

MISSION 720 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: MISSION 720 SC
Other identifier: Chlorothalonil
Recommended use: Fungicide
Restrictions on use: Agriculture

Supplier: Villa Crop Protection (Pty) Ltd
Co. Reg. No.: 1992/002474/07
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:
(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

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Health		
Dermal	Acute Tox. 5 Skin Irrit. 3 Skin Sens. 1	H313 H316 H317
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 2	H330
Specific Target Organ Toxicity - Single Exposure	STOT SE 3	H335
Carcinogenicity	Carc. 2	H351
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:

Physiochemical effects: None known

Human health effects:

May be harmful in contact with skin (Acute Tox. 5).
Causes mild skin irritation (Skin Irrit. 3).
May cause an allergic skin reaction (Skin Sens. 1).
Causes serious eye damage (Eye Dam. 1).
Fatal if inhaled (Acute Tox. 2).
May cause respiratory irritation (STOT SE 3).
Suspected of causing cancer (Carc. 2).

Label elements:



Signal word: Danger

Hazard statements:

H313: May be harmful in contact with skin.
H316: Causes mild skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H330: Fatal if inhaled.
H335: May cause respiratory irritation.
H351: Suspected of causing cancer.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.
P260: Do not breathe dust, fume, gas, mist, vapours, or spray.
P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P284: In case of inadequate ventilation wear respiratory protection.
P391: Collect spillage.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P302+P317: IF ON SKIN: Get medical help.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P318: IF exposed or concerned, get medical advice.
P321: See label for specific treatment.
P333+P317: If skin irritation or rash occurs: Get medical help.
P316: Get emergency medical help immediately.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations.

Other hazards:

None known.

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Toxicity:

Classification according to GHS: Category 2

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Chlorothalonil	1897-45-6	55.76 %	Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 2 (H330) STOT SE 3 (H335) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Monoethylene-glycol	107-21-1	< 5 %	Acute Tox. 4 (H302)
Tensiofix L051	55965-84-9	< 1 %	Acute Tox. 2 (H310) Acute Tox. 3 (H301) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Acute Tox. 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Proxel GXL	2634-33-5	< 5 %	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of

any complaints or symptoms, avoid further exposure. **Immediately consult a doctor.** All of the ocular exposures to chlorothalonil involve intense pain with mild to moderate conjunctivitis and irritation of the corneal surface.

Inhalation: 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.**

Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.

Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**

Ingestion: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.

Anticipated acute effects: May be harmful in contact with skin. Causes mild skin irritation.

May cause an allergic skin reaction. Causes serious eye damage. Fatal if inhaled. May cause respiratory irritation.

Anticipated delayed effects:

Suspected of causing cancer. This compound is a positive animal carcinogen.

Most important symptoms / effects: 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. Chlorothalonil has caused irritation of the skin and mucous membranes of the eye and respiratory tract on contact.

Advice to 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

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: Hazards or hazardous products arising from combustion.

Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling

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hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin and eyes. **Do not breathe in spray mist or vapours.** Ventilate area of spill or leak, especially in contained areas.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

Methods and Materials for Containment: Contain spilled product by diking area with sand or earth.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Harmful if swallowed. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

Storage:

Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration:

No occupational exposure limits have been determined for the significant ingredients in this product.

Engineering Controls:

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. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

Personal Protective Equipment:

Respiratory Protection: Use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

Hand Protection: The use of chemically protective impervious gloves is recommended to prevent against skin contact.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and Body Protection: Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

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: White homogeneous flowable liquid suspension.

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Odour: Weak chemical odour.
Odour threshold: Not available.
pH (1% aqueous dilution): 8 (Technical)
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Does not flash.
Flammability: Not flammable. Not combustible.
Upper / lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density / Relative density: 1.33 g/ml @ 20 °C.
Solubility: Forms a suspension in water.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.
Reactivity: When heated to decomposition it emits toxic fumes of chloride ion, NOx and cyanide ion.
Possibility of hazardous reactions: Likely to occur when heated.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Strong oxidizers, strong bases, strong reducing agents. Unstable under highly alkaline conditions.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS
Oral LD₅₀ > 5000 mg/kg (rat)
Dermal LD₅₀ 3586.87 mg/kg (rat/rabbit)
Inhalation LC₅₀ 0.18 mg/l (rat)
Skin Irritation / Corrosion: Causes mild skin irritation.
Eye Damage / Irritation: Causes serious eye damage.
Skin Sensitization: May causes an allergic skin reaction.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: Not classified.
Specific target organ toxicity – single exposure: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: Not classified.
Chronic Effects: Suspected of causing cancer.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Fatal if inhaled.
Ingestion: Not classified.

12. ECOLOGICAL INFORMATION

This product is expected to be harmful to aquatic organisms

ECOTOXICITY DATA:

Active ingredient: Chlorothalonil

Fish:

LC ₅₀ (96 h)	Rainbow trout	0.039 mg/l
	Bluegill sunfish	0.059 mg/l
	Sheepshead minnow	0.020 mg/l
	Carp	0.06 mg/l
	Fathead minnows	0.023 mg/l

Daphnia:

EC ₅₀ (48 h)		0.070 mg/l
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Algae:

EC ₅₀ (72 h)	<i>Selenastrum capricornutum</i>	0.13 mg/l
	<i>Navicula pelliculosa</i>	0.0051 mg/l

Birds:

Acute oral LD ₅₀	Mallard ducks	>2000 mg/kg
	Japanese quail	>200 mg/kg
Dietary LD ₅₀ (5d)	Mallard ducks	>5200 mg/kg diet
	Bobwhite quail	>5200 mg/kg diet

Bees:

LD ₅₀ contact		>101 µg/bee
LD ₅₀ oral		>63 µg/bee

Worms:

LC ₅₀		>404 mg/kg
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ENVIRONMENTAL EFFECTS

Based on information for the formulation / active ingredient: Chlorothalonil

Plants: In plants, the majority of residues remain as parent compound.

Persistence and degradability: In aerobic (n=7) and anaerobic (n=1) soil studies, DT₅₀ 0.3-21 d (pF2, 20 – 24 °C) and 10 d, respectively Stable to hydrolysis at pH 5-7; DT₅₀ 38 d (pH 9, 22 °C). Degradation is faster in biotic aquatic systems; typical DT₅₀ (aerobic) ≤ 2.5 d. The potential for leaching is generally low.

Bio-accumulative potential: Not determined.

Mobility in soil: K_{oc} 850-7000 ml/g, indicating low mobility to immobility.

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Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product 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. The product may be taken to a registered waste disposal site or incineration plant.

Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter **RINSE THE EMPTY CONTAINER THREE TIMES** in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 2902
Road Transport ADR / ORD:
 Class: 6.1
 Packaging group: I
 UN Proper Shipping Name: PESTICIDE, LOQUID, TOXIC, N.O.S.
 (Chlorothalonil 720 g/l)

Maritime Transport IMDG / IMO:
 Class: 6.1
 Packaging group: I
 UN Proper Shipping Name: PESTICIDE, LOQUID, TOXIC, N.O.S.
 (Chlorothalonil 720 g/l)

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:
 Class: 6.1
 Packaging group: I
 UN Proper Shipping Name: PESTICIDE, LOQUID, TOXIC, N.O.S.
 (Chlorothalonil 720 g/l)

Special / Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:

OHSA 1993 Regulations for Hazardous Chemical Substances.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: None.

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 50, 100, 150, 200, 250, 500 ml & 1, 2, 4, 5, 8, 10, 12, 15, 20 and 25 litres plastic containers and drums, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H301: Toxic if swallowed.

H302: Harmful if swallowed.

H310: Fatal in contact with skin.

H314: Causes severe skin burns and eye damage.

IATA: International Air Transport Association.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization.

LD₅₀ value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

OEL/RL: Occupational exposure limit-recommended limit.

TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

ST/STEL: Short-term exposure limits.

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.

END OF DOCUMENT

Compiled: December 2007

Reviewed: July 2022

Revision no.: (3)

Next revision date: July 2027

For detailed information on revisions, contact the Registration holder.