



GLOBAL AGRICHEM
SAFETY DATA SHEET

Suite 4, level 1, 38 Whitaker Place, Grafton
Auckland, New Zealand
Tel: +64 09 972 9837
Fax: +64 09 353 1736
info@globalagrchem.co.nz

Trade name: **BRAVE**

Date of issue: 01 September 2015
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1. Identification of the Substance and Supplier.

Product name: Brave (Chlorothalonil 720g/litre)
Recommended Use: Fungicide for use in Agricultural and Horticultural crops, Turf and Ornamentals.
Company Details: Global Agrichem Limited
Suite 4, level 1, 38 Whitaker Place.
Grafton, Auckland
New Zealand
Web Address: www.globalagrchem.co.nz
E-mail Address: info@globalagrchem.co.nz
Telephone number: (09) 972 9837
Emergency Telephone: National Poisons and Hazardous Chemicals Information Centre
Dunedin. Phone: 0800 POISON (0800 764-766)

2. Hazards identification. Classified by EPA as a hazardous substance according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

HSNO Hazard Classification:

6.1B: Toxic - May be fatal if swallowed, inhaled or absorbed through the skin
6.5B: Harmful - May cause sensitisation from prolonged skin contact
6.7B: Harmful - Suspected of causing cancer
6.9A: Toxic - May cause kidney damage from repeated oral exposure at high doses
8.3A: Danger - This product is corrosive and may cause eye damage
9.1A: Very Toxic - Very toxic to aquatic organisms
9.2B: Toxic - Toxic to the soil environment
9.3B: Toxic - Toxic to terrestrial vertebrates

Precautions: Avoid contact with the eyes. Wear eye protection.
Avoid skin contact. Wear protective clothing
Avoid contamination of any water supply with product or empty containers
Do not release into the environment

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3. Composition/Information on Ingredients

Ingredient	CAS Number	Content (% w/v)
Chlorothalonil (98%)	1897-45-6	54.4
Naphthalenesulfonic acid polymer	9084-06-4	2.3
Nonylphenol polyethylene glycol ether	9016-45-9	1.1
Tristyrylphenol ethoxylates	99734-09-5	0.7
Ethylene glycol	107-21-1	3.7
Dimethylpolysiloxane	9016-00-6	0.2
Other non- hazardous ingredients	-	To 100%

4. First aid measures

- First Aid:** For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
- Inhalation:** Remove patient to fresh air. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
- Ingestion:** Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
- Skin Contact:** Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
- Eye Contact:** Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.
- First Aid Facilities:** Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
- Advice to Doctor:** Treat symptomatically (decontamination, vital functions. No known specific antidote)

5. Fire-fighting measures

- Suitable extinguishing media:** If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.
- Hazards from combustion:** May emit toxic fumes of hydrogen chloride or phosgene if involved in fires or exposed to extreme heat.



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Special protective equipment for fire fighters: Wear full protective clothing and self-contained breathing apparatus.

Special fire-fighting methods: Keep upwind. Do not allow run-off from firefighting to enter sewage, effluent systems, drains or water courses.

Hazchem Code: 2X

Other Information: Location Certificate: Not applicable
Hazardous Atmosphere Zone: Not applicable
Number of Fire extinguishers: Not applicable

6. Accidental release measures

Spills and Disposal: Exclude non-essential people from the area. Wear protective clothing. Contain the spill and absorb with absorbent material (e.g. sand, soil or absorbent granules). If spill does enter waterways, contact the local authority. Collect the absorbed spill in an appropriate sealable container for disposal in an approved landfill. Decontaminate the spill area with detergent and water. Absorb with inert material and dispose of waste safely in an approved landfill.

Personal Protection: Ensure suitable personal protection (PPE). Wear eye protection, chemically resistant gloves boots and overalls.

Environmental precautions: Prevent washings from entering surface water drains or waterways.

7. Handling and storage

Precautions for safe handling:

Do not apply this product onto or into water.
Avoid skin and eye contact and inhalation of spray mist
Approved handler: This product must be under the control of an approved handler when applied in a wide dispersive manner or used by a commercial contractor.
Tracking: Location and movement of this product must be recorded at each stage of its lifecycle
Record Keeping: Records of use as described in NZS 8409 Management of Agrichemicals must be kept.
Maximum dosage rate /ha (wide dispersive use): 2.5 litres 4 times /year with at least a 7 day spray interval.
Maximum dosage rate /100 m² (non-wide dispersive use): 210ml 4 times /year with at least a 10 day spray interval.

Conditions for Safe Storage:

Keep out of reach of children.
Store in the original container tightly closed in a locked dry cool area away from foodstuffs.



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Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals.
Stores containing 100 litres of Brave require signage and secondary containment, more than 100 litres require emergency response plans.

8. Exposure controls/personal protection

Occupational exposure limit values: No exposure limits (WES, TEL or EEL's) have been specifically assigned to this product.

Engineering controls: No special requirements. Product is used outdoors. Handle in well ventilated areas. Generally, natural ventilation is adequate.

Personal Protective Equipment: When opening the container, preparing the spray or applying the product, wear safety goggles, impervious gloves, waterproof hat, cotton overalls (worn outside rubber boots) and a NIOSH approved half face mask with organic vapour cartridge plus dust/mist prefilter.

Hygiene Measures: Do not eat, drink or smoke while using the product.
Remove protective clothing and wash hands and face thoroughly before meals and after work.
Wash protective clothing daily after work.

9. Physical and chemical properties

Appearance: Liquid
Colour: white suspension
Odour: Characteristic
Boiling point: > 100°C
Melting point: -5°C
Flash point: Not flammable
Density: 1.35
pH: 6.0 - 9.0
Water solubility: Disperses in water. Not soluble

10. Stability and reactivity

Chemical Stability: Stable under normal conditions of handling and storage.

Incompatible materials: Do not mix with Bordeaux mixture or lime sulphur.

Possibility of hazardous reactions: Keep away from strong oxidising agents.

Hazardous Polymerisation: Not known to occur.



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11. Toxicological information

- Acute Toxicity:** Toxicology data has not been determined specifically for this product. Data given below is for the active ingredient chlorothalonil.
Acute oral LD₅₀ (rat) > 5000 mg/kg
Acute percutaneous LD₅₀ (rat): > 5000 mg/kg
Inhalation LC₅₀ 1 hour (rat): 0.52 mg/litre air
Inhalation LC₅₀ 4 hour (rat): 0.10 mg/litre air
- Ingestion:** The concentrate is of low toxicity if swallowed. Incidental swallowing during normal handling procedures and use are not expected to cause injury.
- Irritation:** Skin (rabbit): Irritant.
Eye (rabbit): The concentrate is an eye irritant and corrosive with prolonged contact which might cause eye damage.
- Inhalation:** Avoid inhalation of spray mist when applying the product.
- Sensitisation:** May cause sensitisation from prolonged skin contact.
- Carcinogenicity:** Chlorothalonil in the Australian occupational environment is classified as a category 3 substance, which means that the substance is not classifiable as carcinogenic to humans.
- Mutagenicity:** No mutagenic effects are indicated.
- Reproductive Toxicity:** No teratogenic effects are indicated.
- Chronic Effects:** Repeated dermal exposure may cause skin irritation and may increase the possibility of a larger reaction. Liver and kidney damage has been noted in laboratory animals that have been fed excessive doses of chlorothalonil.
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12. Ecological Information

- Ecotoxicity:** Very Toxic to aquatic life with long lasting effects. Avoid contamination of any water supply with product or empty container.
Ecotoxicological data has not been determined specifically for this product. Data given below is for the active ingredient chlorothalonil.
- Environmental Fate:** Chlorothalonil is not rapidly degradable with a soil DT50 > 30days, it is moderately persistent in soil with a half- life of up to 3 months in moderately moist soils. Adsorption studies indicate very low mobility and no bioaccumulation.
- Acute Toxicity to Fish:** Rainbow trout LC₅₀ (96 hour static): 39 µg/litre
Fathead minnow LC₅₀ (96 hour static): 23 µg/litre
Bluegill sunfish LC₅₀ (96 hour static): 59 µg/litre



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Acute Toxicity Aquatic Organisms:

Daphnia EC₅₀ (48 hour static): 70 µg/litre
Algae *Selenastrum capricornutum* EC₅₀ (120 hour): 210 µg/litre
Algae *Navicula pelliculosa* EC₅₀ (72 hour): 5.1 µg/litre

Acute Toxicity Vertebrates (Birds):

Acute oral LD₅₀ Bobwhite quail: > 2000 mg/kg
Dietary LC₅₀ Bobwhite quail: > 10000 mg/kg diet

Acute Toxicity to Soil Dwelling Organisms:

Earthworms LC₅₀ (14 days): 404 mg/kg dry soil

Acute Toxicity to Terrestrial Invertebrates:

Honey bee oral LD₅₀: > 63 µg/bee
Honey bee contact LD₅₀: > 101 µg/bee

13. Disposal considerations

Product disposal : Dispose of this product only by using according to the label or at an approved landfill or other approved facility.

Container disposal : Triple rinse the empty container adding the rinsate to the spray tank.
Recycle if possible, otherwise crush and bury in an approved local authority facility.
Avoid contamination of any water supply with product or empty container.
Do not use container for any other purpose.

14. Transport regulations

Dangerous Goods: Classified as dangerous goods for transport (6.1B)

Rail /Road /Sea: UN Number: 2902
Class: 6.1
Packaging Group: III
Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, N.O.S. (Chlorothalonil 72%)
Hazchem: 2X
Do not carry this product on a passenger service vehicle
Segregation: Refer to the latest Land Transport Dangerous Goods Rule 45001
Sea transport may require additional segregation (Refer to NZS5433)

15. Regulatory information

HSNO Approval Number: HSR101015
HSNO Controls: Refer to www.epa.govt.nz .
ACVM Approval: Registered pursuant to the ACVM Act 1997 No: P9195
ACVM Registration conditions: See: www.foodsafety.govt.nz



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16. Other information

Abbreviations:

ACVM: Agricultural Chemicals and Veterinary Medicines Group.
EEL: Environmental Exposure Limit
EPA: Environmental Protection Authority of New Zealand
CAS Number: Chemical Abstracts Service Number
HSNO: Hazardous Substances and New Organisms ACT 1966
LD₅₀: Lethal Dose 50% (Population)
LC₅₀: Lethal Concentration 50% (Population)
EC₅₀: Half Maximal Effective Concentration 50% (Population)
TEL: Tolerable Exposure Limit
WES: Workplace Exposure Standard

General:

Brave is a fungicide for use in agriculture, horticulture, turf and ornamentals. Use only as directed on the label.

This SDS supersedes all previous issues. It summarises our best knowledge of the health and safety hazard information of the product. All users 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. Since the actual use of this product is beyond the control of Global Agrichem Ltd, we make no warranty, expressed or implied, concerning the use of this product. It is the responsibility of users to ascertain that the product is suitable for intended applications.
