

Infosafe No™ 3NUFZ Issue Date : September 2017 ISSUED by NUFARMNZ

Product Name **BARRACK® BETTERSTICK**

1. Identification

GHS Product Identifier	BARRACK® BETTERSTICK
Product Code	02550
Product Type	Fungicide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150 Fax: 0-9-270 4159
Emergency phone number	0800 651 911
Email	nzinfo@nufarm.com
Recommended use of the chemical and restrictions on use	A broad spectrum protectant fungicide for the control of a wide range of diseases of fruit, vegetables and turf.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. Hazard Identification

Other Information	6.1B acute toxicant, 6.3B skin irritant, 6.4A eye irritant, 6.5B sensitiser, 6.7B possible carcinogen, 6.9A target organ toxicant, 9.1A aquatic toxicant, 9.2B soil toxicant, 9.3B terrestrial vertebrate toxicant, TOXICITY Toxic - may be fatal if swallowed, inhaled or absorbed through the skin. May cause eye irritation. May cause mild skin irritation or an allergic skin reaction. Limited evidence of a carcinogenic effect in animal studies. May cause kidney damage from repeated oral exposure at high doses. ECOTOXIC Very toxic to aquatic organisms. Toxic to the soil environment. Toxic to terrestrial vertebrates.
--------------------------	---

3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	Name	CAS	Proportion
	Chlorothalonil	1897-45-6	720 g/L
	Propylene glycol	57-55-6	0-10 %
	Proprietary surfactant and stabilizer mixture	mixture	0-10 %
	Water		Balance

4. First-aid measures

First Aid Measures	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. Lay 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	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.

Infosafe No™ 3NUFZ	Issue Date : September 2017	ISSUED by NUFARMNZ
--------------------	-----------------------------	--------------------

Product Name **BARRACK® BETTERSTICK**

Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance. Remove contact lenses, if present and easy to do.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	Treat symptomatically. Persons having allergic reactions respond to treatment with antihistamines or steroid creams and/or systemic steroids.

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.
Products	
Special Protective Equipment for fire fighters	Full protective clothing and self-contained breathing apparatus.
Specific Methods	Keep up wind. Do not allow washings to reach sewage or effluent systems.
Specific hazards arising from the chemical	Considered low risk due to water content, however upon evaporation of water the product is combustible.
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 & Disposal	Wear protective clothing. Clear area of unprotected personnel. Contain liquid spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill. Wash area with water and absorb with further inert material. Dispose of waste safely in an approved landfill.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling	Avoid skin and eye contact and inhalation of spray mist. APPROVED HANDLER: This product must be under the control of an approved handler or secured unless it is being transported by a person with a current dangerous goods endorsement on their drivers licence. TRACKING: Location and movement of this product must be recorded at each stage of its lifecycle. RECORD KEEPING: Records of use as described in the NZS 8409 Management of Agrichemicals must be kept.
Conditions for safe storage, including any incompatibilities	Keep out of reach of children. Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 100L of BARRACK BETTERSTICK require secondary containment and are subject to signage, and more than 100L require emergency response plans.
Other Information	Always read the label and any attached leaflet before use. Aggregate Storage Volume Thresholds: When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. Exposure controls/personal protection

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

Infosafe No™ 3NUFZ	Issue Date : September 2017	ISSUED by NUFARMNZ
--------------------	-----------------------------	--------------------

Product Name **BARRACK® BETTERSTICK**

Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment	When opening the container, preparing spray and using the prepared spray wear safety goggles, impervious gloves, waterproof hat, coat and trousers (worn outside rubber boots) and a NIOSH approved half face mask with organic vapour cartridge + dust/mist prefilter.
Hygiene Measures	Do not eat, drink or smoke while using. 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

Form	Liquid
Appearance	White opaque liquid
Odour	Characteristic odour
Melting Point	-5°C
Boiling Point	>100°C (water)
Solubility in Water	Disperses in water. Not soluble.
Specific Gravity	1.34
pH	7.0-9.0 (neat)
Vapour Pressure	Not determined. For chlorothalonil: 0.076 mPa@ 25°C.
Flash Point	Not flammable
Other Information	(SC) Suspension Concentrate

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 Polymerization	Not known to occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat) >5,000 mg/kg for chlorothalonil
Acute Toxicity - Dermal	LD50 (rabbit) >5,000 mg/kg for chlorothalonil
Acute Toxicity - Inhalation	LC50 (rat) = 0.10mg/L for chlorothalonil
Ingestion	The concentrate is of low toxicity if swallowed. Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury.
Inhalation	When applying the product as a spray avoid breathing in spray mist.
Skin	May irritate the skin. May cause sensitisation by prolonged skin contact.
Eye	The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.
Skin Sensitisation	Prolonged and repeated skin contact may result in skin sensitisation.
Carcinogenicity	Safe Work Australia has classified chlorothalonil in the occupational environment as a Carcinogen Category 3 substance. This means that the substance is not classifiable as to carcinogenicity to humans.
Reproductive Toxicity	Data indicates no teratogenic effects.
Chronic Effects	Repeated dermal exposure may cause skin irritation and may increase possibility of a larger reaction. Liver and kidney damage has been noted in laboratory animals that have been fed excessive doses of chlorothalonil.

Infosafe No™ 3NUFZ	Issue Date : September 2017	ISSUED by NUFARMNZ
--------------------	-----------------------------	--------------------

Product Name **BARRACK® BETTERSTICK**

Serious eye damage/irritation	Reports of human experience in use of chlorothalonil products demonstrate that some individuals become sensitive to contact with this compound. Moderate eye irritant.
Mutagenicity	Data indicates no mutagenic effects.
Skin corrosion/irritation	Irritant
Subchronic/Chronic Toxicity	Primary target organ: Kidney
Other Information	The Australian Acceptable Daily Intake (ADI) for chlorothalonil for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.5 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', December 2014).

12. Ecological information

Persistence and degradability	Chlorothalonil is not rapidly degradable. Soil DT50 > 30days. Chlorothalonil is moderately persistent in soil. The half life of chlorothalonil is up to 3 months in moderately moist soils.
Mobility	Adsorption studies indicate that chlorothalonil has very low mobility.
Bioaccumulative Potential	Chlorothalonil is not bioaccumulative
Acute Toxicity - Fish	LC50 (96h) rainbow trout = 39µg/L for chlorothalonil
Acute Toxicity - Daphnia	Acute: EC50 (48h) daphnia magna = 70µg/L for chlorothalonil
Acute Toxicity - Algae	EC50 (72h) green algae = 0.17mg/L for chlorothalonil
Acute Toxicity - Other Organisms	LD50 mallard duck = >4,640mg/kg for chlorothalonil LD50 honeybees (oral) = >63µg/bee, (contact) = >101µg/bee for chlorothalonil LC50 (14d) worms = >404mg/kg chlorothalonil

13. Disposal considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

14. Transport information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
U.N. Number	2902
UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. - (chlorothalonil, 72%)
Transport hazard class(es)	6.1
Hazchem Code	2X
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	34
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
IMDG EMS	F-A, S-A
Other Information	Do not carry this product on a passenger service vehicle. Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

Infosafe No™ 3NUFZ	Issue Date : September 2017	ISSUED by NUFARMNZ
--------------------	-----------------------------	--------------------

Product Name **BARRACK® BETTERSTICK**

15. Regulatory information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P7690 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR000670 See www.epa.govt.nz for approval controls.
Packaging & Labelling	ECOTOXIC TOXIC - keep out of reach of children
Hazard Rating Systems	NFPA/HMIS: 3-1-1
Hazard Category	TOXIC * ECOTOXIC - keep out of reach of children

16. Other Information

Date of preparation or last revision of SDS	September 2012
Contact Person/Point	IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE 24Hr Tollfree Emergency No: 0800 651 911 24Hr Emergency No: National Poisons Centre Phone: 0800 764 766 5 yearly review carried out. Various changes and updates made to document.
Revisions Highlighted	...End Of MSDS...

© Copyright ACOHS Pty Ltd

Copyright in the source code of the HTML, PDF, XML, XFO and any other electronic files rendered by an Infosafe system for Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd. The compilation of MSDS's displayed is the intellectual property of Acohs Pty Ltd.

Copying of any MSDS displayed is permitted for personal use only and otherwise is not permitted. In particular the MSDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of MSDS without the express written consent of Acohs Pty Ltd.