

# KOMBAT GRAIN TREAT

Registration No. L8608 – ACT 36 OF 1947



**KOMBAT GRAIN TREAT** is an insecticide dusting powder for the control of adult Larger Grain Borers, Grain Weevils, Meal Moths and their larvae in stored Maize, Wheat, Millet and Beans for use in small scale storage.

## COMPOSITION

### Active Ingredient

Mercaptothion (Organophosphate)	-	10g/kg
Permethrin (Pyrethroid)	-	1,5g/kg

## USES AND BENEFITS

**KOMBAT GRAIN TREAT** controls grain borers, weevils, meal moths and other household pests.

## METHOD OF APPLICATION

### **PRE-TREATMENT STORE HYGIENE:** (450g Grain Treat /20m<sup>2</sup>)

Clean the storage bins, baskets and bags and thoroughly dust with Grain Treat at the recommended dose rate before filling with grain. Also dust the inside and outer surfaces of the bags or storage bins and baskets.

### **GRAIN TREATMENT:** (100g Grain Treat /100kg bag of grain)

Apply the Grain Treat to the grain before filling the bags or storage bins and baskets. Thoroughly mix the insect dusting powder with the grain. using any suitable device such as a spade, shovel or by means of a rotating drum type applicator. (1kg per 1000kg grain)

### **IMPORTANT:**

Grain treated with grain treat is fit for human consumption and will not affect the taste of cooked grain. Properly treated grain will be protected from insects for a period of up to six months, depending on the storage conditions. Periodically check the grain to ensure that it is well protected.

## WARNINGS AND PRECAUTIONS

### **WARNINGS:**

- Handle with care.
- Poisonous by contact, swallowing or inhalation.
- Toxic to fish.
- Relatively toxic to honey-bees.
- May cause skin irritation.
- Keep out of reach of children, animals and uninformed persons.

- Store in a cool place dry place away from food and feed.

**PRECAUTIONS:**

- Do not inhale dust.
- Wear gloves when applying.
- Wash clothing if contaminated.
- Wash immediately after accidental skin contact with soap and cold water.
- Do not eat, drink or smoke whilst applying, mixing or before washing hands and face.
- Prevent contamination of fish ponds, food, eating utensils and drinking water.
- Clean applicator thoroughly before re-using with other material.
- Dispose of wash water where it will not contaminate edible crops.

**KOMBAT GRAIN TREAT** is classified as caution with a blue band. All recommendations are to be followed carefully.

***PLEASE READ THE LABEL BEFORE USE.***



**CAUTION**



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Version: 1.1

Revision Date: 2010



## 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY UNDERTAKING:

### PRODUCT INFORMATION

**Product Name** : KOMBAT GRAIN TREAT

**Design Code** :

**Registration No.** : L8608

**Use** : Insecticide

**Company** : Kombat (Pty) Ltd  
39 Dr. Gordon Road  
Greytown  
3250

**Telephone** : [033] 417-1906/7



Harmful



Dangerous for the environment

### EMERGENCY TELEPHONE NUMBERS

#### SPILLAGES:

Emergency telephone: (+27) 032 5330716 or 082 446 8946

#### POISONINGS:

National Poison Centre: 021-9386084 (office hours) / 021-9316129 (after hours).

UOFS Pharmacology/Toxicology information centre: 0824910160

## 2. HAZARD IDENTIFICATION

**Toxicity class:** WHO II, EPA I (Technical)

**ADI:** **1)**0.02 mg/kg b.w **2)** 0.05mg/kg b.w

**NOEL:** **1)** 500 ppm (rats) – daily **2)** N/A

#### Main Hazard:

Toxic to fish and bees. Mercaptothion and Permethrin is toxic. Contact with skin, inhalation of dust or spray, or swallowing may be fatal.

#### Fire and explosion hazard:

Slight fire hazard when exposed to heat or flame. Dust-air mixtures may ignite or explode. Unlikely in normal use.

#### Eye contact:

Avoid contact with eyes. Wear eye /face protection. When handling this product, wear goggles giving completely eye protection. Normal industrial eye protection practices should be employed.

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**Skin contact:**

Wear protective clothing, as well as protective gloves. Launder contaminated clothing before re-use. Avoid skin contact. Keep working clothes separately and do not take home. Good personal hygiene practices should always be followed.

**Ingestion:**

Keep away from food and feedstuffs. Do not eat, drink or smoke whilst handling this product. Wash hands and face before eating and drinking.

**Inhalation:**

Avoid inhalation of spray dust. Use only in well-ventilated areas, in case of insufficient ventilation, wear suitable respiratory equipment. Approved respiratory equipment must be used when vapour or mists concentrations exceed applicable standards.

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**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**Common name:** 1) Mercaptothion, 2) Permethrin

**Chemical Name:**

1) Diethyl (dimethoxythiophosphorylthio)succinate; S-1,2-bis(ethoxycarbonyl)ethyl O,O-dimethyl phosphorodithioate.

2) 3-phenoxybenzyl(1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate.

**UN No.:** 3017

**CAS No.:** 121-75-5 (Mercaptothion Technical )  
52645-53-1 (Permethrin Technical)

**Chemical Family:** Organophosphate / Pyrethroid

**Chemical Formula:** 1)  $C_{10}H_{19}O_6PS_2$  2)  $C_{21}H_{20}Cl_2O_3$

**Use:** An insecticide dusting powder for the control of adult Larger Grain Borers, Grain Weevils, Meal Moths and their larvae in stored Maize, Wheat, Millet and Beans. Also for the control of household pests.

**Formulation:** Dustable Powder

**Symbols:** Xn

**Risk-phrase(s):**

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**4. FIRST- AID MEASURES**

Proper care should be taken during occupational use to avoid any inhalation of dust and spray particles, and to prevent accidental contamination of food products and water.

The product is a Cholinesterase inhibitor.

**Inhalation:**

Remove patient from source of poisoning to well ventilated area and keep him quiet and reassured. If necessary, administer artificial respiration and oxygen or closed chest cardiac massage.

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## **Skin contact :**

Immediately remove contaminated clothing, wear rubber gloves to avoid contact with contaminated clothing, rinse the affected skin area with plenty of soap and cool water or shower.

## **Eye contact :**

Immediately wash eyes with copious amounts of clean water for at least 15 minutes, cover with a sterile pad.

## **Ingestion:**

Keep patient calm and reassured, put in recovery position, rinse mouth with water. Never give anything by mouth to an unconscious person. DO NOT apply direct mouth to mouth respiration, use a disposable protective mouthpiece. **Persons attending the victim should avoid direct contact with the vomit, wear rubber gloves and protective clothing. SEEK MEDICAL ASSISTANCE.**

## **Advice to physician:**

Administer Atropine sulphate, intravenously (1 to 4 mg) every 5 to 10 minutes until signs of atropinization, (dry flushed skin and tachycardia); 2-PAM 50 mg/kg up to total dose of 1 to 2 g or two thirds of this dose of Protopam. Repeat oximes if necessary. Do not give morphine.

**SEEK MEDICAL ADVICE PROMPTLY AND SHOW THIS MSDS TO A MEDICAL PRACTITIONER**

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## **5. FIRE-FIGHTING MEASURES**

### **Flash Point:**

Not applicable

### **Flammability:**

Not flammable.

### **Auto ignition Temperature:**

Not available

### **Decomposition Temperature:**

Not available

### **Acute Hazards:**

Unlikely in normal use.

Toxin is mainly an organophosphorous cholinesterase inhibitor.

### **Special fire fighting procedures:**

Use dry powder, foam, dry chemical or CO<sub>2</sub> to extinguish fires.

### **Special protective equipment:**

Do not breathe fumes. For fires in enclosed areas, fire fighters must use nitrile rubber gloves, close fitting safety goggles, effective respiratory protection when necessary, full length protective clothing and boots should be worn when handling this material in an emergency. Toxic fumes may be given off.

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## **Hazardous decomposition products:**

Gives off irritating or toxic fumes (or gases) in a fire, including phosphorous oxides and sulphur oxides.

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## **6. ACCIDENTAL RELEASE MEASURES**

### **Notification procedures:**

Report spills as required to appropriate authorities.

### **Procedures if material is released or spilled:**

Absorb on fire retardant treated sawdust, diatomaceous earth, sand, peat sorb, etc. Shovel in and dispose of at an appropriate waste disposal facility, in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

### **Environmental Precautions:**

Prevent spills from entering storm sewers or drains and contact with soil.

### **Waste disposal:**

Rinse empty container 3 times and destroy by perforation or flattening, and do not use for any other purpose. Product should be utilized completely to avoid disposal. If not possible, dispose of at an appropriate waste disposal facility, in accordance with current applicable laws and regulations. Soak up spillage with dry sand, shovel up and dispose of as for toxic waste in accordance with local/national regulations. DO NOT burn. Protective clothing to be worn when clearing spillage.

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## **7. HANDLING AND STORAGE**

### **Handling /storage precaution:**

Avoid prolonged repeated skin contact. Do not contaminate water, food or feed by storage or disposal. Store in a secure, dry, well –ventilated separate room, building or covered area. Not for use or storage on or around home. Keep away from sources of ignition and protect from exposure to fire and heat separate from incompatible materials. Do not allow entering public sewers and water sources. If contamination of drainage systems or water sources, is unavoidable, inform the appropriate authorities immediately. For use as directions on the label only. Wash thoroughly after application. Remove and wash contaminated clothing after use.

Wash applicator, receptacles, etc., thoroughly before re-using with other materials.

### **Note:**

During application and when cleaning equipment and protective clothing, contamination of all sources of drinking water, rivers, dams, crops or grazing shall be prevented.

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## **8. EXPOSURE CONTROL / PERSONAL PROTECTION**

### **Occupational exposure limits:**

No occupational limits established by OSHA, ACGIH or NIOSH

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## Engineering control measures:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

## PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

### Respirator:

An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

### Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with the substance.

### Gloves:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

### Eye protection:

The use of full-face protection is recommended.

*Emergency eyewash:* Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance:

White to off-white powder.

### Odour:

Mercaptan odor

### Flammability:

Not flammable.

### Explosive properties:

Like most organic powders, this product could form explosive mixture in air, under severe dust conditions.

### Flash point:

N/A

### Oxidising properties:

Not oxidative.

### pH:

No data available.

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**Stability:**

Stable in light and heat.

**Persistent foaming:**

Not available.

**Solubility in water:**

N/A

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## 10. STABILITY AND REACTIVITY

**Stability:**

Stable.

**Conditions to avoid:**

Not known

**Compatibility:**

Mixing with strongly alkaline or acidic substances should be avoided.

**(Materials to avoid)**

May attack iron and some other metal as well as some plastics and rubbers.

**Hazardous decomposition products:**

Combustion may produce carbon oxides, phosphorous oxides and sulphur oxides.

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## 11. TOXICOLOGICAL INFORMATION

*All data is calculated from values of technical material*

**Mercaptothion (Technical):**

**Oral:** Acute oral LD<sub>50</sub> for rats 1375-5500 mg/kg (pure), mice 775-3320 mg/kg.

**Skin and eye:** Acute percutaneous LD<sub>50</sub> (24 h) for rabbits 4100-8800, rats >2000 mg/kg.

**Inhalation:** LC<sub>50</sub> (4 h) for rats >5.2 mg/l.

**Permethrin (Technical):**

**Oral:** Oral LD<sub>50</sub> values of permethrin depend on such factors as: carrier, *cis/trans* ratio of the sample, the test species, its sex, age and degree of fasting; values reported sometimes differ markedly. Values for a *cis/trans* ratio of c. 40:60 are: for rats 430-4000, mice 540-2690 mg/kg; with a 20:80 ratio, the LD<sub>50</sub> is c. 6000 mg/kg. **Skin and eye:** Acute percutaneous LD<sub>50</sub> for rats >2500, rabbits >2000 mg/kg.

Mild eye and skin irritant (rabbits).

Moderate skin sensitiser.

**Inhalation:** LC<sub>50</sub> (3 h) for mice and rats >685 mg/m<sup>3</sup> air; (separate study gives >13 800 mg/m<sup>3</sup>).

**Other:** No mutagenic, teratogenic, or carcinogenic activity.



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**12. ECOLOGICAL INFORMATION****For Mercaptothion:****Birds:** Dietary LC<sub>50</sub> (5 d) for bobwhite quail 3500, ring-necked pheasants 4320 mg/kg diet.**Fish:** LC<sub>50</sub> (96 h) for bluegill sunfish 0.1, largemouth bass 0.28 mg/l.**Daphnia:** EC<sub>50</sub> (48 h) 1.0 µg/l.**Algae:** EC<sub>50</sub> (72 h) 13 mg/l.**Bees:** Toxic to bees. LD<sub>50</sub> (topical) 0.71 µg/bee.**Worms:** LC<sub>50</sub> 613 mg/kg soil.**For Permethrin:****Birds:** Typical oral LD<sub>50</sub> values for a *cis/trans* ratio of *c.* 40:60 are: for chickens >3000, mallard ducks >9800, Japanese quail >13 500 mg/kg.**Fish:** LC<sub>50</sub> (96 h) for rainbow trout 2.5 µg/l; (48 h) for rainbow trout 5.4, bluegill sunfish 1.8 µg/l.**Daphnia:** LC<sub>50</sub> (48 h) 0.6 µg/l.**Bees:** Toxic to bees. LD<sub>50</sub> (24 h) (oral) 0.098 µg/bee; (topical) 0.029 µg/bee.

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**13. DISPOSAL CONSIDERATIONS****Pesticide disposal:**

Contaminated absorbents, surplus product, etc., should be burned at 1000 °C in a high-temperature incinerator with effluent gas scrubbing. Where no incinerator is available, hydrolysis under alkaline conditions (pH 12 or above) is a suitable method to dispose of small quantities of the product. Before disposal of the resultant waste, the material must be analyzed to ensure that the active ingredient has been degraded to a safe level. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Comply with local legislation applying to waste disposal.

**Package product wastes:**

If container is broken, handle with rubber gloves. Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must be punctured and transported to a scrap metal facility for recycling or disposal.

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**14. TRANSPORT INFORMATION****UN NUMBER** 2757**ADR/IRD**

Substance name: Organophosphate pesticide, solid, toxic

Label: 6.1

**IMDG/IMO**

Packaging group: III

Label of class: 6.1 **Marine pollutant**

Shipping name: Organophosphate pesticide, solid, toxic

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## 15. REGULATORY INFORMATION

**Symbol:** Xn, N

**Indication of danger:** Harmful, Environmentally Hazardous Substance

**Risk phrases:**

**R 22** Harmful if swallowed

**Safety phrases:**

**S 2** Keep out of reach of children.

**S 22** Avoid breathe dust.

**S 24** Avoid skin contact.

**S 36/37** Wear suitable protective clothing and gloves.

**S 46** If swallowed, seek medical advice immediately and show label or MSDS.

**S 61** Avoid release to the environment. Refer to special instructions on the label and MSDS.

**National legislation:**

In accordance with the South African National Road Traffic Act, 1996 (Act 93 of 1996), the Fire Brigade Act, 1987 (Act 99 of 1987) and the Occupational Health and Safety Act, 1993 (Act. No. 85 of 1993)

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## 16. OTHER INFORMATION

**Packing and Labeling**

Packed in 50gr, 75gr, 200gr, 250gr, 500gr; 750gr; 1kg, 2kg, 5kg, 10kg, 20kg, 25 kg 3-ply paper bags or polyprop woven bags or HDPE/PET containers or paper/HDPE/PET construction sachets. Labelled according to South African regulations and guidelines.

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**Declaration:**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and is presented in good faith believed to be correct. This information applies to the PRODUCT AS SUCH. In case of formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.