

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26th, 2009

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name **Bayer Chlorothalonil 500 SC Fungicide**
Other names None
Product codes and pack sizes 4952854 (20 L), 6472001 (60 L)
Chemical group Chloronitrile
Recommended use Fungicide for agricultural use
Formulation Suspension concentrate (SC)
Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022
Address 391 - 393 Tooronga Road, East Hawthorn
Victoria 3123, Australia
Telephone (03) 9248 6888
Facsimile (03) 9248 6800
Website www.bayercropscience.com.au
Contact Development Manager (03) 9248 6888
Emergency Telephone Number 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD
VERY TOXIC TO FISH AND AQUATIC ORGANISMS

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases R40 – Limited evidence of a carcinogenic effect
R26 – Very toxic by inhalation
R41 – Risk of serious eye damage
R37 – Irritating to respiratory system
R43 – May cause sensitisation by skin contact
Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13
ADG classification See Section 14.
SUSDP classification 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Chlorothalonil	[1897-45-6]	500
Other ingredients including solvents, dispersant and water	(non hazardous)	740

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4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.

Inhalation	If inhaled remove to fresh air and keep at rest. Obtain medical advice.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if irritation persists.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain urgent medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Give a glass of water. Keep patient at rest and seek urgent medical advice as above.
First Aid Facilities	Ensure washing facilities, especially an eyewash station, are available.
Medical attention	<i>Local contamination:</i> Eye exposure may result in irritation, conjunctivitis and corneal opacity. Irritation may occur following skin contact or inhalation. Allergic type reactions can be expected. Treatment should be symptomatic after decontamination. Antihistamine or steroid creams, and/or systemic steroids may be helpful. <i>Systemic poisoning:</i> Symptoms following ingestion of a large amount may include depression, diarrhoea, irritation of the mouth, oesophagus and stomach. There is no specific antidote. Treat symptoms.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, foam, dry chemical, carbon dioxide, sand
Hazards from combustion products	In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides can be expected.
Precautions for fire fighters	Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise spray unopened containers with water to cool. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later.
Hazchem code	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Contain spill and absorb with earth, sand, clay, or other absorbent material. Prevent spilled material from entering drains or watercourses. Collect and store in properly labelled drums for safe disposal. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.

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7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Attacks eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. Repeated exposure may cause allergic disorders. Sensitive workers should use protective clothing. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, goggles and disposable face mask. If clothing becomes contaminated with product or wet with spray remove clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.
Storage	Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.
Flammability	Non-flammable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	There are no applicable NOHSC exposure standards.
Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact. Use in a well-ventilated area only.
Personal Protective Equipment	Eyes: Safety goggles Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat Gloves: Elbow-length PVC gloves Respiratory: Disposable face mask.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous off white to grey liquid suspension
Odour:	Characteristic
pH:	6.0 to 8.0
Vapour pressure:	0.076 mPa at 25 °C (chlorothalonil)
Vapour density:	Not available
Boiling point:	> 100° C (water)
Freezing/melting point:	Not available
Solubility:	Disperses in water
Specific Gravity:	Approximately 1.24 at 20 °C
Flash Point:	Not flammable
Flammability (explosive) limits:	Not available
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Chlorothalonil</i> : Log P _{ow} = 2.92 at 25 °C

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10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Excessive heat
Incompatible materials	Oxidising agents, acids, alkalis
Hazardous decomposition products	In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides can be expected.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Very toxic if inhaled, however an unlikely route of exposure when handling the concentrate. Care should be taken to avoid inhalation of spray mist when spraying. Irritating to the respiratory tract.
Skin contact	Attacks skin. Allergic reactions in sensitive persons are possible.
Eye contact	Attacks eyes.
Ingestion	Low toxicity if swallowed, but will irritate the mouth, oesophagus and stomach lining.

TOXICITY DATA

Acute:

Oral toxicity	LD ₅₀ rat: > 5000 mg/kg (<i>chlorothalonil</i>)
Dermal toxicity	LD ₅₀ rabbit: > 5000 mg/kg (<i>chlorothalonil</i>)
Inhalation toxicity	LC ₅₀ rat (4 hour): 0.1 mg/L (<i>chlorothalonil</i>)
Skin irritation	Mild skin irritant (rabbit) (<i>chlorothalonil</i>)
Eye irritation	Severe eye irritant (rabbit) (<i>chlorothalonil</i>)
Sensitisation	Evidence in humans of contact dermatitis with repeated exposure.

Chronic:

In animal studies chronic administration of chlorothalonil caused liver and kidney damage. NOHSC have classified chlorothalonil in Category 3 – Possibly carcinogenic to humans. Chlorothalonil is not mutagenic, not teratogenic and did not produce reproductive effects in animal studies. Repeated exposure to this product may cause allergic disorders.

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12. ECOLOGICAL INFORMATION

This product is very toxic to fish and aquatic organisms. It has a low toxicity to birds, bees and earthworms. DO NOT contaminate streams, rivers or waterways with the product or used containers.

Ecotoxicity

Chlorothalonil:

Fish toxicity: LC₅₀ (96 h) 59 µg/L bluegill sunfish (*Lepomis macrochirus*)
LC₅₀ (96 h) 47 µg/L rainbow trout (*Onchorhynchus mykiss*)
Daphnia toxicity: LC₅₀ (48 h) 70 µg/L water flea (*Daphnia magna*)
Algal toxicity: EC₅₀ (72 h) 5.1 µg/L (*Navicula pelliculosa*)
EC₅₀ (120 h) 210 µg/L (*Selenastrum capricornutum*)
Bird toxicity: LD₅₀ > 4640 mg/kg mallard duck

Environmental fate, persistence and degradability, mobility

Chlorothalonil has low mobility or is immobile in soils. In aerobic and anaerobic soil studies the DT₅₀ was 0.3 to 28 days (20° C). Stable to hydrolysis. Degradation is faster in biotic aquatic systems.

13. DISPOSAL CONSIDERATIONS

When returnable container is empty or contents no longer required, return it to the point of purchase. For non-returnable containers, triple or (preferably) pressure rinse them before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product via a reputable disposal contractor to an approved landfill.

14. TRANSPORT INFORMATION

UN number	UN 3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains chlorothalonil)
Class and Subsidiary Risk	Class 9
Packing Group	Packing Group III
Hazchem code	•3Z
Marine Pollutant	Yes
Note for Road and Rail Transport	According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act, 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 45008

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16. OTHER INFORMATION

Trademark information None

Preparation information Replaces January 12th, 2009 edition.
Reasons for revision: Transport information

This MSDS 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 MSDS 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.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS