



SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd
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Substance: chlortalonil.
Product Name: MYCOGUARD 720 SC
Product Use: Insecticide
Creation Date: June 2009
Revision Date: August 2019

24 Hr Emergency Number:

In case of Poisoning:

Poisons Helpline 0861 555 777

In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

SECTION 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: Conjugation with, and depletion of, thiols (particularly glutathione) from germinating fungal cells, leading to disruption of glycolysis and energy production, fungistasis and fungicidal action. Non-systemic foliar fungicide with protective action.

Formulation: chlorothalonil 720 g/l
 Suspension Concentrate

Hazardous ingredients of toxicological concern:

<u>Inert:</u>	<u>concern:</u>	<u>% present:</u>
chlorothalonil	harmful, environmental hazard, Carc. Cat 3	> 72 %
Glycol	harmful	> 12 %

Symbols: Xi, N

Risk-phrases(s): R22, R36/37/38, R40, R41, R43, R50/53

SECTION 3 - HAZARD IDENTIFICATION

Likely routes of exposure:

Skin and eye contact and ingestion.

Skin: May cause moderate to severe irritation, redness and flaky rash. May cause dermatitis. May cause mild sensitization to some individuals.

Eye contact: Mild to moderate eye irritant.

Ingestion: Minimally toxic. Harmful if swallowed. May cause irritation of the gastrointestinal tract following ingestion of large amounts.

Inhalation: Minimally toxic. May cause irritation to the respiratory tract, but this is rarely observed.

Environment: Highly toxic to fish and aquatic organisms.

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

Inhalation:

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 Spillage Helpline (Spill Tech) 086 100 0366



Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. If breathing is difficult, a qualified person should administer oxygen. Get medical attention immediately if effects persist.

Skin contact:

Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. If irritation persists, obtain medical attention.

Eye contact:

Immediately flush the eyes with clean, gently flowing cold water for 20 minutes, holding the eyelid(s) open. If irritation persists, obtain medical attention.

Ingestion:

Have victim rinse mouth thoroughly with water. Do not induce vomiting. Seek medical advice immediately, showing container and label.

Advice to physician:

There is no specific antidote. Treat symptomatically and supportively as and when required. If product is swallowed, gastric lavage could be considered, taking care to prevent aspiration of gastric material. Give oxygen if respiration is depressed.

SECTION 5 - FIRE-FIGHTING MEASURES**Fire and explosion hazard:**

Flash point: None – water based.

This material is not flammable.

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.

Fire fighting:

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire 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 may produce irritating or poisonous vapours (toxic fumes of carbon oxides, nitrogen oxides and sulfur oxides), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)**Personal precautions:**

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

Environmental precautions:

Do not allow entering drains or watercourses. MYCOGUARD 720 SC is highly toxic to fish and aquatic organisms. 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:

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

For small liquid spills, soak up with damp earth or sand, or other non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal.

For large liquid spills, contain the liquid by damming in with absorptive material and pump into containers. Soak up remainder with absorbent material.

Label containers with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not flush spilled material into drains. Keep spectators away. In situations where product comes in contact with water, contain contaminated water for disposal.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS**Handling:**

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the fungicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. 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.

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**Storage:**

Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Do not store with other pesticides, fertilizer, seeds, foodstuffs and water supplies. Store away from incompatible substances. Product is incompatible with galvanized steel or unlined mild steel. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. 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.

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:

It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection:

Wear safety goggles or face shield.

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.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light off-white free flowing homogenous liquid.
Odour:	Slight pungent odour.
Relative density:	1.3 ± 0.05 g/cm ³ .
Solubility in water:	Dispersible.
Flash point:	None. Water based. Does not flash.
Oxidizing properties:	None.

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Stable under normal temperatures and storage conditions.

Storage stability:

Stable for 2 years under normal warehouse conditions. Store at temperatures below 50 °C and above 0 °C.

Incompatibility:

Unstable under highly alkaline conditions.

Hazardous decomposition products:

Heating chlorothalonil may release toxic cyanide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute oral LD₅₀:	(calculated) > 5000 mg/kg. (Technical: > 5000 mg/kg for rats)
Acute dermal LD₅₀:	(calculated) < 5000 mg/kg. (Technical: > 5000 mg/kg for rabbits)
Inhalation:	Harmful, may cause irritation of respiratory tract. (Technical: LC ₅₀ (4 hours): > 0,52 mg/l air)
Acute skin irritation:	moderate to severe skin irritant.
Acute eye irritation:	severe eye irritant.
Skin sensitization:	cause dermatitis, mild sensitizer.

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**Reproductive effects:**

Studies suggest that chlorothalonil will not affect human reproduction at expected exposure levels.

Teratogenic effects:

Chlorothalonil is not expected to produce birth defects in humans.

Mutagenic effects:

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.

Carcinogenic effects:

Based on evidence from animal studies, chlorothalonil's carcinogenic potential is unclear. Male and female rats fed chlorothalonil daily over a lifetime developed carcinogenic and benign kidney tumors at the higher doses. In another study, where mice were fed high daily doses of chlorothalonil for 2 years, females developed tumors in the fore-stomach area (attributed to irritation by the compound) and males developed carcinogenic and benign kidney tumors. Carcinogenicity: Cat 3.

ADI: 0,03 mg/kg body weight.

SECTION 12 - ECOLOGICAL INFORMATION

Degradability:

Chlorothalonil is moderately persistent. In aerobic soils, the half-life is from 1 to 3 months. 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.

In very basic water (pH 9.0), about 65% of the chlorothalonil was degraded into two major metabolites after 10 weeks.

Chlorothalonil's residues may remain on above-ground crops at harvest, but will dissipate over time. Chlorothalonil is a fairly persistent fungicide on plants, depending on the rate of application.

ECOTOXICOLOGY:**Birds: Practically non-toxic to birds.**

LC ₅₀ :	Mallard duck:	> 4640 mg/kg
Dietary LC ₅₀ (8days):	Bobwhite quail:	> 10 000 mg/kg

Fish: Highly toxic to fish and aquatic organisms.

LC ₅₀ (96 hours):	Rainbow trout:	47 µg/l
	Bluegill sunfish:	59 µg/l
	Channel catfish:	43 µg/l

Algae:	EC₅₀:	<i>Selenastrum capricornutum</i>	210 µg/l
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Daphnia:	LC ₅₀ (48 hours):	70 µg/l
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Bees: Not toxic.	LD ₅₀ (contact):	> 101 µg/bee
	LD ₅₀ (oral):	> 63 µg/bee

Earthworms:	LC ₅₀ (14 days):	> 404 mg/kg
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SECTION 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.

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 to drain 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 10 % of that of the container. Add the rinsings 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.

SECTION 14 - TRANSPORT INFORMATION

UN NUMBER: 3082

Road Transport ADR/IRD:

Class: 9

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Packing group: III
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (chlorothalonil 720 g/ℓ)

Maritime Transport IMDG/IMO:

Class: 9
 Packing group: III
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (chlorothalonil 720 g/ℓ)

MARINE POLLUTANT.**SECTION 15 - REGULATORY INFORMATION**

Symbol: N, Xi
Indication: Environmentally dangerous substance, Irritant.
Risk phrases:
R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 40 limited evidence of a carcinogenic effect.
R 41 Risk of serious damage to eyes
R 43 May cause sensitization by skin contact.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S 2 Keep out of reach children.
S 24/25 Avoid contact with skin and eyes.
S 37/39 Wear gloves and eye/face protection.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

SECTION 16 - OTHER INFORMATION**Packaging and Labelling:**

Packed in 250 mℓ, 1, 5, 10, 20 and 25 ℓ fluorinated 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.

MATERIAL SAFETY DATA SHEET