



Material Safety Data Sheet

CS: 1.4.21

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Infosafe No™ 3NUHV	Issue Date :March 2008	ISSUED by NUFARM	CS: 1.4.21
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Product Name **RIFLE 440 Herbicide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	RIFLE 440 Herbicide
Product Code	0885
Product Type	Group D 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 the control of wireweed, annual grasses (including annual ryegrass) and certain broadleaf weeds in various crops as shown in 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 according to criteria of NOHSC 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 according to criteria of NOHSC R36 Irritating to eyes. R43 May cause sensitization by skin contact. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness and cracking.
Safety Phrase(s)	S13 Keep away from food, drink and animal feeding stuffs. S2 Keep out of reach of children. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S46 If swallowed, seek medical advice immediately and show this container or label.
Other Information	Poisons Schedule S5

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization	Liquid		
Ingredients	Name	CAS	Proportion
	Pendimethalin technical	40487-42-1	440 g/L
	Hydrocarbon liquid	64742-94-5	501 g/L
	Other ingredients (considered non-hazardous)		10-30 %

4. FIRST AID MEASURES

Inhalation	Remove to fresh air, apply artificial respiration if necessary.
Ingestion	Give water or milk to drink. DO NOT induce vomiting.
Skin	Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use.



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Eye	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
First Aid Facilities	If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.
Advice to Doctor	Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Water fog, foam, carbon dioxide or dry chemical.
Hazards from Combustion Products	If involved in a fire, it will emit oxides of carbon, oxides of nitrogen and possibly cyanides.
Special Protective Equipment for fire fighters	Breathable air apparatus may have to be worn in confined spaces.
Emergency Action in case of Fire	If exposed to fire, keep container cool by spraying with water. If possible, remove other containers from the area of fire.
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.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.

7. HANDLING AND STORAGE

Precautions for Safe Handling	For personal protective equipment (PPE) and hygiene advice, refer Section 8. Pendamethalin is coloured and will strongly stain skin and clothing. If skin has been exposed to the product, thorough washing with soap and water will remove any excess product. The colour on the skin is not deep and will naturally disappear over a few days.
Conditions for Safe Storage	Store in the closed, original container in a dry, cool well ventilated area out of direct sunlight. Do not store below 5 °C. Extended storage below 5°C can result in the formation of crystals on the bottom of the container. If crystallisation does occur, store the container on its side at room temperature and rock occasionally until crystals re-dissolve.
Other Information	Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	No exposure standard has been established for this product. The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m ³ ; 15ppm TWA, as total hydrocarbon.
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	Wash concentrate from skin and eyes immediately. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES



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Form	Liquid
Appearance	Black clear liquid with yellow-orange tinge
Odour	Solvent odour
Melting Point	Some crystallisation occurs between 0 and -7°C
Boiling Point	183-210°C (for solvent)
Solubility in Water	Forms an emulsion in water. 0.54 mg/l pH4 ; 0.33 mg/l pH7 The product will emulsify in water forming a yellow, milky emulsion.
Specific Gravity	1.075
Vapour Pressure	Pendimethalin 1.94 mPa @ 25°C.
Volatile Component	50%
Octanol/Water Partition Coefficient	Kow Log P is 5.2 (pH 7.0)
Flash Point	>65°C
Flammability	Combustible liquid C1.

10. STABILITY AND REACTIVITY

Conditions to Avoid	Prolonged reaction with water can cause slow decomposition and the formation of acid which may attack drums. If a part open drum is to be stored, ensure that no water has been added to the drum. Technical pendimethalin (before formulation) has exhibited exothermic decomposition at around 200°C. Avoid heating the product to high temperatures.
Hazardous Reactions	Keep away from strong oxidising agents, may react violently.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation	High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects. When applying the product as a spray avoid breathing in spray mist.
Ingestion	The concentrate is of low toxicity if swallowed. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or other lung damage.
Skin	The concentrate is not considered a serious toxic hazard. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	The concentrate may cause irritation after short contact with the eyes, but permanent damage is not anticipated.
Chronic Effects	Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.
Reproductive Toxicity	Data indicates no reproductive effects.
Mutagenicity	Data indicates no teratogenic effects.
Carcinogenicity	Data indicates no mutagenic effects.
Acute Toxicity - Oral	A marked depression in body weight and a statistically significant increase in benign thyroid tumors (follicular adenomas) were observed at the highest dose level (5000ppm) in a lifetime (24 month) rat study, not considered to be relevant to humans. (1) LD50 (rat) >5000 mg/kg for pendimethalin
Acute Toxicity - Dermal	LD50 (rat) >2000 mg/kg for pendimethalin



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Acute Toxicity - Inhalation	LC50 (rat) (4hr) >320 mg/l
Eye Irritation	The product is an eye irritant.
Skin Irritation	Not a skin irritant.
Skin Sensitisation	Prolonged and repeated skin contact may result in skin sensitisation.
Other Information	The Australian Acceptable Daily Intake (ADI) for pendimethalin for a human is 0.1 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 12 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', September 2007).

12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment	The product is a marine pollutant for sea transport.
Other Precautions	Do not contaminate dams, waterways or sewers with this product. Do not spray in high winds.
Environ. Protection	Spray drift can cause damage, read the label for more information.
Acute Toxicity - Fish	Toxic to fish. LC50 (96hr) for rainbow trout is 0.14 mg/l. LC50 (96 hr) for bluegill sunfish is 0.2 mg/l. LC50 (96 hr) for channel catfish is 0.42 mg/l.
Acute Toxicity - Other Organisms	Dietary LC50 bobwhite quail is 4187 mg/kg LD50 for mallard duck is 10388 mg/kg Bees: Not toxic to bees. LD50 >100 µg/bee.

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. 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. 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. Empty containers and product should not be burnt. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage.

14. TRANSPORT INFORMATION

Transport Information	Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Storage and Transport	Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
UN Number (Sea Transport)	3082
IMO Class/Packing Group	Class 9; Packing Group III
IMO Marine Pollutant	Marine Pollutant



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IMO Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Pendimethalin)
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15. REGULATORY INFORMATION

Poisons Schedule	S5
Packaging & Labelling	CAUTION 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 03/03/2008
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Contact Person/Point	Normal Hours: Mr Volker Maier	Phone: +61 3 9282 1000
Literature References	After Hours: Shift Supervisor	Phone: 1800 033 498
Revisions	(1) European Union review report for the active substance Pendimethalin 7477/V1/98 final, dated 13th January 2003.	
Highlighted	The MSDS was reviewed. Minor changes were made to the information.	
	...End Of MSDS...	

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