

# KOMBAT CUTWORM

Registration No. L3130 – ACT 36 OF 1947



**KOMBAT CUTWORM** is a granular insecticide for the control of cutworms on flower vegetables and shrubs.

## **COMPOSITION**

### **Active Ingredient**

Sodium Fluosilicate - 100g/kg

## **USES AND BENEFITS**

**KOMBAT CUTWORM** is a ready-for-use bait and is easily applied directly to the soil surface. It :

- is quick acting;
- is stable and will not readily degrade under normal moisture conditions; and
- is particularly valuable when planting seedlings.

## **METHOD OF APPLICATION**

- Sprinkle 10 g product evenly per 1m<sup>2</sup>, at planting or when damage is observed.
- Repeat when necessary.

## **WARNINGS & PRECAUTIONS**

### **WARNINGS:**

- Poisonous when swallowed.
- Toxic to fish and wildlife.
- Store away from food and feed.
- Keep out of reach of children.

### **PRECAUTIONS:**

- Do not eat, drink or smoke whilst applying or before washing hands.
- Wash hands with soap and water after use.
- Prevent contamination of food, feedstuffs, drinking water, eating utensils, rivers and dams.
- Destroy empty container and never re-use for any other purpose.

**KOMBAT CUTWORM** is classified poisonous. All procedures must be followed carefully.

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



**CAUTION**



# KOMBAT CUTWORM

Version: 1.1

Revision Date: 2010



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

### PRODUCT INFORMATION

**Product Name** : KOMBAT CUTWORM

**Design Code** :

**Registration No.** : L22

**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 U; EPA III

A low toxicity insecticide

### Likely routes of exposure:

Skin contact, ingestion and inhalation.

**Skin:** May cause mild irritation. No adverse effects expected when used as recommended.

### Eye contact:

May cause eye irritation.

### Ingestion:

Harmful when ingested.

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**Inhalation:**

May be harmful by inhalation. No adverse effects expected when used as recommended.

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**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Common Name:</b>	Sodium fluosilicate
<b>Chemical Name:</b>	Sodium fluosilicate
	<b>(IUPAC)</b>
<b>CAS N<sup>o</sup>:</b>	[16893-85-9]
<b>Chemical family:</b>	Fluorides
<b>Chemical formula:</b>	Na <sub>6</sub> SiF <sub>6</sub>
<b>Molecular weight:</b>	186.1
<b>Use:</b>	A Granular insecticide bait for the control of cutworms in all crops
<b>Formulation:</b>	Sodium fluorosilicate: 100 g ae/kg Maize meal, fungicide, dye
<b>Active ingredients:</b>	Sodium fluorosilicate: 100 g ae/kg
<b>Symbol:</b>	X <sub>n</sub> , X <sub>i</sub> , N
<b>Indication of danger:</b>	Harmful if swallowed, irritant, environmentally dangerous
<b>Risk Phrases:</b>	R23/24/25

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**4. FIRST- AID MEASURES**

Symptoms include abdominal pain, diarrhea, dysphagia, hypersalivation, mucosal injury, nausea, vomiting. Electrolyte abnormalities including hyperkalemia, hypocalcemia, hypoglycemia, and hypomagnesemia may occur. Neurological symptoms include headache, muscle weakness, hyperactive reflexes, muscular spasms, paresthesia seizures, tetanic contractions, and tremors.

**Inhalation :**

Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. Qualified personnel should perform administration of oxygen. Get medical attention if effects persist.

**Skin contact:**

Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice.

**Eye contact:**

Immediately flush the eyes with clean, gently flowing lukewarm water or saline solution for 20 minutes, holding the eyelid(s) open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. If irritation persists, seek medical advice.

**Ingestion:**

Have victim rinse mouth thoroughly with water. Drink plenty of water and induce vomiting. Seek medical advice immediately showing container and label.

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## Advice to physician:

There is no specific antidote. Treat symptomatically and supportively as and when required. Remove by gastric lavage and catharsis, but not if victim is unconscious. Give oxygen if respiration is depressed.

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## 5. FIRE-FIGHTING MEASURES

### Fire and explosion hazard:

**Flash point: Not applicable**

**This material is not flammable.**

### Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

### Hazardous products of combustion:

Carbon monoxide (CO), phosphorous oxides (P<sub>x</sub>O<sub>y</sub>) and nitrogen oxides (NO<sub>x</sub>)

### Fire fighting:

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling vapours and fumes from burning materials. Keep upwind.

### Personal protective equipment:

Fire may produce irritating or poisonous vapours (toxic fumes of carbon monoxide, phosphorous oxides and nitrogen oxides), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions:

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

### Environmental precautions:

Do not allow entering of drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

### Occupational spill:

Remove all sources of flames and sparks For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles.

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In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

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## 7. HANDLING AND STORAGE

### Handling:

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

### Storage:

Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Do not store with other pesticides, fertilizer, seeds, foodstuffs and water supplies. Store away from incompatible substances. Product is incompatible with galvanized steel or unlined mild steel. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site 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:

It is usually safe to use the product without a respirator. If the product is used in dusty or confined conditions, a mask or 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 this substance.

### Gloves:

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

### Eye protection:

Wear safety goggles or face shield.

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**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:**

Light yellow granules

**Relative density:**1.705 g/cm<sup>3</sup> (20 °C)**Bulk density:**

0.674 g/ml (pour density)

**Solubility in water:**

Soluble in water

**Flash point:**

Not applicable

**pH:**

4.24

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## 10. STABILITY AND REACTIVITY

**Stability:**

Stable under normal temperatures and pressures. Glyphosate reacts strongly (possible violent exothermic reaction) with strong alkalis. Photodecomposition is negligible. Is stable to light and also stable up to 60 °C. Product is unlikely to spontaneously polymerize or decompose.

Glyphosate may be photolabile in natural waters, with calcium or other metal ions acting as catalysts for the process.

**Dilution stability:**

Stable in aqueous solutions at 20 °C.

**Storage stability:**

Stable for 2 years under normal warehouse conditions. Store at temperatures below 50 °C and above -15 °C. Stable to light. Partial crystallization may occur on prolonged storage below -15 °C.

**Incompatibility:**

Product is relatively stable in neutral, weakly acidic and weakly alkaline media, but reacts strongly (and possibly violently) with strong alkalis. Avoid strong oxidizing agents. Mixing with other products may reduce the activity of glyphosate. Incompatible with galvanized steel and unlined mild steel materials for storage.

**Thermal decomposition:**

Toxic oxides of carbon, nitrogen and phosphorus are released when the product decomposes on heating.

**KOMBAT CUTWORM**

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**11. TOXICOLOGICAL INFORMATION****Acute oral LD<sub>50</sub>:**

&gt; 3000 mg/kg in rats

**Acute dermal LD<sub>50</sub>:**

&gt; 4000 mg/kg in rats

**Inhalation LC<sub>50</sub> (4 hrs):**

&gt; 2 mg/l

**Acute skin irritation:**

Not irritating to skin (rabbit). Not skin sensitizer.

**Acute eye irritation:**

Moderately irritating to eyes (rabbit).

**Carcinogenicity:**

Animal studies did not detect any carcinogenic effects.

**Teratogenicity:**

Animal studies did not detect any teratogenic effects.

**Mutagenicity:**

Animal studies did not detect any mutagenic effects.

**Reproductivity:**

Reproductive changes in test animals only occur at very high doses. It is unlikely that glyphosate would produce effects in humans.

**12. ECOLOGICAL INFORMATION****Degradability:**Glyphosate is moderately persistent in soil, with estimated average half-life of 47 days. Microbes are primarily responsible for breakdown.Glyphosate is strongly adsorbed to suspended organic and mineral matter in water, and broken down primarily by microbes. Half-life ranges from 12 days to 10 weeks.**Mobility:**

The product is practically immobile. It is strongly adsorbed to most soils. It does not leach appreciably, and has low potential for runoff.

**Accumulation:**

The product shows little or no tendency to bio-accumulate and poses no long term threat to wildlife.

**ECOTOXICOLOGY: (for glyphosate tech)****Birds: Slightly toxic.**LC<sub>50</sub> (5-day diet): Bobwhite quail: > 3851 mg/kg diet**Fish: Toxic to fish**LC<sub>50</sub> (96 hours): Bluegill sunfish: > 120 mg/l

Trout: &gt; 86 mg/l

Sheepshead minnows &gt;1000 mg/l

**Bees: Not toxic.**LD<sub>50</sub> oral & dermal: > 100 µg/bee**Algae:**E<sub>b</sub>C<sub>50</sub> (72 h) for green algae

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(*Selenastrum capricornutum*) 485 mg/ℓ

E<sub>r</sub>C<sub>50</sub> (72 h) for marine algae

(*Skeletonema costatum*) 460 mg/ℓ

**Daphnia:**

LC<sub>50</sub> (48 hours): 780 mg/ℓ

**Other Beneficial organisms:**

No effect on carabid beetles. Harmless to slightly harmful to green lacewing, parasite species, mites / spiders and insects. Moderately harmful to *Bembidion lampros*.

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

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be re-used or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

**Container disposal:**

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

Empty the container of excess product into the mixing or spray tank of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose. Comply with any local legislation applying to disposal. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

**14. TRANSPORT INFORMATION**

**UN NUMBER:** 3077

**Road Transport ADR/IRD:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)

**Air Transport ICAO/IATA:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)

**Maritime Transport IMDG/IMO:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)



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## 15. REGULATORY INFORMATION

**Symbol:** Xi, X<sub>n</sub>, N

**Indication:** Harmful if swallowed, irritant, environmentally dangerous

**Risk phrases:**

**R 36/37/38** Irritating to eyes, respiratory system and skin

**R 51** Toxic to aquatic organisms.

**R 53** May cause long-term adverse effects in the environment

**Safety phrases:**

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

**S 24/25** Avoid contact with skin and eyes.

**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

**S 45** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**S 61** Avoid release to the environment.

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## 16. OTHER INFORMATION

**Packaging:**

Packed in 1g, 2g, 5g, 10g, 20g, 25g, 50g, 100g, 200g, 250g, 500g, 1, 5, 10, 20 and 50 kg plastic bags or containers and labelled according to South African regulations and guidelines.

**Disclaimer:**

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith, but without guarantee in respect of accuracy and no responsibility is accepted for errors and omissions or the consequence thereof.

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

### PRODUCT INFORMATION

**Product Name** : KOMBAT CUTWORM  
**Design Code** :  
**Registration No.** : L3130  
**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).

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## 2. HAZARD IDENTIFICATION

### Toxicity class:

WHO U; EPA III

A low toxicity insecticide

### Likely routes of exposure:

Skin contact, ingestion and inhalation.

**Skin:** May cause mild irritation. No adverse effects expected when used as recommended.

### Eye contact:

May cause eye irritation.

### Ingestion:

Harmful when ingested.

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**Inhalation:**

May be harmful by inhalation. No adverse effects expected when used as recommended.



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**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Common Name:</b>	Sodium fluosilicate
<b>Chemical Name:</b>	Sodium fluosilicate
	<b>(IUPAC)</b>
<b>CAS N<sup>o</sup>:</b>	[16893-85-9]
<b>Chemical family:</b>	Fluorides
<b>Chemical formula:</b>	Na <sub>6</sub> SiF <sub>6</sub>
<b>Molecular weight:</b>	186.1
<b>Use:</b>	A Granular insecticide bait for the control of cutworms in all crops
<b>Formulation:</b>	Sodium fluorosilicate: 100 g ae/kg Maize meal, fungicide, dye
<b>Active ingredients:</b>	Sodium fluorosilicate: 100 g ae/kg
<b>Symbol:</b>	X <sub>n</sub> , X <sub>i</sub> , N
<b>Indication of danger:</b>	Harmful if swallowed, irritant, environmentally dangerous
<b>Risk Phrases:</b>	R23/24/25

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**4. FIRST- AID MEASURES**

Symptoms include abdominal pain, diarrhea, dysphagia, hypersalivation, mucosal injury, nausea, vomiting. Electrolyte abnormalities including hyperkalemia, hypocalcemia, hypoglycemia, and hypomagnesemia may occur. Neurological symptoms include headache, muscle weakness, hyperactive reflexes, muscular spasms, paresthesia seizures, tetanic contractions, and tremors.

**Inhalation :**

Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. Qualified personnel should perform administration of oxygen. Get medical attention if effects persist.

**Skin contact:**

Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice.

**Eye contact:**

Immediately flush the eyes with clean, gently flowing lukewarm water or saline solution for 20 minutes, holding the eyelid(s) open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. If irritation persists, seek medical advice.

**Ingestion:**

Have victim rinse mouth thoroughly with water. Drink plenty of water and induce vomiting. Seek medical advice immediately showing container and label.

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## **Advice to physician:**

There is no specific antidote. Treat symptomatically and supportively as and when required. Remove by gastric lavage and catharsis, but not if victim is unconscious. Give oxygen if respiration is depressed.

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

### **Fire and explosion hazard:**

**Flash point: Not applicable**

**This material is not flammable.**

### **Extinguishing agents:**

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

### **Hazardous products of combustion:**

Carbon monoxide (CO), phosphorous oxides (P<sub>x</sub>O<sub>y</sub>) and nitrogen oxides (NO<sub>x</sub>)

### **Fire fighting:**

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling vapours and fumes from burning materials. Keep upwind.

### **Personal protective equipment:**

Fire may produce irritating or poisonous vapours (toxic fumes of carbon monoxide, phosphorous oxides and nitrogen oxides), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

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## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions:**

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

### **Environmental precautions:**

Do not allow entering of drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

### **Occupational spill:**

Remove all sources of flames and sparks For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles.

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In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

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## 7. HANDLING AND STORAGE

### Handling:

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

### Storage:

Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Do not store with other pesticides, fertilizer, seeds, foodstuffs and water supplies. Store away from incompatible substances. Product is incompatible with galvanized steel or unlined mild steel. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site 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:

It is usually safe to use the product without a respirator. If the product is used in dusty or confined conditions, a mask or 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 this substance.

### Gloves:

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

### Eye protection:

Wear safety goggles or face shield.

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**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:**

Light yellow granules

**Relative density:**

1.705 g/cm<sup>3</sup> (20 °C)

**Bulk density:**

0.674 g/ml (pour density)

**Solubility in water:**

Soluble in water

**Flash point:**

Not applicable

**pH:**

4.24

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## 10. STABILITY AND REACTIVITY

**Stability:**

Stable under normal temperatures and pressures. Glyphosate reacts strongly (possible violent exothermic reaction) with strong alkalis. Photodecomposition is negligible. Is stable to light and also stable up to 60 °C. Product is unlikely to spontaneously polymerize or decompose.

Glyphosate may be photolabile in natural waters, with calcium or other metal ions acting as catalysts for the process.

**Dilution stability:**

Stable in aqueous solutions at 20 °C.

**Storage stability:**

Stable for 2 years under normal warehouse conditions. Store at temperatures below 50 °C and above -15 °C. Stable to light. Partial crystallization may occur on prolonged storage below -15 °C.

**Incompatibility:**

Product is relatively stable in neutral, weakly acidic and weakly alkaline media, but reacts strongly (and possibly violently) with strong alkalis. Avoid strong oxidizing agents. Mixing with other products may reduce the activity of glyphosate. Incompatible with galvanized steel and unlined mild steel materials for storage.

**Thermal decomposition:**

Toxic oxides of carbon, nitrogen and phosphorus are released when the product decomposes on heating.

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**11. TOXICOLOGICAL INFORMATION****Acute oral LD<sub>50</sub>:**

&gt; 3000 mg/kg in rats

**Acute dermal LD<sub>50</sub>:**

&gt; 4000 mg/kg in rats

**Inhalation LC<sub>50</sub> (4 hrs):**

&gt; 2 mg/l

**Acute skin irritation:**

Not irritating to skin (rabbit). Not skin sensitizer.

**Acute eye irritation:**

Moderately irritating to eyes (rabbit).

**Carcinogenicity:**

Animal studies did not detect any carcinogenic effects.

**Teratogenicity:**

Animal studies did not detect any teratogenic effects.

**Mutagenicity:**

Animal studies did not detect any mutagenic effects.

**Reproductivity:**

Reproductive changes in test animals only occur at very high doses. It is unlikely that glyphosate would produce effects in humans.

**12. ECOLOGICAL INFORMATION****Degradability:**Glyphosate is moderately persistent in soil, with estimated average half-life of 47 days. Microbes are primarily responsible for breakdown.Glyphosate is strongly adsorbed to suspended organic and mineral matter in water, and broken down primarily by microbes. Half-life ranges from 12 days to 10 weeks.**Mobility:**

The product is practically immobile. It is strongly adsorbed to most soils. It does not leach appreciably, and has low potential for runoff.

**Accumulation:**

The product shows little or no tendency to bio-accumulate and poses no long term threat to wildlife.

**ECOTOXICOLOGY: (for glyphosate tech)****Birds: Slightly toxic.**LC<sub>50</sub> (5-day diet): Bobwhite quail: > 3851 mg/kg diet**Fish: Toxic to fish**LC<sub>50</sub> (96 hours): Bluegill sunfish: > 120 mg/l

Trout: &gt; 86 mg/l

Sheepshead minnows &gt;1000 mg/l

**Bees: Not toxic.**LD<sub>50</sub> oral & dermal: > 100 µg/bee**Algae:**E<sub>b</sub>C<sub>50</sub> (72 h) for green algae

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(*Selenastrum capricornutum*) 485 mg/ℓ

E<sub>r</sub>C<sub>50</sub> (72 h) for marine algae

(*Skeletonema costatum*) 460 mg/ℓ

**Daphnia:**

LC<sub>50</sub> (48 hours): 780 mg/ℓ

**Other Beneficial organisms:**

No effect on carabid beetles. Harmless to slightly harmful to green lacewing, parasite species, mites / spiders and insects. Moderately harmful to *Bembidion lampros*.

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

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be re-used or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

**Container disposal:**

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

Empty the container of excess product into the mixing or spray tank of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose. Comply with any local legislation applying to disposal. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

**14. TRANSPORT INFORMATION**

**UN NUMBER:** 3077

**Road Transport ADR/IRD:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)

**Air Transport ICAO/IATA:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)

**Maritime Transport IMDG/IMO:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (herbicide - glyphosate)



# KOMBAT CUTWORM

Version: 1.1

Revision Date: 2010



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## 15. REGULATORY INFORMATION

**Symbol:** Xi, X<sub>n</sub>, N

**Indication:** Harmful if swallowed, irritant, environmentally dangerous

**Risk phrases:**

**R 36/37/38** Irritating to eyes, respiratory system and skin

**R 51** Toxic to aquatic organisms.

**R 53** May cause long-term adverse effects in the environment

**Safety phrases:**

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

**S 24/25** Avoid contact with skin and eyes.

**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

**S 45** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**S 61** Avoid release to the environment.

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## 16. OTHER INFORMATION

**Packaging:**

Packed in 1g, 2g, 5g, 10g, 20g, 25g, 50g, 100g, 200g, 250g, 500g, 1, 5, 10, 20 and 50 kg plastic bags or containers and labelled according to South African regulations and guidelines.

**Disclaimer:**

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith, but without guarantee in respect of accuracy and no responsibility is accepted for errors and omissions or the consequence thereof.

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