and Chemical Properties**

- Colour (state the colour of the final product)
- Form (state the form of the final product, e.g., liquid, solid)
- Shelf-life (state for proper storage conditions)

- Melting point (state in °C at 25°C)
- Boiling point (state in °C at 25°C)
- Stability in aqueous media (state for acidic, alkaline and neutral pH)
- Vapour pressure (state in pascals or mm Hg at 25°C)
- Flammability limits (state lower and upper limits as expressed as a percentage)
- Volatility (state in °C at 25°C)
- Solubility in water (state in mg/L at 25°C)
- Flashpoint (state in °C)

xii **Stability and Reactivity**

- Stability
- Conditions to avoid
- Materials to avoid/Reactivity
- Dangerous reactions

xiii **Toxicological Information**

For rats (active ingredient)

- Acute oral LD50 (give 24-h and/or 96-h values in mg/kg)
- Acute skin LD50 (give 24-h and/or 96-h values in mg/kg)
- Acute Inhalation LC50 (give 24-h and/or 96-h values in mg/kg)
- Additional toxicological information, e.g. irritant

xiv **Ecological Information**

- Acute LC50 (give 24-h and/or 96-h values in mg/L for two fish species)
- Acute LD50 (give 24-h and/or 96-h values in mg/kg for two bird species)

xv **Environmental Fate**

For active ingredient:

- Fate in soil ( $T_{1/2}$ ) (Half-life in days)\*
- Fate in water ( $T_{1/2}$ ) (Half-life in days)\*
- Fate on plant (target) surface (Half-life in days)\*

- Biconcentration Factor (BCF) (state for one **fish** and **bird** species)
- **\*If the information is available, state metabolites that are formed**

xvi **Disposal Considerations**

- Spills and disposal (identify materials to be used for absorbing spills; specify where and how materials (product, container and contaminated materials) should be disposed

xvii **Transportation Information**

- State the requirements and conditions for the safe transportation of the product
- Road Transport
- Maritime Transport
- Air Transport

xviii **Regulation Information**

- State any regulatory requirements

## 2.7 LABEL REQUIREMENTS

One of the main aims of registration is to ensure that the pesticides are used safely. The label is intended to communicate the condition of use to the end user.

The label reflects the findings of the studies and provides all the information necessary for safe use of the pesticide product. Additional information may be provided through the addition of leaflets attached to the products. If the label is read and understood correctly, the product should be used safely. It is important that content and design of label ensure that all information and claims are supported by scientific data and that they are legible and user friendly. The label should include the following information:

- i Trade Name
- ii Active ingredient
- iii Inert ingredients
- iv Type of formulation
- v Precautionary statement
- vi Disposal

- vii Antidotes
- viii KEEP OUT OF REACH OF CHILDREN
- ix First Aid
- x Instruction for use
- xi Manufacturer's name
- xii Date of manufacture

Detailed label standard is available at the Pesticides Control Authority (PCA). The Authority is also available for consultation. For the purposes of this manual, the layout of the information should correspond with the specimen label below.

### 2.7.1 Specimen Pesticide Labels

#### i Three Panel Label Format

PRECAUTIONARY STATEMENTS	RESTRICTED USE	DIRECTIONS FOR USE
HAZARD TO HUMAN AND DOMESTIC ANIMALS (Signal Word)	<b>TRADE NAME</b> Formulation (Brief Description of Use)	
	ACTIVE INGREDIENT (Common Name) % w/w or w/v INERT INGREDIENT % w/w or w/v TOTAL 100.00 %w/w	
ENVIRONMENTAL HAZARDS	<b>READ INSTRUCTIONS BEFORE USE</b>	
	<b>KEEP OUT OF THE REACH OF CHILDREN</b>	
PHYSICAL AND CHEMICAL HAZARDS	SIGNAL WORD (e.g. Poison) (Skull and Crossbones)	
SYMPTOMS ARISING FROM POISONING	First Aid	
EMERGENCY FIRST AID PROCEDURES	If swallowed _____ If Inhaled _____ If on Skin _____ If in Eyes _____	Pre-Harvest Period
This product must be used in accordance with the label instructions. Pesticides should be applied only when the economic threshold of the population of pest is reached.	<b>SEE SIDE PANEL FOR ADDITIONAL STATEMENTS</b> Registration No. _____ Net Contents (metric) _____	WARRANTY STATEMENT
RE-ENTRY STATEMENT (If applicable)	NAME & ADDRESS OF MANUFACTURER Repackaged and Distributed By	
STORAGE AND DISPOSAL Storage _____		
		Expiry Date:
Disposal _____		Batch or Lot Number:



## ii Two Panel Label Format

MAIN PANEL	SIDE OR BACK PANEL
<p style="text-align: center;">TRADE NAME Formulation (Brief Description of Use)</p> <p>ACTIVE INGREDIENT (Common Name) % w/w or w/v INERT INGREDIENT % w/w or w/v TOTAL 100.00 %w/w</p> <p style="text-align: center;"><b>READ INSTRUCTIONS BEFORE USE KEEP OUT OF THE REACH OF CHILDREN</b></p> <p style="text-align: center;">SIGNAL WORD (e.g. Poison) (e.g. Skull and Crossbones)</p> <p>Registration No. _____</p> <p>Net Contents (metric) _____</p> <p>NAME &amp; ADDRESS OF MANUFACTURER Repackaged and Distributed By:</p>	<p>PRECAUTION: HAZARD TO HUMAN AND DOMESTIC ANIMALS (Signal Word)</p> <hr/> <p>ENVIRONMENTAL HAZARDS</p> <hr/> <p>PHYSICAL AND CHEMICAL HAZARDS</p> <hr/> <p>FIRST AID: If swallowed _____ If Inhaled _____ If on Skin _____ If in Eyes _____</p> <p style="text-align: center;">STORAGE AND DISPOSAL</p> <p>Storage _____</p> <hr/> <p>Disposal _____</p> <hr/> <p style="text-align: center;">DIRECTIONS FOR USE</p> <hr/> <p>RE-ENTRY STATEMENT: (If applicable)</p> <p>PRE-HARVEST PERIOD:</p> <p>WARRANTY STATEMENT</p> <p>_____</p> <p>_____</p> <p>Expiry Date:</p> <p>Batch or Lot Number</p>

## CHAPTER 3

### PEST CONTROL OPERATOR CERTIFICATION

#### 3.0 CERTIFICATION OF PESTICIDE USERS

The Pesticides Control Authority (PCA) regulates the use of pesticides through certification of users. Restricted pesticides may only be sold to certified Pest Control Operators (PCOs) who may be “commercial” or “private” applicators.

##### 3.0.1 Commercial Operators

A commercial PCO is any person who **(by himself or his employees, assistants or agents carries out an extermination by way of trade or for purposes of gain)** operates a pest control business and/or employs Pest Control Applicators which offers pest control services for monetary gain.

##### 3.0.2 Private Applicator

A “Private Applicator” is one who uses, applies or supervises the application of a restricted pesticide on property, owned, leased or rented without monetary compensation.

##### 3.0.3 Certification of Applicator

To be certified the applicator must meet the following requirements:

- i Attend training sessions hosted by the PCA or such agencies appointed by the PCA to undertake training exercise.
- ii Private Applicators include small farmers (less than 2 acres), servicemen and homeowners.

#### 3.1 PEST CONTROL BUSINESS LICENCE

Owners of pest control businesses must acquire limited liability insurance and have proper storage facilities for pesticides. They must have in their employ, certified Pest Control Applicators who are responsible for applying pesticides.

### **3.1.0 RECORD KEEPING**

Every PCO is required to keep a record of each pesticide imported or used by that operator for a period of three years and shall include the name of the pesticide, the types of formulation used, and the location where the pesticide was used.

#### **3.1.1 Fee**

The fee for licensing a business is \$7,500.00. The licence is valid for three (3) years.

### **3.2 CERTIFICATION**

Certification is for three (3) years. During this period, applicants are required to attend approved workshops and training sessions to keep updated on new technologies and development within the pest control industry. Failure to do so will result in them having to resit the exam to be recertified at the end of the three (3) years.

#### **3.2.0 Certifying Operator**

Each certified operator is issued a badge and certificate, the details of which are published by the PCA in the Register of Pest Control Operator and on the website at [www.caribpesticides.net](http://www.caribpesticides.net).

#### **3.2.1 Requirements for Certification**

In order to be certified, the applicator must:

- i Pass the PCA written exam (65 marks and above);
- ii Pass the PCA practical exam ( Must be done within six months of written exam); and
- iii Be employed to a business that is licensed.

#### **3.2.2 Fees**

The associated costs are as follows:

- Written examination - \$500 per person
- Practical examination - \$1,000 per person

### **3.2.3 Examinations**

The areas covered by the examinations are included in the Household Pest Control Manual produced by the PCA. The cost for the manual is \$700.00.

Upon successful completion of all examinations, an application for certification is to be made. The cost for certification is \$4,000.00.

### **3.2.4 Servicemen**

Persons working in the pest control business who are not certified are called servicemen. They must be supervised by a certified applicator at all times.

## **3.3 GENERAL GUIDELINES ON THE SAFE OPERATION OF PEST CONTROL OPERATORS**

The PCA reminds all pest control operators and applicators that under the Pesticides Act, they have an obligation and responsibility to act with reasonable care in the storage and use of pesticides. These guidelines are supplementary to that obligation and describe what PCOs and applicators should do in the normal course of their work. While an effort has been made to cover as many situations as possible, the guidelines should not be regarded as exhaustive nor as a substitute for the reasonable standard of care that is expected of each operator and applicator in all operations and situations with which he or she is confronted.

### **3.3.1 General Guidelines**

- i All activities carried out pursuant to this certificate shall be carried out in such manner and to prevent any unreasonable impact on the environment or public health or to humans or animals
- ii The Pest Control Applicator shall at all times be in supervision of any serviceman operating under his control
- iii The Holder of the Certificate shall be responsible for all actions of any persons in his employ who performs any function pursuant to which this certificate is granted.
- iv The Authority may suspend a certificate for breach of the Regulations or any Guideline issued pursuant to this certificate

- v A copy of the certificate shall at all times be placed in a prominent place that is visible to all persons ordinarily transacting business with the holder of this certificate under the Act and Regulations

### 3.3.2 Operational Requirements

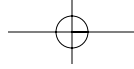
- i When mixing, applying, storing or disposing (including clean up) of pesticides, the Certificate Holder shall be aware of sensitive areas in the environment. These include springs, streams, ponds, wetlands, wells and underground water recharge areas and sinkholes.
- ii Pesticides are to be stored in their original containers in a place specifically designed for this purpose in accordance with the requirements for storing pesticides. Contact the PCA for the guidelines for storage of pesticides as the requirements are dependent on the quantities to be stored.
- iii Pesticide labels should at all times be checked to ascertain dilution rates, application methods and approved crops or areas on which they can be used (Please see Conversion Rate Booklet for farmers and farm stores which are available at the PCA).
- iv Where applications are done outdoors, a border of untreated vegetation of at least 2 meters should be left between the treated and sensitive areas
- v Where pesticides are applied outdoors, the Certificate Holder shall at all times familiarize him/herself with the geology and relative depth of the ground water in the area of application, whether the pesticide is prone to leaching and the susceptibility of the soil to leaching
- vi When the application is done indoors, children's toys and other objects that come in contact with children should be protected from the pesticide being applied
- vii No person or animal should be inside a building during application, unless the necessary protective clothing is being worn. Holders of Certificate must supply clients with information specified by the PCA (name of pesticide, date of application, name of applicator etc.)

- viii Neighbours should be warned before application of pesticides in their vicinity
- ix Pesticides should be used only when necessary and in keeping with the information on the label
- x Pesticides and pesticides containers should never be disposed of near a water source, over shallow water table, in sinkholes or abandoned wells
- xi All equipment used in the application of pesticides should be carefully calibrated to be certain that the proper rates are being applied
- xii Pesticides should be carefully handled to avoid spills
- xiii All applications should have due consideration given to existing conditions as regards their effects on the environment, human and animal health.
- ix The certificate Holder should not leave pesticide mixtures unattended
- x The Certificate Holder is responsible for cleaning up any spill during an operation
- xi The Holder of the Certificate shall report to the PCA upon request, and within one week, when there is a complaint lodged by a client that is a result of the delivery of his/her service
- xii If an emergency arises related to the use of pesticides, the holder of the certificate shall report the matter forthwith to the PCA and other relevant agencies

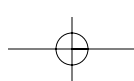
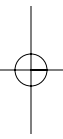
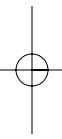
### 3.4 REVOCATION OF CERTIFICATION

After giving notice to the holder, the PCA can revoke or suspend certificates for the following reasons:

- i Pesticides used in a way inconsistent with the label;
- ii Improper or ineffective pesticides knowingly applied;
- iii Operating in a negligent, careless manner;
- iv False or misleading statement made during or after inspection and;



- v Failure to keep records as required under section 16 A of the Pesticides Amendments Regulations 2004.



## CHAPTER 4

### REQUIREMENTS FOR THE ESTABLISHMENT OF A PLANT TO MANUFACTURE PESTICIDES

#### 4.0 STANDARDS FOR PESTICIDES MANUFACTURE

The following are the standards for pesticide manufacturers, specifically for the operation of manufacturing plants in Jamaica. The standards are based heavily on the Guidelines for the safe formulation and packing of pesticides (GIFAP, 1993) and, to a lesser extent, the Guidelines for safe warehousing of pesticides (GIFAP, 1988).

#### 4.1 REQUIREMENTS TO ESTABLISH PLANT

##### 4.1.0 Organization and Management

The licensee is responsible for each of the following:

- i Safety and occupational health of the operational staff;
- ii Security and safety on the site;
- iii Protection of the environment;
- iv Safe production, packing, and dispatch of products of good quality;
- v Engineering design and maintenance on the site;
- vi Training and management of personnel;
- vii Establishment of emergency procedures;
- viii Good relationships with external organizations and with the neighbourhood; and
- ix Manufacturing, formulating and repackaging only registered pesticides

##### 4.1.1 Safety Data Sheets

A Safety Data Sheet (SDS) for each product must be available in the plant and contain the information shown below:

- i Chemical product and company identification;
- ii Composition/information on ingredients
- iii Hazards identification
- iv First aid measures
- v Fire fighting measures;
- vi Accidental release measures;



- vii Handling and storage;
- viii Exposure controls/personal protection;
- ix Physical and chemical properties;
- x Stability and reactivity;
- xi Toxicological information;
- xii Ecological information;
- xiii Disposal considerations;
- xiv Transport information;
- xv Regulatory information
- xvi Other information

#### **4.1.2 Training**

All personnel working in a manufacturing plant must be adequately trained. A permanent record that includes who was trained and the subject(s) of the training must be kept. Training must include:

- Knowledge of the product hazards;
- Safe operating procedures of the processes and equipment;
- Fire and accident prevention; and
- Procedures in case of emergencies.

#### **4.1.3 Security**

The following security arrangements must be made to prevent unauthorized entry to the plant:

- i During working hours, access must be limited via controlled entry;
- ii During off-duty hours, doors and windows in the facility and in adjoining offices must be locked; and
- iii The site must be surrounded by a secure wall or fence.

#### **4.1.4 Records**

Records of the receipt and release of restricted pesticides must be conducted in accordance with the following standards:

- i The information required to be recorded in this section must be recorded in a specific log book to be used solely for such purpose.
- ii When a restricted pesticide is received (e.g. purchased, exchanged for, obtained for temporary holding, etc.) the following information must be recorded:

- The name of the pesticide;
  - The quantity of pesticide that was received;
  - The date the pesticide was received; and
  - The entity (e.g. person or company) from whom the pesticide was received.
- iii When a restricted pesticide is released (e.g. sold, distributed, exchanged, given away, etc.), the following information must be recorded:
- The name of the pesticide;
  - The quantity of pesticide that was released;
  - The date the pesticide was released;
  - The person to whom the pesticide was released; and
  - The signature of the person to whom the pesticide was released

## **4.2 LOCATION AND BUILDINGS FOR PESTICIDE MANUFACTURE**

### **4.2.1 Site Selection**

A plant must not be in close proximity to residential areas, schools, hospitals, shopping areas, food processing or storage premises, fresh water resources, or surface water. Preference should be given to isolated locations or sites devoted to industrial development. Also, areas prone to flooding and areas used for water catchment are unacceptable.

### **4.2.2 Building Layout**

A plant must comply with the following building layout criteria:

- i Layout must provide ample space to permit easy movement of goods and workers and allow hygienic working conditions; and
- ii Powder processing facilities must be segregated from those for liquids either by structural means or by distance.

### **4.2.3 Construction Materials**

A plant must comply with the following criteria regarding building construction materials:

- i Floors must be impervious; and
- ii Materials which are combustible and which could contribute to the spread of a fire must be avoided as far as possible. The materials best suited to combine fire resistance with physical strength and stability are concrete, solid brick, and concrete blocks.

#### **4.2.4 Water Supply**

A reliable water supply must be available.

#### **4.2.5 Containment**

Areas at high risk for spillages (e.g. mixing, repackaging, decanting, or formulating areas) must be contained (i.e. within a containment barrier) in a manner to retain such spillages.

Splash guards or catch trays must be installed in locations where splashes and occasional leaks are to be expected (e.g. pump seals).

#### **4.2.6 Drainage**

Floor drains in the plant must not connect directly with waterways or public sewers and must end in an interception pit.

#### **4.2.7 Ventilation**

Adequate ventilation must be provided. If used, natural ventilation must be provided by vents located in the upper and lower walls and in the roof. If natural ventilation is inadequate, a forced ventilation system must be provided to ensure an air exchange of 2-5 times per hour.

Emerging vapors and/or dusts must be removed from formulation and packing areas by means of an efficient local source ventilation. To be effective, the intake to the ventilation system must be placed as close as possible to the source of release and the capture velocity must be at least 0.5 metres per second.

#### **4.2.8 Lighting**

Lighting levels must allow for the routine inspection of stored products and provide sufficient light for easy reading of product labels.

#### **4.2.9 Emergency Exits**

Exits other than the main door must be available for emergency purposes.

#### **4.2.10 Formulation and Packaging Areas**

##### **Ignition Sources**

No sources of ignition are allowed in formation or packing areas where the build up of ignitable mixtures of air and vapours is possible and smoking must be prohibited in all operation-related areas of the site. Arrangements must ensure that heat sensitive products do not come into contact with hot surfaces (e.g. non-insulated steam pipes, dryers, or overheated motors, bearings, or stuffing boxes).

#### **4.2.11 Electrical Installations**

All electrical installations (e.g. electrical motors, switched, control panels, lighting, power plugs and sockets, and wiring) in the formulation and packing areas must be designed in accordance with the electrical code of the country as set out under Jamaican law.

Measures must be taken to prevent the build up of electrostatic charges anywhere in the formulation or packing areas.

#### **4.2.12 Dust Filters**

To prevent uncontrolled emission of dust from local source ventilation systems for powder formulation and packing systems, the extracted air must be directed through an effective dust filter before its release to the atmosphere.

### **4.3 PACKING FACILITIES AND PROCESSES**

#### **4.3.0 Packing Materials**

A manufacturing plant must comply with the following standards regarding packaging materials when packing pesticide products:

- i Containers, outer packaging, and labels must conform to national standards as set out and international standards as set out in the United Nations Recommendations on the Transport of Dangerous Goods.

- ii Packaging materials which have been tested and shown to be compatible with the product, are easily emptied and cleaned, and are compatible with filling and packing equipment must be used.
- iii Quality control procedures must be in place to ensure that packaging materials which do not meet the required specifications are not admitted to the packing lines.
- iv Containers must be securely closed after filling. Procedures must be in place to test the integrity of closures after capping or sealing.
- v Labels
  - Must be correctly positioned and firmly affixed or printed on containers
  - Must not become detached or illegible, particularly when wet or in contact with product; and
  - Must otherwise conform to the national labeling standard (The Bureau of Standards, 3 Winchester Road, Kingston 10)

#### **4.3.1 Layout of Packing Lines**

A manufacturing plant must comply with the following standards regarding the layout of packing lines when packing pesticide products.

- i Packing lines must be designed to ensure the smooth flow of empty packaging components, product supply, filled and sealed containers, and finished packaged products.
- ii The following must be in place:
  - A clear working zone for the operators must be provided and areas of congestion should be avoided.
  - Adequate access for maintenance of equipment must be provided.
  - Segregation or physical separation of packing lines handling dissimilar products (e.g. herbicides and insecticides) should be considered to avoid cross-contamination.

- iii For the block storage of pesticides indoors, the dimensions of the blocks must be restricted to:
  - A width of 2 pallets, a height of 4 pallets, and a length of 8 pallets; and
  - Inspection aisles of at least 0.5 metre between blocks and a 1-metre gap along the wall.
- iv If heat shrinking is used, specific safety measures must be taken (e.g. avoidance of direct ignition or overheating, quarantine before moving to the warehouse). The use of heat shrink devices with open flames is not recommended.

### 4.3.2 Packing Line Equipment

A manufacturing plant must comply with the following standards regarding packing line equipment when packing pesticide products:

- i All rotating or moving parts of filling and packing machines must have protective guards to prevent fingers or clothing from being caught.
- ii Automated packing lines should be provided with breaks in conveyor belts to prevent the spread of spillage.

### 4.3.3 Packing of Liquids

A manufacturing plant must comply with the following standards when packing liquid pesticide products.

- i Packs must not be completely filled. Allowance for expansion must be provided according to national or international rules. Filling equipment must be designed to avoid splashing or foaming (e.g. by using below-neck or subsurface filling techniques). Drip removal or collection must also be provided to prevent contamination of the outer surfaces of the pack.
- ii Equipment must be maintained free of leaks
- iii In situations where the heat sealing of containers filled with solvent-based products with low flash points is involved, the following standards must be observed.

- Where induction sealing is employed, the unit should be installed away from the filling and capping area and must be provided with protective measures to ensure that overheating of the seal is not possible; and
- Where hot plate sealing is employed, good local source ventilation must be installed.

#### **4.3.4 Packing of Solids**

Equipment used for the packing of solids must be maintained free from leaks and all surfaces in the filling and sealing area must be designed to avoid the accumulations of dust deposits and for easy cleaning.

### **4.4 OCCUPATIONAL HEALTH, HYGIENE AND PERSONAL SAFETY**

#### **4.4.0 Housekeeping**

Plant activities must be conducted in a manner that ensures:

- i An orderly, safe, and efficient use of plant working space;
- ii The maintenance of a clean and safe working environment; and
- iii The safe disposal of waste materials

#### **4.4.1 Personal Protective Equipment**

Personal protective equipment must be used, must be based on the hazards posed by the pesticide being handled, and must be specified on the Safety Data Sheet

#### **4.4.2 Daily Activities/Plant Habits**

The plant must comply with the following standards regarding daily activities and plant habits.

- i Eating, drinking, and smoking must be prohibited in the workplace.
- ii The plant must include suitable hand washing facilities.
- iii A mandatory procedure must be established to ensure the washing of hands and face before eating, drinking, or smoking.

- iv Changing and washing facilities must be provided. They must include separate lockers for work clothes and for personal clothes, separated by showers, to avoid contamination of the personal clothes. Workers must change out of their work clothes at the end of the day.
- v Working clothes must be changed for clean ones whenever they are contaminated. Laundry must not be taken home.
- vi If laundering is carried out on the plant site, the washing of chemically soiled clothing must be done appropriately.
- vii If the laundry is handled by an outside contractor, a contract service that can adequately wash chemically soiled clothing must be employed

#### **4.4.3 Signs**

At every entrance to the plant (including manufacturing, repackaging, storage, and retail area, if applicable), signs that state the following information must be displayed:

- i No smoking, eating, or drinking;
- ii Only authorized persons allowed; and
- iii Danger – keep out.

#### **4.4.4 Medical Supervision**

Medical examinations must be provided for all workers before commencing work with pesticides and must be conducted every four months. A physician, knowing the plant and all the products handled, must be available for these medical examinations and any follow-up in case of continuing health problems of individuals.

In cases of possible exposure to cholinesterase inhibitors, such as organophosphorus compounds, the baseline blood levels for each staff member must be established and monitoring conducted at periodic intervals



#### 4.4.5 First Aid

The plant must comply with the following first aid measures:

- i An arrangement must be in place with a doctor or hospital which must be well-informed about the products handled in the plant.
- ii The plant must be equipped for handling accidents and a sufficient number of employees must be trained for first aid and emergency actions.
- iii For first aid, the following must be available in clearly indicated locations:
  - Emergency shower and eye wash facilities;
  - Safety Data Sheets (SDS)
  - Emergency telephone number connected to permanent medical assistance (e.g. hospital);
  - A first aid kit that includes an updated stock of antidotes for the pesticides handled in the plant
- iv In cases of accidental exposure and of suspected exposure to a product, the recommendations of the SDS must be followed
- v If medical support is necessary, the SDS or the product label should be sent with the affected person to the doctor or hospital

#### 4.4.6 Fire/Explosion Prevention and Fire Fighting

The plant must comply with the following standards regarding equipment for fire detection and fire fighting.

- i The plant must be equipped with an internally audible alarm and must have the means to call the fire service (e.g. telephone or push button).
- ii Mobile or portable fire extinguisher(s) must be available at the plant. The quantity, size, and type should be discussed with the local fire service. The fire extinguisher(s) must be positioned in easily accessible places, which must be marked with prominent signs and kept clear.
- iii Fire extinguishers must be checked and maintained in accordance

with the local regulations.

#### **4.4.7 Emergency Planning**

The plant must conduct emergency planning in accordance with the following standards.

- i A fire emergency plan must be established and all staff members must be trained in practicing the plan.
- ii An emergency plan must include collaboration and agreement with the local fire service. This is not only to discuss the fire fighting arrangements but also to consider the consequences of smoke or fumes and the possible escape of fire fighting water.
- iii In view of the possible consequences of escaping fire fighting water which cannot be contained, it is also important to get prior agreement as to the circumstances in which fire fighting should be ceased and who will make the decision.
- iv A plan showing the position of all fire fighting equipment and all protective devices on site must be displayed in at least two easily accessible places.
- v All personnel must be trained in the use of the types of fire fighting equipment present on site. Fire emergency plans must be practiced regularly to familiarize the personnel while at the same time checking the equipment.

#### **4.4.8 Spillages**

All plants must comply with the following standards regarding preparation for and dealing with pesticides spillages:

- i All spillages must be reported to a responsible person and must be corrected promptly. Spilled product must not be allowed to accumulate or spread about.
- ii Powders and granules must be removed, preferably using an industrial quality vacuum cleaner fitted with both a primary and secondary filter. If a brush and shovel are used, airborne dust can be reduced by first spreading damp sand on the spillage.

- iii Spilled liquid products must be absorbed onto absorbent material (such as saw dust) before being swept up and transferred into a sealable container for disposal. After this first cleaning of the floor, the remaining contaminated surface can be carefully washed with a minimum of water.
- iv The following equipment must be readily available and should be placed on a pallet or cart which is kept in a readily accessible location and marked with a prominent sign:
  - One drum with granular clay, saw dust, or other absorbent material;
  - A broom, shovel, and rubber wiper;
  - A pack of empty large heavy duty plastic bags;
  - At least one empty open head drum; and
  - Gloves and eye protection

#### 4.4.9 Management of Disposal

All pesticide waste management and disposal must be conducted in accordance with the National Resources Conservation Authority (NRCA) Act.

##### i **Obsolete Pesticides**

Stocks of obsolete pesticides must be:

- Separated from other pesticides and other products;
- Relabeled to allow the pesticide (name and active ingredient/s) to be identified; and
- Reported to the Pesticides Control Authority

##### ii **Container Cleaning**

Empty containers used to hold raw materials or pesticides must be rinsed with a solvent and the rinsate reused.

### iii Drum Management

Pesticide drums must be managed according to the standards in the following decision tree:

#### Decision Tree - Disposal of Pesticide Drums

1	Has drum been triple rinsed?	If yes, go to No 2. If No, triple rinse and to go No 2
2	Can drum be returned to product supplier?	If Yes, return to supplier. If No, go to No3.
3	Is drum suitable for reconditioning?	If yes, go to No4 If no, go to No5.
4	Is a reputable drum reconditioner available?	If yes, send for reconditioning for non-food use. If no, go to No 5.
5	Is there a non-food, non-water use available for the drum(e.g. use as garbage receptacle) ?	If yes, bore holes in drum and send for non-food, non-water use. If No, go to No. 6
6	Is a drum crusher available?	If yes, crush drum and dispose in accordance with NEPA Act.  If no, bore holes in drum and dispose in accordance with NRCA Act

## CHAPTER 5

### STANDARDS FOR PESTICIDE TRANSPORTATION

#### 5.0 TRANSPORTATION STANDARDS

The following are the standards for the transportation of pesticides in Jamaica by pesticide manufacturers, importers, and retailers. The standards are based heavily on the Guidelines for the safe transport of pesticides (GIFAP, 1987).

#### 5.1 GENERAL CONSIDERATIONS

##### 5.1.1 Climate

Pesticides must be covered during transport to protect them from rain and direct sunlight.

##### 5.1.2 Unloading

Drums and other heavy packages must be unloaded in a controlled manner to avoid impact damage.

##### 5.1.3 Passenger Section

Pesticides must not be transported in the passenger section of a vehicle. Pesticides must only be carried on vehicles fitted with a separate driver's cab or compartment. However, if it is absolutely necessary to carry small quantities of pesticides in a car, the pesticides must be adequately segregated and properly secured. Additionally, the vehicle must be kept well ventilated.

##### 5.1.4 Driver Training

Adequate training must be given to drivers. A permanent record that includes who was trained and the subject(s) of the training must be kept. Training must include:

- i Operating procedure;
- ii The properties and hazards of pesticides;
- iii Load segregation;
- iv Securing of loads;
- v Dealing with leakages;

- vi First aid;
- vii Use of safety equipment and protective clothing;
- viii Immediate (emergency) response
- ix Safe driving techniques

### **5.1.5 Safety Equipment**

The following safety equipment must be available on vehicles carrying pesticides and must be maintained in good condition:

- i A fire extinguisher of sufficient capacity and of a type suitable to fight an initial fire;
- ii Personal protective equipment for use by the driver in handling damaged packages or dealing with minor spills. Items must include rubber gloves, eye protection, a rubber or plastic apron, and rubber boots;
- iii A first aid kit that includes a filled eyewash bottle; and
- iv Spill clean-up equipment including a small supply of absorbent material such as saw dust, a shovel, a brush, and heavy duty plastic bags.

### **5.1.6 Instructions Regarding Accidents**

In addition to being trained to deal with emergencies, drivers must be issued adequate instructions on procedures in the event of an accident.

These instructions must cover:

- i Accidents of a general nature, with no leakage or spillage of pesticides;
- ii Accidents involving the leakage or spillage of pesticides;
- iii Accidents resulting in a fire; and
- iv A contact for specialist advice both during and outside of normal working hours

### 5.1.7 Product Information

Drivers must be provided with instructions in writing giving emergency information that will identify the following in the event of an accident:

- i The products being carried;
- ii The nature of the hazards;
- iii The precautions and actions to be taken in the event of an emergency; and
- iv The pesticide supplier, including an address and an emergency telephone number.

This written information must be kept in the cab of the vehicle and be readily accessible at all times. Only information that relates to the pesticides being carried must be available. Documents relating to previous loads must be removed.

## 5.2 LOADING AND DESPATCH

### 5.2.1 Pre-Loading Inspection Of Containers

Before loading begins, all packages must be checked to ensure that they are in good condition and fit for transport. The main points to note are:

- i Packages that are damaged or severely corroded or that show evidence of leakage must never be loaded
- ii Any packages damaged in the course of loading must be replaced;
- iii Pesticides must be transported only in packages that have been properly labelled
- iv Labels must be positioned on packages so they can be easily seen during storage and transit
- v Packages containing pesticides classified as “dangerous” must be identified by appropriate hazard labels; and
- vi Pallets must be free from damage or other signs of weakness

### 5.2.2 Pre-Loading Inspection Of Vehicles

Before any vehicle is loaded, it must be examined carefully. The main points are:

- i Outside coverings and floors must be impervious;
- ii The loading space must be clean, dry, and free from protruding screws, nails, and other sharp objects that could puncture packages; and
- iii The transport unit must not be used regularly for the transport of food or drinks.

### 5.2.3 Stowage

Pesticides must be loaded in accordance with the following stowage standards:

- i The weight of the packages must be evenly distributed.
- ii Heavy goods must not be stowed on top of light goods.
- iii Where two layers of different products in similar packaging are to be carried, the less dangerous one must be loaded on top.
- iv Packages containing liquids must be stowed with the closures up.
- v The total load must be firmly secured to prevent movement in transit.
- vi If dangerous goods form only part of the load, the dangerous goods must be stowed near the door for ease of accessibility

### 5.2.4 Load Segregation

Pesticides must be loaded in accordance with the following load segregation standards:

- i Pesticides must be segregated from other goods within the transport unit.
- ii Pesticides must never be carried in the same loading space with



foodstuffs, animal feeds, or other goods intended for human consumption or use (e.g. pharmaceuticals, tobacco, or clothing).

- iii Do not load pesticides together with passengers or livestock. If this is unavoidable, then the pesticides must be effectively segregated from the passengers and/or livestock

### **5.2.5 Unloading Inspection**

If leaks or spillages are found after unloading, the vehicle must be decontaminated promptly. Such decontamination must be done before the vehicle departs.

## **5.3 EMERGENCY PROCEDURES**

### **5.3.1 Immediate Response**

In the event of spillage or leakage due to an accident, the driver must:

- i Switch off the engine;
- ii Do not smoke;
- iii Identify the name and nature of the products involved from the written product information or individual product labels;
- iv Pay attention to the procedures and advice given on such written instructions or labels;
- v Stay with the vehicle but keep upwind of any spilled chemicals;
- vi Isolate the affected area and keep other people and traffic away;
- vii Send someone to call the emergency services (e.g. police, fire, and/or ambulance) if necessary; and
- viii Not open doors of closed transport units unless advised by a competent person and appropriate protective clothing is worn.

### 5.3.2 First Aid

In the event of spillage or leakage due to an accident, the driver must:

- i Consult the written product information or individual product labels;
- ii Rinse eyes immediately with clean water and continue rinsing for up to 10 minutes if the pesticide has come into contact with the eyes. Medical advice must be sought afterwards
- iii Remove contaminated clothing immediately
- iv Immediately wash skin with soap and plenty of water after contact with pesticide. In the event of major contamination or if there is any pain or discomfort, a doctor must be contacted; and
- v Immediately seek medical advice if pesticide has been swallowed or inhaled

### 5.3.3 Containment

In the event of spillage or leakage due to an accident, the driver must:

- i Treat all spills with care until technical advice is available;
- ii Avoid skin contact and inhalation of fumes to the extent possible; contain small liquid spills by covering with earth, sand, or other suitable material;
- iii Contain large quantities by building a dam of earth or sand around the contaminated area
- iv Minimize the spreading of spilled dusts or powders by covering such a spill with earth, sand, or a tarpaulin
- v Take care that spilled pesticides do not seep into drains, sewers, rivers, or other water courses. If such water courses are already contaminated, the driver must inform the appropriate authorities immediately
- vi Adjust the position of ruptured packages to minimize further leaks

- vii Placing leaking or badly damaged packages in oversize drums or in heavy duty plastic bags; and
- viii Separate damaged packages from other goods and place them on bare ground away from dwellings and water supplies

### 5.3.4 Fire Fighting

In the event of a fire during transport, a driver must:

- i Attempt to put out small localized fires, e.g. in the cab or engine compartment, using any available means. The objective is to prevent the fire from spreading to the load.
- ii Disconnect the battery to isolate the power supply.
- iii Call the emergency services in the event of a more serious fire. In such an event, the driver and/or emergency responders must:
  - Avoid inhalation of fumes;
  - Keep adjacent drums containing liquids cool by spraying with water;
  - Wear breathing apparatus when fighting a fire involving the load;
  - Consider that the most suitable means of extinguishing fires involving pesticides are powder, foam, and fine water spray (not jets).
  - Avoid excessive volumes of water so as to keep contaminated run-of water to a minimum
  - Make every effort to collect contaminated water. If necessary, build a dam using earth or sand to prevent run-off into water courses of any kind; and
  - Dispose of contaminated water safely

### 5.3.5 Cleaning Up And Decontamination

In the event of spillage or leakage due to an accident or a fire during transport, the driver must:

- i Observe safety precautions on the written product information and on product labels;
- ii Obtain expert advice, if possible, from the supplier or other qualified persons before beginning clean-up operations;
- iii Always wear protective clothing during clean-up operations;
- iv Work from the windward side of the spill where possible;
- v Not smoke, eat, or drink during clean-up operations;
- vi Sweep up materials used to absorb leakages or spills and shovel it into a closable container for disposal;
- vii Remove soil contaminated with pesticides for safe disposal;
- viii Remove all damaged or empty packages for disposal and not dump them indiscriminately;
- ix Destroy all food, animal feed, or other consumer goods if there is any possibility they have been contaminated. Contaminated foodstuffs must never be eaten or fed to animals, because it could be fatal;
- x Tear or cut up heavily contaminated clothing to render it unfit for further use and dispose of it safely;
- xi Clothing that has only minor contamination should be thoroughly washed with detergent and several changes of water. Such laundering must be done separately from other items;
- xii Inspect undamaged packs for contamination and decontaminate if necessary;
- xiii Thoroughly wash down all contaminated equipment and parts of the vehicle after clean-up. Prior to wash down first remove, as much of the spilled product as possible;
- xiv Dispose of contaminated materials in a safe and approved way.

## CHAPTER 6

### STANDARDS FOR PESTICIDE IMPORTERS

#### 6.0 ORGANIZATION AND MANAGEMENT

This chapter sets out the standards for pesticide importers, specifically for storage facilities containing pesticides imported under an import licence in Jamaica. The standards are based heavily on the Guidelines for safe warehousing of pesticides (GIFAP, 1988) and, to a lesser extent, on the Guidelines for the safe formulation and packing of pesticides (GIFA., 1993).

#### 6.1 RESPONSIBILITIES

The importers must comply with standards for location of building, occupational health, hygiene, personal safety and all other standards that apply to manufacturers of pesticides.

The licensee must understand that such person is responsible for each of the following:

- i Safety and occupational health of the operational staff;
- ii Security and safety on the site;
- iii Protection of the environment;
- iv The safe handling of products into and out of the facility and the maintenance of records relating to such movements;
- v The maintenance of suitable storage conditions;
- vi Training and management of personnel;
- vii Establishment of emergency procedures;
- viii Good relationships with external organizations and with the neighborhood; and
- ix An importer must import, distribute, and/or sell only registered pesticides.

### 6.1.0 Safety Data Sheets

A Safety Data Sheet (SDS) for each product must be available in the facility and contain the information shown below:

- i Chemical product and company identification;
- ii Composition/information on ingredients;
- iii Hazards identification;
- iv First aid measures;
- v Fire fighting measures;
- vi Accidental release measures;
- vii Handling and storage;
- viii Exposure controls/personal protection;
- ix Physical and chemical properties;
- x Suitability and reactivity;
- xi Toxicological information;
- xii Ecological information
- xiii Disposal considerations
- xiv Transport information
- xv Regulatory information
- xvi Other information

### 6.1.1 Training

All personnel working in a storage facility containing a pesticide imported under an import licence must be adequately trained. A permanent record that includes who was trained and the subject(s) of the training must be kept. Training must include:

- i Knowledge of the product hazards;
- ii Safe operating procedures in general and for the equipment;
- iii Fire and accident prevention; and
- iv Procedures in case of emergencies

### 6.1.2 Security

The following security arrangements must be made to prevent unauthorized entry to the facility:

- i During working hours, access must be limited via controlled entry;
- ii During off-duty hours, doors and windows in the facility and in adjoining offices must be locked; and
- iii The site must be surrounded by a secure wall or fence

### 6.1.3 Records

Records of the receipt and release of restricted pesticides must be kept in accordance with the following standards. The information required as specified in this section must be recorded in a specific log book to be used solely for such purpose;

- i When a restricted pesticide is received (e.g. purchased, exchanged for, obtained for temporary holding, etc.) the following information must be recorded:
  - The name of the pesticide;
  - The quantity of pesticide that was received;
  - The date the pesticide was received; and
  - The entity (e.g. person or company) from whom the pesticide was received
  
- ii When a restricted pesticide is released (e.g. solid, distributed, exchanged, given away, etc.), the following information must be recorded:
  - The name of the pesticide;
  - The quantity of pesticide that was released;
  - The date the pesticide was released;
  - The person to whom the pesticide was released; and
  - The signature of the person to whom the pesticide was released

### 6.1.4 WAREHOUSE MANAGEMENT

#### i **Package Integrity**

Leaking or damaged packs must be kept separated and corrected immediately.

#### ii **Product segregation and separation**

Pesticides must be segregated (i.e. stored apart in different rooms with a wall as a barrier) from products consumed by humans and/or animals. The product must also be separated (i.e. stored apart in different places of the same room) from other products and stored in a classified group (e.g. insecticides, fungicides, herbicides, etc).

iii **Outdoor Storage**

Pesticides other than those in weather-proof packs (such as 200-litre drums) must be stored under a roof and outdoor storage areas should have a firm, impermeable based and be surrounded by a containment barrier. Drums should be stored upright on pallets and those that are stored on their side should not be chocked.

iv **Indoor Block storage**

The dimensions of block storage should be restricted to a width of 2 pallets, a height of 4 pallets, and a length of 8 pallets with inspection aisles of at least 0.5 metre between blocks and a 1-metre gap along the wall.

v **Indoor rack storage**

Metal racks or frame pallets are to be used.

vi **Nominal storage capacity**

The nominal storage capacity of the facility should be established and not exceeded at any time.

vii **Fire precautions**

Pesticides must be stored away from electrical fittings and ancillary operations, such as battery chargers and shrink wrappers.



## CHAPTER 7

### STANDARDS FOR RETAILING PESTICIDES

#### 7.0 STANDARDS FOR RETAILING PESTICIDES

The following are the standards for retailing pesticides:

- i Restricted pesticides must be kept inaccessible to the public at retail facilities (e.g. be displayed in locked display cupboards).
- ii The retail facility must be located such that restricted pesticides are not sold within the same building where food and/or drinks are sold.
- iii Restricted pesticides are to be sold only to certified pest control operators
- iv Any repackaging at the facility must be done at the facility in accordance with the criteria for repackaging at the retail level.

#### 7.1 REPACKAGING STANDARDS

If repackaging at the retail level is conducted, the pesticide must be repackaged into a container that is approved by the PCA. The following standards must also be observed:

- i Employees who conduct the repackaging are required to use the appropriate personal protective equipment.
- ii Floor of the repackaging area must be impervious.
- iii The repackaging must be conducted in an area that is segregated from the retail area and be separated from any pesticide storage area
- iv Splash guards or catch trays must be used to contain pesticides where splashes and occasional leaks from the repackaging process are expected.

### **7.1.0 General Activities**

The activities at the facility should be conducted in a manner that ensures:

- i an orderly, safe, and efficient use of plant working space;
- ii the maintenance of a clean and safe working environment; and
- iii the safe disposal of waste materials

#### **7.1.1 Daily activities/plant habits**

- i Eating, drinking, and smoking must be prohibited in the workplace and
- ii The facility must have hand washing facilities
- iii The workers must be advised that it is mandatory to wash their hands and face before eating, drinking, or smoking
- iv Workers must be required to change out of their clothes whenever the clothes are contaminated
- v It must be forbidden to take laundry home
- vi the washing of chemically soiled clothing must be done appropriately, either on site or by a qualified contract service.

#### **7.1.2 Signs**

The following signs must be displayed at every entrance to the plant (including repackaging, storage, and retail areas, if applicable):

- i No smoking, eating, or drinking;
- ii Only authorized persons allowed, and
- iii Danger – keep out

#### **7.1.3 Medical Supervision**

Medical examinations must be conducted for all workers before commencing work with pesticides and once a year thereafter. A physician that knows the facility and all the products handled must be available for these medical examinations and any necessary follow-up.

#### **7.1.4 Cholinesterase level**

If exposure to cholinesterase inhibitors, (such as organophosphorus compounds), is possible, baseline cholinesterase blood levels for each staff member must be established.

#### **7.1.5 First aid**

First aid arrangements must be in place with a doctor or hospital that is well-informed about the products handled in the plant.

The plant must be equipped for handling accidents and an adequate number of employees must be trained for first aid and emergency action.

The following must be available in clearly indicated locations:

- i Emergency shower and eye wash facilities;
- ii Safety Data Sheets (SDS);
- iii Emergency telephone number connected to permanent medical assistance (e.g. hospital); and
- iv A first aid kit that includes an updated stock of antidotes for the pesticides handled in the facility

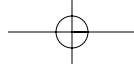
In cases of accidental exposure and of suspected exposure to a product, the recommendations of the SDS must be followed. If medical support is necessary, the SDS or the product label must be sent with the affected person to the doctor or hospital.

#### **7.1.6 Fire/Explosion Prevention and Emergency Planning**

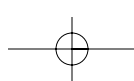
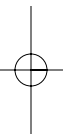
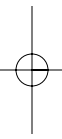
The following precautionary measures must be put in place:

- i Smoking in the plant must be prohibited and appropriate signs strategically placed in the plant.
- ii All electrical installations (e.g. electrical motors, switches, etc.) must be designed in accordance with the electrical code set out in the law
- iii The facility must be equipped with an internally audible alarm and the means to call the fire service (e.g. telephone or push button).
- iv The appropriate mobile or portable fire extinguisher(s) must be

- available at the facility and positioned in easily accessible, prominently marked places.
- v Fire extinguishers must be regularly checked and maintained.
  - vi An emergency plan that includes collaboration and agreement with the Jamaica Fire Brigade must be in place.
  - vii All staff members must be trained in practicing the plan.
  - viii There should be in place, an agreement as to the circumstances under which fire fighting should be ceased and a designated person who will make that decision.
  - ix A plan should be displayed showing the position of all fire fighting equipment and protective devices on site in at least two easily accessible places.
  - x All personnel trained in the use of the types of fire fighting equipment should be on site.
  - xi Spilled products must be prevented from accumulating or spreading about.
  - xii Powders and granules must be removed, preferably using an industrial quality vacuum
  - xiii Cleaners must be fitted with both primary and secondary filters.
  - xiv Spilled liquid products must be absorbed onto absorbent material (such as saw dust) before being swept up and transferred into a sealable container for disposal.
  - xv After this first cleaning of the floor, the contaminated surface must be carefully washed with a minimum of water.
  - xvi The following equipment must be readily available and placed on a pallet or cart in a readily accessible, prominently marked location:
    - One drum with granular clay, saw dust, or other absorbent material;
    - A broom, shovel, and rubber wiper;
    - A pack of empty large heavy duty plastic bags;



- At least one empty open head drum and
- Gloves and eye protection



## CHAPTER 8

### PESTICIDES RESIDUE MONITORING

#### 8.0 MONITORING COMMITTEE

The PCA, through the Pesticide Residue Monitoring Committee, monitors the level of pesticide residue on food and the environment. These levels are to be governed by the Regulations form maximum Residue Levels for Pesticides in Foods and Animal Feeds.

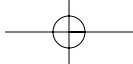
#### 8.1 IMPORTATION OF PRODUCE

An investor who intends to import or produce food for sale in Jamaica, should ensure that the residue level of pesticides comply with the Local Standards. These standards are available at the PCA or may be downloaded from its website at [www.caribpesticides.net](http://www.caribpesticides.net).

#### 8.2 CONTACT INFORMATION

For further information please contact

The Registrar  
Pesticides Control Authority  
2-4 King Street  
Kingston  
Tel: 987-967-1281  
Fax: 987-967-1285  
email: [pca@cwjamaica.com](mailto:pca@cwjamaica.com)  
website: [www.caribpesticides.net](http://www.caribpesticides.net)



## Appendix I

### FORM 1

#### APPLICATION FOR REGISTRATION OF A PESTICIDE

##### PART A

Name of Applicant \_\_\_\_\_

Address of Applicant \_\_\_\_\_

Proprietary name of pesticide \_\_\_\_\_

Common name of all active ingredients \_\_\_\_\_

\_\_\_\_\_

Common names of all inert ingredients \_\_\_\_\_

\_\_\_\_\_

Percentage content of all active ingredients \_\_\_\_\_

\_\_\_\_\_

Percentage content of all inert ingredients \_\_\_\_\_

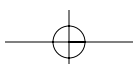
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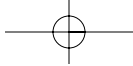
Physical form of pesticide \_\_\_\_\_

Packaging (containers and size) \_\_\_\_\_

Proposed use of pesticide \_\_\_\_\_

\_\_\_\_\_





## Appendix I

### SUPPLEMENTARY INFORMATION

#### PART B

1. Information on hazards to persons using or handling the pesticide.  

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2. Details of First-Aid and medical measures.  
*(This should include antidotes which should be taken in cases of suspected poisoning by pesticides)*  

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3. Details of the physical form, packaging and complete composition of the pesticide.  

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4. Information with respect to conditions attached to the sale, use and export in the country of origin and manufacture.  

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5. Information concerning restrictions placed on use of the pesticide in the country of origin and other countries.  

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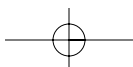
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6. List of countries in which the pesticides were registered and any conditions required for its use. (The country of manufacture not to be included)  

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7. Details of residue present in food and the environment following use of the pesticide in accordance with recommendations described in number (12)  

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**Appendix I**

8. Details on the degradation kinetics of the active ingredients under tropical conditions.  

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9. Toxicity data on the pesticide and its effect on domestic animals, wild life, birds, fish and bees. (This should include details of hazards involved and epidemiological data.)  

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10. Data on the efficacy of the pesticide under field trials.  

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11. Data onphytoxicity  

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12. Detailed methods of analysis for specification on the pesticide as set out in 'The FAO Specifications for Plant Protection Products' approved by either the Council or the Association of Official Analytical Chemists for the Pesticide.  

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13. Shelf life of the product and storage instructions under tropical conditions.  

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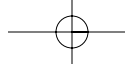
---
14. Recommended withdrawal time for consumption for each crop or commodity in the case of man or animal.  

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*(Document and samples to be produced)*

15. Copy or draft of the label and accompanying instructions proposed for use of the pesticide in respect of different amounts or size in packing.



**Appendix I**

- 16. Give any other relevant information in addition to that given on the face of
  - (a) the label or any accompanying instructions or precautions;
   
\_\_\_\_\_
   
\_\_\_\_\_
  - (b) equipment, clothing or facilities recommended to prevent hazards to persons using or handling the pesticide.
   
\_\_\_\_\_
   
\_\_\_\_\_
- 17. For imported products seeking registration, a duly authenticated certificate of registration, or letter from the grantor of the license of the pesticide in its country of origin.
- 18. Copies of labels and accompanying instructions approved in the country of origin of the pesticides.
- 19. Five samples of each packing of the product in the form in which the product is to be sold.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

**FOR OFFICIAL USE ONLY**

TO BE COMPLETED BY THE REGISTRAR

Date registered or refused by Authority \_\_\_\_\_

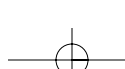
Registration Number \_\_\_\_\_

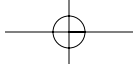
Reason for refusal \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Signature of Registrar

\_\_\_\_\_  
Date



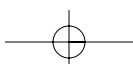


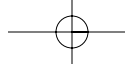
## Appendix 2

### FORM 2

#### APPLICATION FOR REGISTRATION OF A MINOR USE PESTICIDE

1. Name of Applicant \_\_\_\_\_
2. Address of Applicant \_\_\_\_\_  
\_\_\_\_\_
3. Manufacturer's Name & Address \_\_\_\_\_  
\_\_\_\_\_
4. Proprietary name of Pesticide \_\_\_\_\_
5. Common Names & Percentage Content of all Active Ingredients \_\_\_\_\_  
\_\_\_\_\_
6. Formulation (e.g. granule, wettable powder, etc.) \_\_\_\_\_
7. Packaging (containers and size) \_\_\_\_\_
8. Proposed Use of Pesticide (e.g. pests, diseases, weeds to be controlled)  
\_\_\_\_\_
9. Crop Details
  - 9.1 Identity of Crop(s) \_\_\_\_\_  
\_\_\_\_\_
  - 9.2 Situation of Crop (outdoors, shadehouse, pond, etc.) \_\_\_\_\_  
\_\_\_\_\_
  - 9.3 Acreage \_\_\_\_\_  
\_\_\_\_\_





### Appendix 2

10. Proposed Application Methods (If proposed application method (s) is/are not already stated on the product label, give full details.) \_\_\_\_\_

\_\_\_\_\_

11. Quantity of Product to Be Used Per Annum \_\_\_\_\_

\_\_\_\_\_

12. Reason For Thinking Product Will be Effective For This Purpose \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. Additional Information \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
*Signature of Applicant*

\_\_\_\_\_  
*Date*

**SUPPORTING DOCUMENTS: A copy of the product label and a Material Safety Data Sheet should accompany each application.**

#### FOR OFFICIAL USE ONLY

TO BE COMPLETED BY THE REGISTRAR

Date registered or refused by Authority \_\_\_\_\_

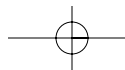
Registration Number \_\_\_\_\_

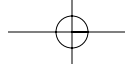
Reason for refusal \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Signature of Registrar

\_\_\_\_\_  
Date





### Appendix 3

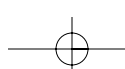
#### FORM 3

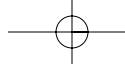
#### APPLICATION FOR RE-REGISTRATION OF PESTICIDE

1. Proprietary name of Pesticide \_\_\_\_\_
  
2. Registration Number \_\_\_\_\_
  
3. Physical form \_\_\_\_\_
  
4. Packaging \_\_\_\_\_  
*(size and type of containers)*
  
5. Full name and address of manufacturer \_\_\_\_\_  
\_\_\_\_\_
  
6. Name and address of applicant \_\_\_\_\_  
\_\_\_\_\_
  
7. Details of uses of the pesticide \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
*Signature of Applicant*

\_\_\_\_\_  
*Date*





### Appendix 4

#### FORM 4

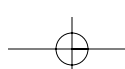
#### APPLICATION FOR LICENCE TO MANUFACTURER

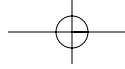
1. Name of Manufacturer  
\_\_\_\_\_
2. Address of Manufacturer  
\_\_\_\_\_
3. Address of premises where pesticide is to be manufactured  
\_\_\_\_\_  
\_\_\_\_\_
4. Trade name of pesticide \_\_\_\_\_
5. Common name and percentage of active ingredients.  
\_\_\_\_\_  
\_\_\_\_\_
6. Common name and percentage of inert Ingredients  
\_\_\_\_\_  
\_\_\_\_\_
7. Common name and percentage of inert ingredients  
\_\_\_\_\_  
\_\_\_\_\_
8. Package size(s) to be marketed  
\_\_\_\_\_  
\_\_\_\_\_

**Note:** This application is to be accompanied by three sample labels of the product.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date





## Appendix 4

### FOR OFFICIAL USE ONLY

TO BE COMPLETED BY THE REGISTRAR

Date registered or refused by Authority \_\_\_\_\_

Registration Number \_\_\_\_\_

Reason for refusal \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature of Registrar

\_\_\_\_\_  
Date

