

VILLA MISSION 500 SC

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product Name: MISSION 500 SC
 Fungicide
UN No. 3082
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 10413
 Aston Manor, 1630, South Africa
Telephone: (011) 3962233
Fax: (011) 3964666
Website: www.villacrop.co.za

Emergency telephone numbers:

24 Hr Transport / Spill emergency no:

Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411

(Client: Villa Crop Protection)

Griffon Poison Information Centre +27 82 446 8946

(Client: Villa Crop Protection)

Poisoning Emergency telephone numbers:

Griffon Poison Information Centre +27 82 446 8946

Poisons Information Centre +27 861 555 777

Villa Crop Protection Emergency number:

National Safety, Health and Environmental Manager:

+27 63 698 0668

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Chlorothalonil
Chemical Name: Tetrachloroisophthalonitrile (IUPAC)
CAS No.: 1897-45-6
Chemical family: chloronitrile
Chemical formula: C₈Cl₄N₂
Molecular weight: 265.92
Use: A suspension concentrate contact fungicide for the preventive control of the fungal diseases on certain crops.

Formulation: Chlorothalonil 500 g/l plus Zn
 Suspension Concentrate

Hazardous ingredients: Chlorothalonil

Symbol: Xn; Carc. Cat 3

Indication of danger: Harmful

Risk Phrases: R40

3. HAZARD IDENTIFICATION

Toxicity class: WHO (a.i.) III
 EPA (Formulation): IV

ADI (JMPR): 0.03 mg/kg/day

Main hazard: Chlorothalonil is slightly toxic to mammals, but it can cause severe eye and skin irritation and skin sensitization.

Biological hazards:

Eye contact: Eye irritant.

Skin contact: Highly irritating to skin. Skin contact with **Chlorothalonil** may result in dermatitis or light sensitivity
Ingestion: May cause irritation of the gastrointestinal tract.
Inhalation: Inhalation of dust or spray mist may cause irritation.

4. FIRST AID MEASURES AND PRECAUTIONS

Very high doses may cause a loss of muscle coordination, rapid breathing, nose bleeding, vomiting, hyperactivity, and death. Dermatitis, vaginal bleeding, bright yellow and/or bloody urine, and kidney tumours may also occur.

Swallowed: Do not induce vomiting. If totally conscious, give large quantities of milk or water to drink. Seek medical advice.

Eyes: Irrigate with copious amounts of water for 15 minutes. (Eyelids may have to be held open to ensure that the entire surface of the eye and lids are rinsed). Refer for medical advice if irritation persists.

Skin: Remove contaminated clothing while washing with copious quantities of water and soap for 15 minutes. If skin is irritated, refer for medical advice.

Inhaled: Remove person from contaminated atmosphere to fresh air. If shortness of breath or asphyxia has occurred give oxygen (if available) and commence resuscitation if necessary. Seek urgent medical advice.

Advice to the physician: Treat symptomatically.

Workers exposed to **Chlorothalonil** during production and use, has developed eye irritation and severe skin irritation.

Chlorothalonil has caused allergic reactions in some workers. For temporary allergic reactions, treat with antihistamines or steroid creams and/or systemic steroids.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard:

Flash point: None – water based.

This material is not flammable.

Special hazards: Product is not flammable. In a fire situation, use extinguishers appropriate to burning materials. Material may decompose if heated to release toxic chloride fumes. Fight fire from upwind. Contain any run-off and advise emergency services of nature of Hazard.

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.

Firefighting: Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire

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control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Personal protective equipment: 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: Keep bystanders away from scene of accident. Wear full protective clothing. Douse spill area with sodium hypochlorite solution (bleach) and absorb using soil or sand. Sweep up

Environmental precautions: Extremely dangerous to fish. DO NOT contaminate dams, ponds, waterways or drains with **Chlorothalonil** or used container.

Large spills: Using sand or soil, form a dam around the spill to prevent entry to sewers or watercourses.

Small spills: Absorb with sand or soil and sweep up and hose spill area with copious amounts of water.

Spill/Leak Procedures:

If contamination of sewers or watercourses has occurred, notify the local emergency services.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Do not use near source of sparks or open flame. Harmful by skin or eye contact, inhalation or ingestion. Avoid contact with eyes and skin, and inhalation of spray and vapour. 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 insecticide 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.

Storage: Do not store near sources of sparks, flame or heat. Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Store away from incompatible substances. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational exposure limits: No occupational exposure limits have been established for **Chlorothalonil**. This does not mean that this substance is not harmful. Safe work practices should always be followed.

Where possible, enclose operations and use local exhaust ventilation at the site of chemical release. If local exhaust ventilation or enclosure is not used, respirators should be worn.

Engineering controls must be effective to ensure that exposure to **Chlorothalonil** does not occur.

Engineering Control Measures:

Respirator: Wear a respirator fitted with combined dust and vapour cartridge (MSHA-NIOSH).

Clothing: When using do not eat, drink or smoke. Wear suitable clothing including PVC or rubber gloves, safety boots and goggles. Wear full coverall or full-length trousers with long sleeved shirt buttoned to the wrist and washable hat. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Remove contaminated clothing and wash before re-wearing.

Gloves: Wear PVC or rubber gloves.

Eye protection: Wear dust-proof goggles and face shield when working with powders or dust, unless full-face piece respiratory protection is worn.

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: White liquid suspension.

Odour: Slight odour.

Flammability: Not flammable. Not combustible.

Flash point: Water based. Not applicable.

pH: 8

Density: 1.252 g/ml

Stability: Stable under normal storage conditions.

10. STABILITY AND REACTIVITY

Storage stability: Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.

Incompatibility: Unstable under highly alkaline conditions.

Hazardous decomposition products: Heating **Chlorothalonil** may release toxic Cyanide.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: > 4000 mg/kg in rats.

Acute dermal LD₅₀: > 6000 mg/kg in rabbit.

Acute inhalation (Technical): LC₅₀ (4h - rat): 5 mg/l air

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Acute skin irritation: Severe skin irritant
Acute eye irritation: Severe eye irritant.
Dermal sensitisation: Mild skin sensitizer.
Carcinogenicity: Chlorothalonil is classified as a possible carcinogen.
Teratogenicity: Chlorothalonil is not expected to produce birth defects in humans.
Mutagenicity: Mutagenicity studies on various animals, bacteria, and plants indicate that Chlorothalonil does not cause any genetic changes. The compound is not expected to pose mutagenic risks to humans.

12. ECOLOGICAL INFORMATION

FATE AND BEHAVIOUR IN SOIL:

Rate of degradation: Chlorothalonil is moderately persistent. In aerobic soils, the half-life is from 1 to 3 months. Increased soil moisture or temperature increases Chlorothalonil degradation. It is not degraded by sunlight on the soil surface Chlorothalonil has high binding and low mobility in silty loam and silty clay loam soils, and has low binding and moderate mobility in sand.

Adsorption/desorption:

Chlorothalonil is adsorbed to the soil.

FATE AND BEHAVIOUR IN WATER:

Chlorothalonil is almost insoluble in water.

Rate and route of degradation:

The potential for leaching is generally low. The mobility of Chlorothalonil in soil is low in most soils, but in sandy soils, it is moderately mobile. Chlorothalonil has been found in groundwater in two areas, which were highly susceptible to groundwater contamination.

FATE AND BEHAVIOUR IN AIR:

Chlorothalonil does not evaporate easily.

German wgk: Not available.

ECOTOXICOLOGY:

Birds: Practically non-toxic to birds.

Oral LD₅₀: Mallard duck: 5000 mg/kg

Fish: Highly toxic to fish, aquatic invertebrates, and marine organisms.

Fish, such as rainbow trout, bluegill, and channel catfish are noticeably affected even when Chlorothalonil levels are low (less than 1 mg/l).

LC₅₀ (96 hours): rainbow trout: 0.25 mg/l
 Bluegill sunfish: 0.3 mg/l
 Channel catfish: 0.43 mg/l

Daphnia:

LC₅₀: Daphnia magna: 70 ppb

Bees: Not toxic. LD₅₀: >181 µg/bee

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited Waste resulting from the use of this

product that 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. Toxic to fish, aquatic invertebrates, and marine organisms.

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 dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 3082

Road Transport ADR/RID:

Class: 9
 Packaging group: III
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Chlorothalonil 500 g/l)

Air Transport AIR/IATA:

Class: 9
 Packing group: III
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Chlorothalonil 500 g/l)

Maritime Transport IMDG/IMO:

Class: 9
 Packing group: III
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Chlorothalonil 500 g/l)

Considered a marine pollutant.

15. REGULATORY INFORMATION

Symbol: Xn,
Indication of danger: Harmful
Risk phrase(s):
R 20/22 Harmful by inhalation and if swallowed.

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R 36/37/38	Irritating to eyes, respiratory system and skin.
R 40	limited evidence of a carcinogenic effect.
R 43	May cause sensitisation by skin contact.
R 50	Very toxic to aquatic organisms.
Safety phrases:	
S 1/2	Keep locked up and out of reach children.
S 13	Keep away from food, drink and animal feeding stuffs.
S 23	Do not breathe vapour/spray.
S 24/25	Avoid contact with skin and eyes.
S 36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S 61	Avoid release to the environment.

16. OTHER INFORMATION

Packaging:

Packed in 1, 5, 10, 15, 20, 25 & 50 litres plastic 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 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.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.