

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: YATES BRAVO FUNGICIDE

Recommended Use: For the control of fungal diseases on vegetables, fruit and ornamentals.

Supplier: Yates, A Division of Orica New Zealand Limited
Street Address: The Gate Industrial Park, 373 Neilson St
Onehunga, Auckland
New Zealand

Telephone Number: +64 9 636 2800
Facsimile: +64 9 636 2802
Emergency Telephone: CHEMCALL 0800 243 622 (ALL HOURS)

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2007 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

Subclasses:

Subclass 6.1 Category E - Substances which are acutely toxic.
Subclass 6.3 Category B - Substances that are mildly irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye.
Subclass 6.5 Category B - Substances that are contact sensitisers.
Subclass 6.7 Category B - Substances that are suspected human carcinogens.
Subclass 6.9 Category A - Substances that are toxic to human target organs or systems.
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
Subclass 9.2 Category B - Substances that are ecotoxic in the soil environment.
Subclass 9.3 Category B - Substances that are ecotoxic to terrestrial vertebrates.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Risk Phrases
Water and other non-hazardous components	-	to 100%	-
Propylene glycol	57-55-6	1-<10%	-
Chlorothalonil	1897-45-6	500 g/L	R40 R50/53

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Seek medical advice if effects persist.

Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Product Name: YATES BRAVO FUNGICIDE
Substance No: 00000020761

Issued: 02/04/2007
Version: 2

Ingestion:

If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Medical attention and special treatment:

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazards from combustion products:

Non-combustible material. Decomposes on heating emitting toxic fumes.

Precautions for fire fighters and special protective equipment:

Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem Code: 2X

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures:

If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and clean up:

Wear protective equipment to prevent skin and eye contact and breathing in vapours. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Avoid skin and eye contact and breathing in vapour, mists and aerosols.

Conditions for safe storage: Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: No value assigned for this specific material by the New Zealand Occupational Safety and Health Service (OSH).

Engineering controls:

Use in well ventilated areas. Keep containers closed when not in use.

Personal Protective Equipment:

Avoid contact with eyes and skin and breathing in spray mist. Wear gloves and eye protection when mixing or using. Wash hands and exposed skin thoroughly after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Light Grey
Odour:	Slight
Solubility:	Dispersible in water.
Specific Gravity:	1.24
Vapour Pressure (20 °C):	N Av
Flash Point (°C):	98
Boiling Point/Range (°C):	100 (water)
pH:	6-8

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal conditions of use.
Conditions to avoid:	Avoid contact with foodstuffs.
Incompatible materials:	Incompatible with oxidising agents.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Hydrogen chloride.
Hazardous reactions:	None known.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation.
Eye contact:	An eye irritant.
Skin contact:	Contact with skin will result in irritation. A skin sensitizer. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
Inhalation:	Breathing in mists or aerosols may produce respiratory irritation.

Long Term Effects:

No information available for the product. For Chlorothalonil (1) : Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the kidneys.

Toxicological Data: No LD50 data available for the product. However, for constituent(s) (1):

Oral LD50 (rat): >5000 mg/kg (chlorothalonil)

Dermal LD50 (rabbit): >5000 mg/kg (chlorothalonil)

For Chlorothalonil : This material has been classified by the International Agency for Research on Cancer (IARC) as a Group 2B. Group 2B - The agent is possibly carcinogenic to humans.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways and fishponds. Do not allow spray to drift onto aquatic environments, other crops or desirable plants or outside the target area. Keep children, pets, wildlife and birds off treated areas until the spray is dry.
-------------	---

Safety Data Sheet



Aquatic toxicity: Very toxic to aquatic organisms. For Chlorothalonil (1) :
48hr LC50 (Daphnia magna): 70 ug/L
96hr LC50 (rainbow trout): 47 ug/L
Terrestrial toxicity: Harmful to terrestrial species. Ecotoxic in the soil environment

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to local government authority for disposal recommendations. Rinse empty container, puncture and recycle or dispose of safely with domestic rubbish.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as a Dangerous Good according to NZS 5433:2007 Transport of Dangerous Goods on Land.

UN No: 3082
Class-primary: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(CHLOROTHALONIL 50%)
Hazchem Code: 2X

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.

UN No: 3082
Class-primary: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(CHLOROTHALONIL 50%)

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3082
Class-primary: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(CHLOROTHALONIL 50%)

15. REGULATORY INFORMATION

Classification:

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

Subclasses:

- Subclass 6.1 Category E - Substances which are acutely toxic.
- Subclass 6.3 Category B - Substances that are mildly irritating to the skin.
- Subclass 6.4 Category A - Substances that are irritating to the eye.
- Subclass 6.5 Category B - Substances that are contact sensitisers.
- Subclass 6.7 Category B - Substances that are suspected human carcinogens.
- Subclass 6.9 Category A - Substances that are toxic to human target organs or systems.
- Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
- Subclass 9.2 Category B - Substances that are ecotoxic in the soil environment.
- Subclass 9.3 Category B - Substances that are ecotoxic to terrestrial vertebrates.

16. OTHER INFORMATION

(1) In: 'The Pesticide Manual'. 13th Edition. Ed. CDS Tomlin. British Crop Protection Society, 2003.

Reason(s) for Issue:

Change to Transport Information
Alignment to HSNO requirements

This material safety data sheet has been prepared by SH&E Shared Services, Orica.

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Orica Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. If clarification or further information is needed, the user should contact their Orica representative or Orica Limited at the contact details on page 1. Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.