

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016

**1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY UNDERTAKING:****PRODUCT INFORMATION**

Product Name : KOMBAT TERMITES

Design Code : ...

Registration No. : L4981, Act No. 36 of 1947

Use : Insecticide

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

Telephone : +27-33-417-1906/7



Harmful



Dangerous for the environment

EMERGENCY TELEPHONE NUMBERS**SPILLAGES:**

Emergency telephone: +27-82-446-8946 (all hours)

POISONING INCIDENTS:

Poison Information Centre of the Western Cape: +27-861-555-777 (all hours)
Griffon Poison Information Centre +27-82-446-8946 (all hours)
UFS Pharmacology/Toxicology information centre: +27-82-491-0160

2. HAZARD IDENTIFICATION**Toxicity class:**

WHO II, EPA III (form.)

ADI 0.01 mg/kg b.w

NOEL 200 mg/kg (rats) – 2 year

ACGIH 5 mg/m³ Carbaryl
10 mg/m³ Nuisance dust

STEL 15 mins 10 mg/m³

TWA 8 hours 5 mg/m³

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components : Carbaryl 16g/Kg

Common Name : Carbaryl

Chemical Name : 1-naphthyl methylcarbamate (IUPAC)

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016

CAS No. : 63-25-2
Chemical Family : Carbamate
Chemical Formula : C₁₂H₁₁NO₂ (Mol. Wt.:201.2)
EEC No. : 200-555-0
UN NO : 2757
Symbols : Xn
Risk-Phrases : R 22, R40, R50, Carc, Cat. 3.

Main Hazard:

Carbaryl is a carbamate compound which inhibits cholinesterase and it is of high toxicity.

Toxic to fish and bees.

Human poisoning is unlikely to occur due to the low concentration of the insecticide. However, contact with skin, inhalation of dust, or swallowing may be fatal. Persons with haemolytic anemias or pre-existing cholinesterase depression should not handle this product. Persons with respiratory disorders should use extra care in handling this product.

Fire and explosion hazard:

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

Chemical Hazard:

None known.

Biological Hazard:

Likely routes of exposure: May be absorbed from the gastrointestinal tract, through the intact skin, and through inhalation of fine dust.

Eye contact:

Tests indicate the product is minimally toxic, however caution should be practiced when handling the product. The product was found to be non-irritating.

Skin contact:

Tests indicate the product is minimally toxic, however caution should be practiced when handling the product. The product was found to be non-irritating.

Ingestion:

Toxic by ingestion. See point 4 for symptoms.

Inhalation:

Toxic by inhalation. See point 4 for symptoms.

Carcinogenicity:

See section 11

Mutagenicity:

See section 11

Neurotoxicity:

See section 11

Reproductive / Teragenicity:

See section 11



4. FIRST- AID MEASURES

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

Inhalation:

Acute exposure:

When inhaled, the first effects of cholinesterase inhibition are usually respiratory and may include nasal hyperaemia and watery discharge, chest discomfort, dyspnea, and wheezing due to increased bronchial secretions and bronchoconstriction. Other systemic effects may begin within a few minutes or several hours of exposure. Symptoms may include nausea, vomiting, diarrhoea, abdominal cramps, headache, vertigo, ocular pain, ciliary muscle spasm, blurring or dimness of vision, miosis, or in some cases mydriasis, lacrimation, salivation, sweating, and confusion. In severe cases, there may also be involuntary defecation and urination, bradycardia, hypotension, pulmonary oedema, convulsions, coma, and death from respiratory failure or cardiac arrest. Carbaryl does not accumulate in mammalian tissue and the cholinesterase inhibition reverses rather rapidly. In non-fatal cases, the illness generally lasts less than 24 hours.

Chronic exposure:

Prolonged or repeated exposure may cause effects as described in acute exposure.

First aid:

Remove from exposure area to fresh air immediately. If breathing has stopped, give mechanical artificial respiration (not direct mouth-to-mouth). Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Treat symptomatically and supportively. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately.

Skin contact:

Acute exposure:

May cause irritation. Localised sweating and fasciculations may occur at the site of contact. If sufficient amounts are absorbed through the skin, other effects of cholinesterase inhibition may occur as described in acute inhalation. Symptoms may be delayed for 2-3 hours, usually no more than 8 hours.

Chronic exposure:

Repeated or prolonged exposure may cause effects as described in acute exposure.

First aid:

Remove contaminated clothing immediately. Wash contaminated areas with soap and water followed by alcohol. Emergency personal should wear gloves and avoid contamination. Treat respiratory difficulty with mechanical artificial respiration. Get medical attention immediately.

Eye contact:

Acute exposure:

Direct contact may cause pain, hyperaemia, lacrimation, twitching of the eyelids, miosis, and ciliary muscle spasm with loss of accommodation, blurred or dimmed vision and browache. Sometimes mydriasis may occur instead of miosis. With sufficient exposure, other symptoms of cholinesterase inhibition may occur as described in acute inhalation.

Chronic exposure:

Prolonged exposure may cause effects as described in acute exposure.

First aid:

Irrigate eyes with water or saline solution. If symptoms of poisoning occur, treat respiratory difficulty with mechanical artificial respiration and oxygen. Observe patient for at least 24-36 hours. Get medical attention immediately.

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016



Ingestion:

Acute exposure:

When ingested, the first effects may be nausea, vomiting, anorexia, abdominal cramps and diarrhoea. With absorption from the gastrointestinal tract, the other effects of cholinesterase inhibition as described in acute inhalation may occur. Symptoms may begin within minutes or be delayed several hours.

Chronic exposure:

Repeated ingestion may cause effects as described in acute exposure.

First aid:

If person is alert and respiration is not depressed, give syrup of Ipecac followed by water (if vomiting occurs, keep head below hops to prevent aspiration). If consciousness level declines or vomiting has not occurred in 15 minute empty stomach by gastric lavage with the aid of cuffed endotracheal tube using isotonic saline or 5% sodium bicarbonate follow with activated charcoal. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen.

Do not give morphine, aminophylline, phenothiazines, reserpine, furosemide, or ethacrynic acid. Drugs like 2 PAM are not effective in poisoning with Carbaryl. THEY SHOULD NOT BE USED.

Treat symptomatically and supportively. Get medical attention immediately.

Advice to physician:

Antidote:

The following antidote has been recommended: **Atropine sulphate**. If symptomatic, administer IV atropine until atropinisation is achieved (drying of pulmonary secretions as indicator). Atropinization may be required for hours or days.

5. FIRE-FIGHTING MEASURES

Fire and explosion hazard:

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

Extinguishing agents:

Extinguish small fires with carbon dioxide, dry powder, Halon, water spray, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for firefighting for later disposal.

Firefighting:

Move containers from fire area if possible. Fight fire from maximum distance. Stay away from storage tank ends. Contain fire control water for later disposal. Do not scatter material, extinguish only if flow can be stopped. Use flooding amounts of water as a fog, solid streams may be ineffective. Cool containers with flooding amounts of water as far a distance as possible. Use water spray to absorb toxic vapours. Avoid breathing toxic vapours. Keep upwind. Consider evacuation of downwind area if material is leaking.

Special Hazards:

Fire may produce irritating or poisonous vapours (oxides of nitrogen, methylamine, and carbon monoxide).

Personal protective equipment:

Carbaryl dust may be transported in the smoke from a fire. Fire-fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.



6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

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

Environmental precautions:

Do not allow entering drains or watercourses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

Occupational spill:

Do not touch spilled material. Stop leak if you can do so without risk. Use water spray to reduce dust (contain any water used). Neutralise with sodium hydroxide and allow to stand for 4 hours. For **small spills**, sweep up and place into containers for later disposal. Move containers from spill area. For **larger spills**, contain material far ahead of spill for later disposal. Keep spectators away. Isolate hazard area and deny entry.

7. HANDLING AND STORAGE

Handling:

Toxic if swallowed. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. 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:

The product must be kept under lock and key. Keep out of reach of unauthorized persons, children and animals. Store in its original labeled container in shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational exposure limits:

No ingredients listed as potential carcinogen by NTP, OSHA, and IARC.

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 of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016



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 eye wash: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Dull green pellets; 3,2 mm diameter, approximately 10 to 15mm long.

Odour:

Odourless

Flammability:

Not flammable

Explosive property:

Not explosive

Flash point:

Not applicable

Oxidising properties:

Not oxidative

pH:

Not applicable

Viscosity:

Not applicable as the product is a solid

Bulk density:

Data not available

Stability:

Stable in neutral and acidic media, but hydrolysed in alkaline media to 1-naphthol.

Rapidly converted by oxidizing agents. Stable in light and heat.

Solubility in water:

Not soluble in water. Does not wet on suspend in water.

10. STABILITY AND REACTIVITY

Stability:

Stable up to 2 years under normal storage conditions. Stable in neutral and acidic media, but hydrolysed by concentrated alkalis to form 1-naphthol. Half life is 12 days (pH 7) and 3.2 days (pH 9). The rate of decomposition increases at higher temperatures. Carbaryl is stable to light and heat.

Incompatibility:

The product is to be used on its own. Not to be mixed with other products.



Hazardous decomposition:

Toxic oxides of nitrogen are released when the product decomposes on heating.

11. TOXICOLOGICAL INFORMATION

All data is for technical material.

Acute oral LD₅₀:

850 mg/kg in male rats.

500 mg/kg in female rats.

710 mg/kg in rabbits.

Acute dermal LD₅₀:

>4000 mg/kg in rats.

>2000 mg/kg in rabbits.

Although tests indicate high LD₅₀ values, caution should be practiced when handling the product.

Acute inhalation LC₅₀:

>206.1 mg/l of air over 4 hours (rats).

Acute skin irritation:

The product was found to be non-irritating to skin (rabbit).

Acute eye irritation:

The product was found to be non-irritating to eyes (rabbit).

Dermal sensitization:

No data available.

Carcinogenicity:

Inadequate evidence of carcinogenicity in animals.

Carbaryl is classified as an IARC Class 3 compound.

Teratogenicity:

Studies did not detect any teratogenic effects.

Mutagenicity:

Studies did not detect any mutagenic effects.

12. ECOLOGICAL INFORMATION

Degradability:

In soil, the active ingredient is metabolised to form 1-naphthol. The half life of the product is 7-14 days in sandy loam soils and 14-28 days in clay loam. Soils with high organic matter content retain residues for longer periods than do mineral soils.

Mobility:

Carbaryl is absorbed on soil and is unlikely to leach into water sources.

Accumulation:

Carbaryl absorbs to soil but shows little or no tendency to bioaccumulate. Carbaryl has very limited persistence in the environment.

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016



German wgk:

Not available.

ECOTOXICOLOGY:

All data is for technical material.

Birds:

Minimally toxic to birds.

Acute oral LD₅₀: > 2179 mg/kg (young mallard ducks)
 > 2230 mg/kg (Japanese quail)
 > 2000 mg/kg (young pheasants)
 1000-3000 mg/kg (pigeons).

Fish:

Toxic to fish.

LC₅₀ (96 hr): 1.3 mg/l (rainbow trout)
 10.0 mg/l (bluegill sunfish)
 2.2 mg/l (blue gill sunfish).

Bees:

LD₅₀ (contact) : 1.0 µg/bee.

Daphnia:

Very toxic to *Daphnia*.

Daphnia: The 48-hour EC₅₀ was 0.006 mg/l.

Earthworms:

Toxic to earthworms.

Beneficial insects:

Toxic for beneficial insects.

Soil micro-organisms:

No data available.

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 analysed 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.

KOMBAT TERMITES

Version: 1.2

Revision Date: December 2016

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

Substance ID no. 2757
 Hazard ID no. 60
 Label: 6.1
 Item no. 73°C

IMDG/IMO

Packaging group: III
 Label of class: 6.1 **Marine pollutant**
 Shipping name: Carbamate pesticide, solid, toxic (Carbaryl)

AIR/IATA

Shipping name Carbamate pesticide, solid, toxic (Carbaryl)
 Class: 6.1
 Hazard Label: Toxic
 Packaging Group: III
 Passenger Aircraft: 619 (max 100kg)
 Cargo Aircraft: 619 (max 200kg)

UK Not available**Tremcard No.:** 61GT7-III**15. REGULATORY INFORMATION**

Symbol: Xn
Indication of danger: Harmful

Risk Phrases:

R22 Harmful if swallowed
R40 Possible risk of irreversible effects.
R50 Very toxic to aquatic organisms.

Safety Phrases:

S2 Keep out of reach of children
S22 Avoid breathe dust
S24 Avoid skin contact.
S36/37 Wear suitable protective clothing and gloves.
S46 If swallowed, seek medical advice immediately and show this MSDS or product label.
S61 Avoid release to the environment.
 Refer to the label or 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)



16. OTHER INFORMATION

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new 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 SDS 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 SDS to their own SDS.

REFERENCES

- Applicable own physical and chemical studies.
- *The Pesticide Manual*; Eleventh Edition; Editor Clive Tomlin; Crop Protection Publications, 1997.
- *Agriculture and Public Health*; Guide to the Treatment of Poisoning by Chemicals, 1993.
- *Pharmacological Basics of Therapeutics*; International Edition; Alfred Goodman Gilman, Joel G. Hardman, Lee E. Limbird, Perry B. Molinoff, Raymond W. Ruddon.
- ADR – Volume II (Annex B), 1 January 1997.
- Dangerous Goods Regulations; IATA; International Air Transport Association, 41st Edition, Effective 1 January 2000.
- IMDG, Vol. IV.
- LOLI®.
- HSDB.