

VILLA T-REX

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product Name: T-REX
Insecticide (Molluscicide)
UN No. 3077
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:

24 Hr Transport / Spill emergency no:

Bateleur: +27 83 1233 911 or +27 860 333 911
 (Client: Villa Crop Protection)

Poisoning:

Griffon Poison Information Centre +27 82 446 8946
 Western Cape Poisons Tel. Service +27 861 555 777
 Tygerberg Hospital +27 21 931 6129

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: 1) Metaldehyde
 2) Carbaryl
Chemical Name: 1) *r*-2,*c*-4,*c*-6,*c*-8-tetramethyl-1,3,5,7-tetroxocane;
 2,4,6,8-tetramethyl-1,3,5,7-tetraoxacyclo-octane (IUPAC)
 2) 1-naphthyl methylcarbamate (IUPAC)
CAS No.: 1) [108-62-3] tetramer
 2) [63-25-2]
Chemical family: 1) Hydrocarbon
 2) Carbamate
Chemical formula: 1) C₈H₁₆O₄
 2) C₁₂H₁₁NO₂
Molecular weight: 1) 176.2 (tetramer)
 2) 201.2
Use: 1) Control of slugs and snails in agriculture and horticulture.
 2) Insecticide with contact and stomach action, and slight systemic properties.
Formulation: Metaldehyde + Carbaryl 50 g /kg Bait (Ready for use)
Hazardous ingredients: Metaldehyde
Symbol: X_n, N
Indication of danger: Harmful if swallowed, environmentally dangerous substance.
Risk Phrases: R20/22, R40, R50

3. HAZARD IDENTIFICATION

Likely routes of exposure: **Skin:** Unlikely to cause symptoms. May be harmful if absorbed through the skin. Prolonged and/or repeated exposures may cause dermatitis or skin allergic reactions in sensitive persons. Not a skin sensitizer.
Eyes: May cause slight, transient and reversible irritation.
Inhalation: Due to the solid form, the product is not a hazard under normal use conditions.
Ingestion: Product may be harmful or fatal if swallowed.

4. FIRST AID MEASURES AND PRECAUTIONS

Acute Effects (Signs and Symptoms of Overexposure) may include:

Minor, transient eye irritation and redness may occur. Product may be harmful or fatal if absorbed through the skin. Prolonged and/or repeated skin contact may cause dermatitis.

If ingested, product may be harmful or fatal. Symptoms of toxicity may include nausea, vomiting, excessive salivation, acetonuria (odour of acetone on breath), muscle tremor, convulsions, abdominal pain, diarrhoea, increased heart rate, high blood pressure and body temperature, stupor, unconsciousness, coma and respiratory failure. Due to the low amounts of **Metaldehyde** in the product, it is unlikely that coma or death may be induced in humans. Exposure may aggravate medical conditions of the kidneys and liver disorders.

Inhalation: Since the product is a non-dusty pellet, inhalation is not likely in normal use. If inhaled, remove person to fresh air. If breathing is difficult, supply oxygen. If breathing has stopped, perform artificial respiration. Contact a physician if effects persist.

Skin contact: Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with water and non-abrasive soap.

Eye contact:

Gently flush eyes slowly with a stream of clean water for 15 to 20 minutes, holding the eyelid(s) open. Obtain medical attention if irritation persists.

Ingestion: If the person is alert, rinse mouth thoroughly with water. Do not induce vomiting, unless told to do so by poison information centre or doctor. Do not give anything by mouth to an unconscious person. If swallowed consult a physician and show this MSDS/label/container.

Advice on treatment: There is no known antidote available. Treat symptomatically and supportively. If product has been swallowed, consider gastric lavage and administration of activated charcoal.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard:

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Flash point: Not applicable.

Metaldehyde: Does not have unusual fire hazards. It is not highly flammable, is non-oxidising and non-explosive. On burning toxic fumes may be emitted. **Carbaryl:** Slight fire hazard when exposed to heat or flame. Dust-air mixtures may ignite or explode

Hazardous products of combustion: Under normal storage conditions, product is not known to produce hazardous decomposition products. Burning will result in release of carbon monoxide and other toxic fumes and vapours.

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, if there is a risk of polluting sewers and ground water. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

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

product comes in contact with water, contain contaminated water for later disposal. Place the material into a clean, dry container, cover and label for subsequent disposal. All contaminated cleaning materials should be placed in closed receptacles with clear label. Clean area with water and detergent after removal. Do not flush spilled material into drains. Keep spectators away.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Handle with care. Harmful if swallowed and possibly if in contact with skin. Avoid contact with eyes and skin. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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. Keep away from pets, unauthorized persons and children.

Storage: Store in its original container in isolated, dry and well-ventilated area. Keep out of reach of unauthorized persons, children and animals. Keep from contact with other pesticides, fertilizers and seeds during storage. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

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. Although this product is not classified as dangerous, operators should be aware that the active ingredient is harmful by ingestion.

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: Because the product is a pellet there should be minimal to no inhalation risk. Should a respirator be used, an approved respirator suitable for protection from mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions: Avoid contact with skin and eyes. For personal protection see Section 8.

Environmental precautions: Do not allow entering 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: For spills, gather with e.g. shovel and broom. Retrieve product by sweeping or suction and place into containers for later disposal. In situations where

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or prolonged skin contact with this substance, including long-sleeved shirt, long pants and shoes with socks. This is a pre-cautionary measure, since the product is non-dusty, non-irritant and non-sensitising. If used according to recommendations there should be no risks to the skin.

Gloves: Employee must wear appropriate synthetic, waterproof, protective gloves to prevent contact with this substance. Remove and dispose of gloves with care. Wash hands immediately after handling the product.

Eye protection: The use of safety glasses or goggles is recommended. If used according to recommendations, the pellet is non-dusty, non-irritant and poses no risk to the eyes.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue-coloured cylindrical bait pellets

Flammability: Not flammable

Flash point: None for solid substances

pH: 5 to 7

Density: 0.750 to 0.850 g/cm³ (20°C)

Particle size distribution: 75000 ± 10 %

Dust content: Dust free

Friability and attrition characteristic: ~100 %

10. STABILITY AND REACTIVITY

Stability: Metaldehyde: Chemically and thermally stable at room temperature and under normal use conditions.

Carbaryl: Stable in neutral and acidic media, but hydrolyzed 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.

Conditions to avoid: Avoid heat and moisture. Moisture may cause very slow hydrolysis of **Metaldehyde**. If **carbaryl** is exposed to heat toxic oxides of nitrogen are released.

Hazardous products of decomposition: Acetaldehyde can be formed by decomposition of **Metaldehyde**. Toxic gasses may be formed in a fire.

Hazardous polymerization: Polymerization does not occur. **Metaldehyde** is a polymer.

Incompatibility: Avoid oxidizing products.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀:

Carbaryl: For rats 264, female rats 500 mg/kg

Metaldehyde Rats: 283 mg/kg in rats

Acute dermal LD₅₀:

Carbaryl: For rats >4000 mg/kg

Metaldehyde: >5000 mg/kg

Acute skin irritation: Slight irritant

Acute eye irritation: Slight irritant

Dermal sensitisation: Not a skin sensitizer

Mutagenicity: Non-mutagenic

Teratogenicity: Non-teratogenic

Carcinogenicity: Non-carcinogenic, limited evidence of carcinogenicity

Reproductivity: **Metaldehyde** is a suspected reproductive toxin

12. ECOLOGICAL INFORMATION

Degradability: Metaldehyde is decomposed by microbes to CO₂ and water. It is of low persistence in soil. The half-life of **Metaldehyde** is several days. It is weakly adsorbed by clay particles and organic matter in soil and is soluble in water. **Metaldehyde** is of low persistence and does not pose a significant risk to groundwater. In water, **Metaldehyde** is rapidly hydrolysed to acetaldehyde.

Animals In mammals, **carbaryl** does not accumulate in body tissues, but is rapidly metabolised to non-toxic substances, particularly 1-naphthol. This, together with the glucuronic acid conjugate, is eliminated predominantly in the urine and faeces. Metabolism of carbamate insecticides is reviewed (M. Cool & C. K. Jankowski in "Insecticides"). **Plants** Metabolites are 4-hydroxycarbaryl, 5-hydroxycarbaryl and methylol-carbaryl.

Soil/Environment Under aerobic conditions, carbaryl at 1 ppm degraded with DT₅₀ 7-14 d in a sandy loam and 14-28 d in a clay loam.

ECOTOXICOLOGY: Death of birds feeding in **Metaldehyde**-treated areas have been reported. It is practically non-toxic to aquatic organisms, but toxic to wildlife. When used as directed, it is non-toxic to bees. Pellets may be attractive to dogs and pets should be kept away from application and storage sites.

Birds: Technical

Metaldehyde: Oral LD₅₀: quail: 170 mg/kg

Carbaryl: Oral LD₅₀: Young mallard ducks >2179 mg/kg.

Young pheasants >2000 mg/kg,

Japanese quail 2230 mg/kg,

Pigeons 1000-3000 mg/kg.

Fish:

Metaldehyde: LC₅₀ (96 hours): rainbow trout: 75 mg/ℓ

Carbaryl: LC₅₀ (96 h) for rainbow trout 1.3 mg/ℓ

sheepshead minnow 2.2 mg/ℓ

bluegill sunfish 10 mg/ℓ

Daphnia:

Metaldehyde: EC₅₀ (48 hours): > 90 mg/ℓ

Carbaryl: LC₅₀ (48 h) 0.006 mg/ℓ

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Dangerous Substance.

Bees:
Metaldehyde: LD₅₀ (oral): > 87 µg/bee
 LD₅₀ (contact): > 113 µg/bee
Carbaryl: Toxic to bees; LD50 (topical) 1 µg/bee
Earthworm:
Metaldehyde: LC₅₀: > 1000 ppm
Carbaryl: LC₅₀ (28 d) 106-176 mg/kg soil

Risk phrase(s):
R 20/22 Harmful by inhalation and if swallowed
R 40 Limited evidence of carcinogenic effect
R 50 Very Toxic to aquatic organisms
R 57 Toxic to bees
Safety phrases:
S 2 Keep out of the reach of children.
S 13 Keep away from food, drink and animal feeding stuffs.
S 20/21 When using do not eat, drink or smoke.
S 36/37 Wear suitable protective clothing and gloves.
S 46 If swallowed, seek medical advice immediately and show this container or label.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused 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 dumpsite. 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.

16. OTHER INFORMATION

Packaging: Packed in (500, 700) g or (1, 2, 5, 10, 20, 25 and 400) kg multi-layered paper bags 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.

14. TRANSPORT INFORMATION

UN NUMBER: 3077
Road Transport ADR/IRD:
Class: 9
Packing Group: III
ROAD/RAIL: Environmentally Hazardous substance solid, N.O.S.
Metaldehyde + Carbaryl 50 g/kg Bait (Ready for use)
Maritime Transport IMDG/IMO:
Class: 9 + Marine pollutant
Packing group: III
Shipping name: Environmentally Hazardous Substance, solid, N.O.S.
Metaldehyde + Carbaryl 50 g/kg Bait (Ready for use)

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Compiled: June 2013
Reviewed: May 2017

15. REGULATORY INFORMATION

Symbol: X_n, N
Indication of danger: Harmful, Environmentally