

VILLA TOLERANCE 1110 AL

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Tolerance 1110 AL
 Insecticide/ Nematicide
UN No.: 2047
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 10413,
 Aston Manor, 1630, 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, 3-Dichloropropene
Chemical Name: (E,Z)-1,3-Dichloropropene (IUPAC)
CAS No.: [542-75-1]
Chemical Family: Chlorinated hydrocarbon
Chemical Formula: C₃H₄Cl₂ (Mol. wt.: 110.97)
Formulation: 1, 3-Dichloropropene 1110 g/l AL
 Other liquids to be applied
Use / Mode of Action: Soil fumigant nematicide. The (Z)- isomer is more effective to nematodes. Uses Pre-planting control of most nematodes in deciduous Potatoes and Pineapples.
Hazardous Ingredient:
 1, 3-Dichloropropene 95.4 %
 Inerts.....4.6 %
SYMBOLS: F, Xi, Xn, N
RISK-PHRASE(S): R 10, R 34, R 36/35, R45, R52

3. HAZARD IDENTIFICATION

Toxicity class: WHO 1b. Highly hazardous.
 Cause irritation to the skin and eyes.
 May cause skin sensitisation by contact.
 Carcinogenic. **Toxic to fish.**

4. FIRST AID MEASURES AND PRECAUTIONS

1,3-Dichloropropene has been determined to cause tumours. Aspiration to lungs may occur during ingestion or vomiting, resulting in rapid absorption and injuries to other body systems. If swallowed may cause death.
Inhalation: Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth-to-mouth resuscitation. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **Seek medical advice immediately.**
Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.
Eye contact: Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.
Ingestion: Have victim rinse mouth thoroughly with water. **Do not induce vomiting, due to the aromatic solvent. Seek medical advice immediately.** If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel should perform administration of gastric lavage or oxygen.
Advice to physician: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, endotracheal and or oesophageal control is suggested. Danger from lungs aspiration must be weighed against toxicity when considering empty the stomach. If burn is present treat as any thermal burn, after decontamination. Repeated excessive exposure may aggravate pre-existing lung, liver and kidney disease. No specific antidote. Supportive care. Treatment based on judgement of physician in response to reactions of the patient. Persons receiving a significant exposure of this material by inhalation should be observed 24-48 hours for delayed pulmonary edema.

5. FIRE FIGHTING MEASURES

Fire/Explosion hazard:
Flammable. Fire risk. Flash point: 28 °C.

VILLA TOLERANCE 1110 AL

MATERIAL SAFETY DATA SHEET

Toxic, irritating vapours may occur under fire conditions. Keep vapours away from possible ignition sources.

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. 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 or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

Environmental precautions: Do not apply on directly to water, to areas where surface water is present or to intertidal areas below the mean mark. Do not contaminate water by disposal of equipment wash waters. See "Storage, shipment and Disposal" section. In case of spills properly dispose of contaminated materials. **1,3-Dichloropropene** is known to move through soil and under certain conditions has the potential to reach ground water as a results of agricultural use. Application in areas where soils are permeable and ground water is near the surface could result in ground water contamination. Do not apply within 100 feet of any well used for potable water. Do not apply in areas overlying karst geology.

Occupational spill: Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited. Do not get water inside containers.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

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.

Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

Storage: Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies.

Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Storage stability: Stable for a period of 2 years under normal warehouse conditions.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

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:

Respirator: An approved full-face respirator suitable for protection from spray or mists of pesticides is required.

VILLA TOLERANCE 1110 AL

MATERIAL SAFETY DATA SHEET

Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves: Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection: The use of chemical resistant goggles or face shield.

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: Light to straw-amber coloured liquid.

Odour: Penetrating, irritating, chloroform-like odour.

Relative density: 1.22 g/mg at 20 °C.

Solubility in water: Approximately 0.1 %.

Flash point: 28 °C.

Flammability: Flammable. Fire risk.

pH: 5 to 8.

pH of 1% aqueous dilution: 5 to 8.

10. STABILITY AND REACTIVITY

Stability: Considered stable for a period of 2 years under recommended warehouse and light conditions.

Condition to avoid: may form explosive mixtures with air when confined. Incompatibility (Specific condition to avoid): corrosive to some metals. Do not use containers or equipment containing aluminium, magnesium, zinc, cadmium, or their alloys. Avoid strong bases.

Hazardous decomposition: Hydrogen chloride and other toxic, irritating gases may be formed if product is involved in fire.

Hazardous Polymerisation: Not known to occur.

11. TOXICOLOGICAL INFORMATION

Formulation:

Acute oral LD₅₀: >224 mg/kg

Acute dermal LD₅₀: 333 mg/kg

Acute inhalation LC₅₀: 2.70 to 3.07 mg/l/4 hours (tech)

Easily attainable vapour concentration may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

Acute skin irritation: Severe skin irritant. Brief contact may cause skin irritant with local redness. Prolonged or repeated exposures cause skin irritation, even a burn. Prolonged or wide spread skin contact may result in absorption of harmful amounts.

Acute eye irritation: Severe eye irritation with corneal injury, which may result in permanent impairment (tears). Vapour may cause eye irritation experienced as mild discomfort and redness.

Sensitization: Animal data indicate that **1,3-Dichloropropene** is a potential sensitizer.

Teratogenicity/ Development: **1,3-Dichloropropene** did not cause birth defects or any other fatal effects in laboratory animals.

Mutagenicity: For the active ingredient, **1,3-Dichloropropene**, in-vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Carcinogenicity: **1,3-Dichloropropene** is listed as a potential carcinogen for hazard communication purposes under OSHA Standards 29 CFR 1910.1200. **1,3-Dichloropropene** has been shown to cause cancer in laboratory animals by occurrence of benign lung tumors in male mice.

ADI: 0.0125 mg/kg b.w.[2006] (tech.)

12. ECOLOGICAL INFORMATION

In animals: **1,3-Dichloropropene** (tech.) animals excretion in rats occurred primary as the mercapturic acid conjugate and its corresponding sulfoxide.

In plants: **1,3-Dichloropropene** metabolism is rapid, progressing through 3-chloroallyl alcohol, 3-chloroacrylic and 3-chloro-10propanol, leading ultimately to normal plant constituents. Metabolism DT₅₀ for **1,3-Dichloropropene** 1.5h for 3-chloroallyl alcohol 4.4h (both calc.)

In the soil: **1,3-Dichloropropene** non-persistent in soil, undergoing hydrolysis to the corresponding 3-chloroallyl alcohols

ECOTOXICOLOGY:

Birds:

LD₅₀: Bobwhite quail: > 152mg/kg

LC₅₀ 5-day diet: Mallard ducks: > 10 000 mg/kg

Fish:

LC₅₀ (96 hours): Bluegill sunfish: 7.1 mg/l

Rainbow trout: 3.9 mg/l

Daphnia: Very toxic to Daphnia.

Daphnia magna: 48-hour LC₅₀: 6.2 mg/l

Bees:

LD₅₀ 90 hours): > 6.6 µg/bee

VILLA TOLERANCE 1110 AL

MATERIAL SAFETY DATA SHEET

Earthworms:

Initial toxic to earthworms; not persistent, therefore re-colonisation is very quick.

Algae: Slightly toxic.

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.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN No.: 2047

Road Transport ADR/IRD:

Class: 6.1

Packing group: II

Shipping name: **Dichloropropene**
1,3-Dichloropropene 1110 g/l)

Maritime Transport IMDG/IMO:

Class: 6.1

Packing group: II

Shipping name: **Dichloropropene**
1,3-Dichloropropene 1110 g/l)

15. REGULATORY INFORMATION

Symbol: F, Xi, Xn, N

Indication of danger: **Flammable**, Irritant, Harmful and Environmentally Hazardous Substance.

Risk phrases:

R 10 Flammable.

R 34	Causes burns.
R 20/22	Harmful by inhalation and if swallowed.
R 36/37/38	Irritation to eyes, respiratory system and skin.
R 45	May cause cancer
R 41	Risk of serious damage to eyes.
R 43	May cause skin sensitisation by skin contact.
R 52	Harmful to aquatic organisms.
Safety phrases:	
S 1/2	Keep locked up and out of the reach of children.
S 3/7/9	Keep container tightly closed in cool, well-ventilated place
S 13	keep away from food, drinks and animal feedingstuffs.
S 15	keep away from heat
S 24/25	Avoid contact with skin and eyes.
S 29/35	Do not empty into drains; dispose of this material and its container in a safe way
S 36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S 42	During fumigation and spraying wear suitable respiratory equipment.
S 45	In case of an accident or if you feel unwell, seek for medical advice
S 60	This material and its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

Packing and Labelling: Packed in 5, 10, 20, 25 and 50 litres fluorinated plastic containers and labelled according to the 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 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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