

Infosafe No™ 3NUNM	Issue Date : September 2016	ISSUED by NUFARMNZ
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Product Name **RAMROD® Flowable Herbicide**

1. Identification

GHS Product Identifier	RAMROD® Flowable Herbicide
Product Code	00566
Product Type	Herbicide
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	info@nz.nufarm.com
Recommended use of the chemical and restrictions on use	Selective herbicide for pre-emergence weed control in maize, sweetcorn, onions, sorghum, soyabeans and transplanted cabbages and cauliflowers.
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	6.1D acute toxicant, 6.3A skin irritant, 6.5B sensitiser, 6.6B mutagen, 6.7B possible carcinogen, 6.9B target organ toxicant, 9.1A aquatic toxicant, 9.2A soil toxicant, 9.3B terrestrial vertebrate toxicant, TOXICITY Harmful - may be harmful if swallowed, inhaled or absorbed through the skin. May cause skin irritation or sensitisation from prolonged skin contact. Suspected of causing heritable mutations in human cells. Limited evidence of a carcinogenic effect in animal studies. May cause liver and kidney damage from repeated oral exposure at high doses. ECOTOXIC Very toxic to aquatic organisms. Selective herbicide - very toxic to some plant species. Toxic to terrestrial vertebrates.
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3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Propachlor	1918-19-7	480 g/L
	Propylene glycol	57-55-6	60 g/L
	Ingredients determined to be non-hazardous	-	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.

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Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Remove contact lenses, if present and easy to do. Seek medical assistance even if there are no immediate symptoms.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	Water fog, foam, carbon dioxide or dry chemical.
Hazards from Combustion Products	If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and hydrogen chloride.
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 and collect in sealable container for disposal.
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 when applied in a wide dispersive manner; or used by a commercial contractor. TRACKING: Is not required RECORD KEEPING: Records of use as described in NZS 8409 Management of Agrichemicals must be kept if 3L or more is applied within 24 hours. Do not allow drift to occur outside the target area. This product must not be applied onto or into water.
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, fertilisers and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 100L of RAMROD Flowable Herbicide require secondary containment and are subject to signage, and more than 100L require emergency response plans.
Recommended Materials	Compatible for storage in stainless steel, galvanised steel and plastic.
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.

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8. Exposure controls/personal protection

Occupational exposure limit values	No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product. WES TWA for Propylene glycol (particulates only) = 10mg/m ³
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Respiratory Protection	Do not inhale spray mist.
Personal Protective Equipment	When opening the container, preparing spray and using the prepared spray wear chemically resistant gloves, waterproof hat, safety goggles, cotton overalls buttoned to the neck and wrist, and boots.
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 suspension
Odour	Odourless
Melting Point	Not determined. (Propachlor = 77°C)
Solubility in Water	Disperses in water
Specific Gravity	1.108
pH	6 - 8
Vapour Pressure	10 mPA (25°C, propachlor)
Viscosity	300-900 cps
Partition Coefficient: n-octanol/water	Kow Log P is 1.4 - 2.3
Flash Point	Does not flash
Flammability	Non combustible material.
Other Information	(SC) Suspension Concentrate

10. Stability and reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Incompatible Materials	Not compatible with iron and mild steel. Avoid contact of the concentrate with strong acids and bases.
Hazardous Polymerization	Hazardous polymerisation will not occur.
Other Information	Partial crystallization may occur on prolonged storage below the minimum storage temperature. If frozen, place in warm room and shake frequently to put back into solution.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat) 1,911mg/kg for a similar formulation LD50 (mouse) 290mg/kg for propachlor
Acute Toxicity - Dermal	LD50 (rat) >5,000mg/kg for a similar formulation
Acute Toxicity - Inhalation	LC50 concentration not reached. Dust & Mist LC50 (rodent) 1.0mg/L for propachlor
Ingestion	May cause irritation to mouth, throat and stomach.
Inhalation	Inhalation of spray mist may be irritating to respiratory tract.
Skin	Will irritate the skin. May cause pain, redness and a burning sensation.
Eye	May irritate the eyes. Possible symptoms include redness, swelling, tearing and pain.
Skin Sensitisation	May produce skin sensitisation in susceptible individuals.

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Carcinogenicity	USEPA REDS, 1998 data indicates that propachlor has carcinogenic potential.
Serious eye damage/irritation	Not an eye irritant.
Mutagenicity	There is evidence that propachlor has genotoxic activity and analogue data is supportive of a mutagenicity concern. [USEPA REDS]
Respiratory Irritation	The product may be a mild respiratory irritant.
Skin corrosion/irritation	The product is a skin irritant.
Subchronic/Chronic Toxicity	Target organ toxicant - Liver
Other Information	The Australian Acceptable Daily Intake (ADI) for propachlor for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2 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', March 2010).

12. Ecological information

Persistence and degradability	Half life in soil is typically 4 days. Not readily biodegradable.
Environmental Fate	Dissipation: Soil, 25°C, half life 1.8 - 6.2 days, Koc: 73-138 for propachlor Water, 20°C half life 4.7 - 5.6 days for propachlor
Bioaccumulative Potential	Not bioaccumulative. Bluegill sunfish - whole fish BCF = 34 for propachlor. Rapid self-purification after end of exposure.
Known Harmful Effects on the Environment	Harmful to fish and other aquatic organisms. Moderate toxicity to birdlife.
Environmental Protection	Spray drift can cause damage, read the label for more information.
Acute Toxicity - Fish	LC50 (96hr) for rainbow trout 0.17mg/L for propachlor LC50 (96hr) for bluegill sunfish 1.6mg/L for a similar formulation
Acute Toxicity - Daphnia	EC50 (48hr) Chironomus plumosus is 0.79ppm for propachlor
Acute Toxicity - Algae	EC50 Green algae Kircheria subcapitata = 13.5ppb for propachlor Plant recovers when toxicant is removed.
Acute Toxicity - Bacteria	Nitrogen and carbon transformation test: 40L/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.
Acute Toxicity - Other Organisms	LC50 (contact)(48h) bee = >25µg/bee, (oral)(48h) bee = >1µg/kg diet for Ramrod LD50 bobwhite quail = 88mg/kg for propachlor LC50 (14d)earthworm = 218mg/kg dry soil for propachlor EC25 Ryegrass = 0.0044mg ai/kg

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	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (propachlor, 48%)
Transport hazard class(es)	9
Hazchem Code	2X
Packaging Method	-



Safety Data Sheet

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Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
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.

15. Regulatory information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P3685 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR000382 See www.epa.govt.nz for approval controls.
Packaging & Labelling	HARMFUL * ECOTOXIC - keep out of reach of children
Hazard Rating Systems	NFPA/HMIS: 2-1-1

16. Other Information

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
Revisions Highlighted	5 yearly review carried out. Various changes and updates made to document.
Other Information	Supersedes SDS issued September 2011 ...End Of MSDS...

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