

1. Identification of Chemical Product and Company

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Trade name Cheminova Chlorothalonil 720 Fungicide
Other names: 720 g/L chlorothalonil
Product Use: Fungicide for control of various diseases on fruit, vegetable and other crops.

2. Hazards Identification

Hazard Statement	This product is classified as hazardous according to the criteria of Safe Work Australia (SWA). The product is fatal if inhaled, causes serious eye damage, may cause an allergic skin reaction and respiratory irritation. Suspected of causing cancer.
GHS Classification	Acute Toxicity - Inhalation: Category 2, Eye damage/irritation: Category 1, Specific target organ toxicity (single exposure): Category 3, Carcinogenicity: Category 2, Sensitization – skin: Category 1, 1A, 1B.
Signal Word	DANGER
General Precautionary Statement (s)	Avoid contact with eyes and skin. If medical advice is needed, have product container or label at hand. Keep out of reach of children.
Precautionary statement - Prevention	Obtain special instructions before use (read label). Do not handle until all safety precautions have been read and understood. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and goggles and disposable mist mask or fume face mask covering mouth and nose. Do not breathe spray and use only outdoors or in a well ventilated area.
Precautionary statement – Response	If exposed or concerned, if Inhaled or skin irritation or rash occur: contact a doctor or Poisons Information Centre. Phone Australia 131126. In addition: IF INHALED, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If clothing becomes contaminated with product or wet with spray remove clothing immediately. If product on skin immediately wash area with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.
Precautionary statement – Storage and disposal	Collect any spillage. Keep container tightly closed. Store locked up in a well-ventilated place. Dispose of contents/container in accordance with Australian regulations.
Poison schedule	S6

3. Composition/Information on Ingredients

Ingredient Name	CAS No.	Proportion
Chlorothalonil	1897-45-6	72%, w/v
Other ingredients determined not to be hazardous	-	Remainder

4. First Aid Measures

General information	If exposed or concerned, if Inhaled or skin irritation or rash occur: contact a doctor or Poisons Information Centre. Phone Australia 131126. In addition:
Inhalation	No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.
Skin contact	Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.
Eye contact	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses..

Ingestion	If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.
Advice to Doctor	Treat symptomatically. No specific antidote is known.

5. Fire Fighting Measures

Extinguishing media	Use extinguishing media suited to burning material. If containers are ruptured contain all runoff. Preferred extinguishing media: alcohol resistant foam, CO ₂ or dry chemical. Soft stream water fog if no alternatives. Do not use water jet.
Special hazards	Considered low risk due to water content, however upon evaporation of water the product is combustible. Low risk of explosion if involved in a fire.
Advice for firefighters	Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.
HazChem code	3Z

6. Accidental Release Measures

Spills & Disposal	Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Isolate area. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and goggles and disposable mist mask or fume face mask covering mouth and nose. Collect in sealed containers for disposal. Final clean-up with degreasing agent or detergent is advised.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and Storage

Precautions for Safe Handling	Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.
Conditions for safe storage	This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

8. Exposure Controls and Personal Protection

Occupational exposure limit values	No exposure standard has been established for by Safe Work Australia (SWA) for this product. The manufacturer recommends the following for chlorothalonil.		
	Component	TWA (Time-weight average)	STEL (Short term exposure limit), ppm
	Chlorothalonil	0.1 mg/m ³	-
	No biological limit allocated		
Engineering controls	Use in well ventilated areas. Keep containers closed when not in use		
Personal Protective Equipment	When opening the container and preparing and using spray wear cotton overalls, buttoned to the neck and wrist (or equivalent clothing) , washable hat, elbow-length PVC gloves and goggles and disposable mist mask or fume face mask covering mouth and nose. After each day's use, wash contaminated clothing and mask.		
Hygiene Measures	After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.		

9. Physical and Chemical Properties

Appearance	Light brown liquid	Flammability limits	Not determined
Odour	Weak, ammonia-like	Vapour pressure	Azoxystrobin 1.107×10^{-10} Pa at 20°C
pH	Undiluted: 7.7 at 20°C 1% solution in water: 6.4 - 6.7 at 20°C	Vapour density	Not determined
Melting Point	Not determined	Specific Gravity	1.360 @ 20°C
Boiling Point	Not determined	Volatile Component	N/A
Viscosity	Non-newtonian fluid: viscosity is dependent on shear rate. Shear rate 0.1/s: > 10000 mPa.s Shear rate 50/s: > 50 mPa.s	Explosive properties	Not explosive
Flash Point	157°C (miniflash closed cap)	Oxidising properties	Not oxidising
Evaporation rate	Not determined		

10. Stability and Reactivity

Reactivity	To our knowledge, the product has no special reactivities. Does not polymerise.
Chemical stability	The product is stable during normal handling and storage at ambient temperatures for at least 2 years.
Conditions to avoid	Do not store for prolonged periods in direct sunlight. Avoid oxidizing materials.
Incompatible materials	None known.
Hazardous decomposition products	This product contains combustible organic components that may burn and decompose during a fire, producing dense black smoke containing hazardous products of combustion that can be both toxic and irritating.

11. Toxicological Information

Acute toxicity	No specific product data available.
Swallowed	LD50, oral, rat: > 10,000 mg/kg, mice: > 6,000 mg/kg
Skin	LD50, dermal, rat: > 10,000 mg/kg. May irritate the skin. Chlorothalonil is a skin sensitiser
Inhalation	Toxic if inhaled. Acute inhalation LC50 = 0.1 mg/4 hr.
Eye	Can be severely irritating to eyes. Can cause eye damage unless immediately washed out of eyes
Symptoms and effects, acute and delayed	Chlorothalonil can cause severe eye and skin irritation in certain formulations. 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.
Chronic toxicity	Chlorothalonil is rapidly excreted, primarily unchanged, from the body. It is not stored in animal tissues. Extensive testing of chlorothalonil has found no evidence of mutagenic, neurotoxic, teratogenic or reproductive effects. Subchronic toxicity studies in dogs have shown kidney toxicity, and chronic toxicity studies in rats and mice have shown kidney and forestomach tumours at high doses. This is not considered to be a risk to humans when handled and used as directed on the label.

12. Ecological Information

GHS classification	Hazards to the aquatic environment: Acute Category 1. Very toxic to aquatic life with long lasting effects.
	Environment signal wording: WARNING
Toxicity	Effects on aquatic organisms: Chlorothalonil and its metabolites are 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). Its bioaccumulation factor is quite low. Effects on birds: Chlorothalonil is practically nontoxic to birds. Most avian wildlife are not significantly affected by this compound. Effects on other organisms: The compound is nontoxic to bees.
Persistence / degradability:	Biodegradable. Chlorothalonil is moderately persistent. In aerobic soils, the half-life is from 1 to 3 months. In very basic water (pH 9.0), about 65% of the chlorothalonil was degraded into two major metabolites after 10 weeks.

Bioaccumulative potential	Will not accumulate in the soil or water or cause long term problems. Chlorothalonil does not store in fatty tissues and is rapidly excreted from the body
Mobility in soil	Low
Other adverse effects	Other relevant hazardous effects in the environment are not known

13. Disposal Considerations

Disposal	There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear* 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster* http://www.drummuster.com.au/ where you will find contact details for your area.
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14. Transport Information

Land transport: ADG7	Not Dangerous Goods under ADG7 code when being transported by road or rail. (Special provision AU01);
Bulk shipments by road and rail; Air and sea transport (IATA, IMDG):	
UN Number	3082
UN Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (chlorothalonil)
Class	9
Packaging Group	III
Environmental hazards	Marine pollutant
Hazchem code	3Z

15. Regulatory Information

Poisons Schedule	S5
Australian Pesticides and Veterinary Medicines Authority (APVMA) registration number	60939

16. Other Information

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

DISCLAIMER

This product must be used, stored and handled strictly as directed in accordance with the label and this Safety Data Sheet. To the extent permitted by law, Cheminova Australia Pty Ltd, the trademark owner, manufacturer and vendors of the product will not be liable for any loss or damage arising from use, storage or handling contrary to the product label and MSDS.

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