



Infosafe No™ NU0GV	Issue Date : July 2010	ISSUED by NUFARM
--------------------	------------------------	------------------

Product Name **RAMROD Flowable Herbicide**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name RAMROD Flowable Herbicide

Product Code 0300

Product Type Group K Herbicide

Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia

Emergency Tel. 1800 033 498 (24hr Australia)

Telephone/Fax Number Tel: +61 3 9282-1000
Fax: +61 3 9282-1001

Recommended Use For control of annual grasses and certain broadleaf weeds in sorghum and selected vegetable crops as per the Directions for Use table on the label.

Other Information This MSDS 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. HAZARDS IDENTIFICATION

Hazard Classification Classified as hazardous
HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s) Classified as hazardous
R22 Harmful if swallowed.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.

Safety Phrase(s) S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.

Other Information Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Propachlor	1918-16-7	480 g/L
	Ethyleneglycol	107-21-1	83 g/L
	Other Ingredients		Balance

4. FIRST AID MEASURES

Inhalation Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.

Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
The above first aid instructions are mandated by the Commonwealth Department of Health and Ageing via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 15ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be



Infosafe No™ NU0GV Issue Date : July 2010 ISSUED by NUFARM

Product Name **RAMROD Flowable Herbicide**

Classified as hazardous

Skin taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.
Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If irritation persists, seek medical advice.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice.

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 Breathable air apparatus should be worn when fighting a fire in which this product is involved.

Specific Hazards Considered low risk due to water content, however upon evaporation of water the product is combustible.

Other Information STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.
On-site disposal of concentrate is not acceptable.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.
If product has dried out and the possibility of dust generation exists, wear a suitable respirator.

Environmental Precautions Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Conditions for Safe Storage Do not store for prolonged periods in direct sunlight.

Other Information Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards NOHSC has set the following exposure standard for ethylene glycol (vapour and mist) : TLV (TWA) 60 mg/m³, STEL 120 mg/m³.

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 the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, nitrile or elbow-length PVC gloves and face shield or goggles.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
After each day's use, wash contaminated clothing and safety equipment.

Requirements Concerning Special Training Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Liquid

Infosafe No™ NU0GV	Issue Date : July 2010	ISSUED by NUFARM
--------------------	------------------------	------------------

Product Name **RAMROD Flowable Herbicide**

Classified as hazardous

Appearance	White suspension.
Odour	Odourless.
Solubility in Water	Disperses in water.
Specific Gravity	1.11
pH Value	~6.4
Vapour Pressure	10 mPa (25°C, propachlor)
Octanol/Water Partition Coefficient	Kow Log P is 1.4 - 2.3
Flammability	Non combustible material.

10. STABILITY AND REACTIVITY

Incompatible Materials	Not compatible with iron and mild steel.
Hazardous Polymerization	Avoid contact of the concentrate with strong acids and bases. Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation	Will cause irritation to mucous membranes.
Ingestion	May cause irritation to mouth, throat and stomach.
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.
Acute Toxicity - Oral	LD50 (rat) 1191 mg/kg for a similar formulation
Acute Toxicity - Dermal	LD50 (rat) >5000 mg/kg for a similar formulation
Acute Toxicity - Inhalation	LC50 concentration not reached.
Eye Irritation	Not an eye irritant.
Skin Irritation	The product is a skin irritant.
Respiratory Irritation	The product may be a mild respiratory irritant.
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', December 2008).

12. ECOLOGICAL INFORMATION

Persistence / Degradability	Half life in soil is typically 4 days.
Known Harmful Effects on the Environment	The product is a marine pollutant for sea transport. Harmful to fish and other aquatic organisms. Moderate toxicity to birdlife.
Other Precautions	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Environ. Protection	Spray drift should be avoided, read the label for more information.
Acute Toxicity - Fish	The following is data for a similar product. LC50 (96hr) for rainbow trout is 0.42 mg/l. LC50 (96hr) for bluegill sunfish is 1.6 mg/l. EC50 (48hr) is 13 mg/l.
Acute Toxicity - Daphnia	
Acute Toxicity - Other Organisms	LD50 for bobwhite quail is 91 mg/kg

Infosafe No™ NU0GV	Issue Date : July 2010	ISSUED by NUFARM
--------------------	------------------------	------------------

Product Name **RAMROD Flowable Herbicide**

Classified as hazardous

13. DISPOSAL CONSIDERATIONS

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

Storage and Transport Considered non dangerous for road and rail transport (in packaging, including IBCs not greater than 3000 Lt each) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 2Z.

UN Number (Sea Transport) 3082

IMO Class/Packing Group Class 9; Packing Group III

IMO Marine Pollutant Marine Pollutant

IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Propachlor)

15. REGULATORY INFORMATION

Poisons Schedule S6

Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Harmful, Irritant

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS Revised 29/07/2010

Contact Person/Point Revisions Highlighted Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
The MSDS was reviewed. Minor changes were made to the information.
...End Of MSDS...



Material Safety Data Sheet

CS: 1.4.93

Page: 5 of 5

Infosafe No™ NU0GV

Issue Date : July 2010

ISSUED by NUFARM

Product Name **RAMROD Flowable Herbicide**

Classified as hazardous

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.