

Infosafe No™ 3NUNM	Issue Date : February 2024	ISSUED by NUFARMNZ
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Product Name **RAMROD® Flowable Herbicide**

Section 1 - Identification

Product Identifier	RAMROD® Flowable Herbicide
Product Code	00566
Product Type	Herbicide
Company Name	Nufarm NZ
Address	Central Park, Building 3, Level 4, 666 Great South Road Ellerslie Auckland 1051 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency Phone Number	0800 651 911
Email	nzinfo@nufarm.com
Recommended uses and any restrictions on use or supply	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.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture	Acute oral toxicity: Category 4 Acute inhalation toxicity: Category 4 Skin corrosion/irritation: Category 2 Skin sensitization: Category 1 Germ cell mutagenicity: Category 2 Carcinogenicity: Category 2 Specific target organ toxicity - repeated exposure: Category 2 Hazardous to the terrestrial environment: Hazardous to soil organisms Hazardous to the terrestrial environment: Hazardous to terrestrial vertebrates Hazardous to the aquatic environment acute Category 1 Hazardous to the aquatic environment chronic Category 1
Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H341 Suspected of causing genetic defects. H351 Suspected of causing cancer. H371 May cause damage to liver and kidneys from repeated oral exposure. H410 Very toxic to aquatic life with long lasting effects. H421 Very toxic to soil environment. H432 Toxic to terrestrial vertebrates.
Precautionary Statement – General	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use.
Pictogram (s)	Health hazard, Environment



Precautionary Statement – Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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Precautionary Statement – Response	<p>P264 Wash hands and face thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.</p> <p>P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.</p> <p>P330 Rinse mouth.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P312 Call a POISON CENTER/doctor if you feel unwell.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P321 Specific treatment (see on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P308+P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P391 Collect spillage.</p> <p>P405 Store locked up.</p>
Precautionary Statement – Storage	
Precautionary Statement – Disposal	<p>P501 Dispose of contents/container to an approved landfill.</p>

Section 3 - Composition and 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

Section 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.
Eye	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.

Section 5 - Firefighting Measures

Suitable Extinguishing Media	Water fog, foam, carbon dioxide or dry chemical.
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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	2Z
Decomposition Temperature	Information is not available.
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

Section 6 - Accidental Release Measures

Spills and 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.

Section 7 - Handling and Storage

Precautions for Safe Handling	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. The person mixing or applying this product must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. For more information refer to the Hazardous Substances (Hazardous Property Controls) Notice 2017. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017. Avoid skin and eye contact and inhalation of spray mist. CERTIFIED HANDLER: Is not required 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. Records must be kept for a minimum of 3 years from application date. BEWARE: Spray drift hazard. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.
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:

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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.

Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limits (OEL)	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.

Section 9 - Physical and Chemical Properties

Form	Liquid
Appearance	White suspension
Odour	Odourless
Decomposition Temperature	Information is not available.
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)
Vapour Density (Air=1)	Information is not available.
Odour Threshold	Information is not available.
Viscosity	300-900 cps
Partition Coefficient: n-octanol/water	Propachlor active ingredient Boiling Kow Log P = 1.4 - 2.3
Flash Point	Does not flash
Flammability	Non combustible material.
Auto-ignition Temperature	Information is not available.
Flammable Limits - Lower	Information is not available.
Flammable Limits - Upper	Information is not available.
Initial Boiling Point and Boiling Range	Propachlor active ingredient Boiling Point = 110°C/0.03mmHg
Kinematic Viscosity	Information is not available.
Particle Characteristics	Information is not available.
Relative Density	Propachlor active ingredient S.g./density = 1.134 (25°C).

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Other Information (SC) Suspension Concentrate

Section 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.

Section 11 - Toxicological Information

Acute Toxicity - Oral LD50 (rat) 1,911mg/kg for a similar formulation
LD50 (mouse) 290mg/kg for propachlor

Acute Toxicity - Inhalation LC50 concentration not reached.
Dust & Mist LC50 (rodent) 1.0mg/L for propachlor

Acute Toxicity - Dermal LD50 (rat) >5,000mg/kg for a similar formulation

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 The product is a skin irritant.

Corrosion/Irritation

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 Sensitisation May produce skin sensitisation in susceptible individuals.

Carcinogenicity USEPA REDS, 1998 data indicates that propachlor has carcinogenic potential.

STOT - Single Exposure Information is not available.

STOT - Repeated Exposure May cause damage to liver and kidneys from repeated oral exposure.

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: Aust Govt Dept. of APVMA, 'ADI List', Edition 4/2023).

Section 12 - Ecological Information

Persistence and Degradability Half life in soil is typically 4 days.
Not readily biodegradable.

Mobility Information is not available.

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.

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Known harmful effects on the environment	Rapid self-purification after end of exposure. 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 >1.4mg/L for propachlor.
Acute Toxicity - Daphnia	LC50 (48hr) 7.8mg/L for propachlor
Acute Toxicity - Algae	For propachlor active ingredient = EbC50 (72h) Selenastrum capricornutum 0.015mg/L, ErC50 (72h) 23mg/L (recovery observed).
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. Dietary LC50 (8d) for bobwhite quail and mallard ducks > 5620mg/kg diet for propachlor. EC50 (14d) earthworm = 217.9mg/kg soil for propachlor.

Section 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.

Section 14 - Transport Information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
UN Number	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (propachlor, 48%)
Hazard Class	9
Hazchem Code	2Z
Packaging Method	-
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.

Section 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.
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Section 16 - Any Other Relevant Information

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**Date of preparation
or last revision of
SDS** February 2019.

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. Various changes and updates made to the document to comply with GHS7.
...End Of MSDS...

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