



Infosafe No™ NU0G3

Issue Date :April 2009

ISSUED by NUFARM

CS: 1.4.21

Product Name **NUGREX Selective Herbicide**

Classified as hazardous

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	NUGREX Selective Herbicide
<b>Product Code</b>	0575
<b>Product Type</b>	Group F I Herbicide
<b>Company Name</b>	NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
<b>Address</b>	103-105 Pipe Road Laverton North Victoria 3026 Australia
<b>Emergency Tel.</b>	1800 033 498 (24hr Australia)
<b>Telephone/Fax Number</b>	Tel: +61 3 9282-1000 Fax: +61 3 9282-1001
<b>Recommended Use</b>	For the control of certain broadleaf weeds in winter cereals and clover as specified in the Directions for Use table on the label.
<b>Other Information</b>	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

<b>Hazard Classification</b>	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.
<b>Risk Phrase(s)</b>	Classified as hazardous R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R36 Irritating to eyes. R43 May cause sensitization by skin contact.
<b>Safety Phrase(s)</b>	S13 Keep away from food, drink and animal feeding stuffs. S2 Keep out of reach of children. S24/25 Avoid contact with skin and eyes. S46 If swallowed, seek medical advice immediately and show this container or label.
<b>Other Information</b>	Poisons Schedule S5

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Chemical Characterization</b>	Liquid															
<b>Ingredients</b>	<table><thead><tr><th><u>Name</u></th><th><u>CAS</u></th><th><u>Proportion</u></th></tr></thead><tbody><tr><td>MCPA present as the ethyl hexyl ester</td><td>94-74-6</td><td>250 g/L</td></tr><tr><td>Diflufenican</td><td>83164-33-4</td><td>25 g/L</td></tr><tr><td>N-Methyl-2-pyrrolidone</td><td>872-50-4</td><td>362 g/L</td></tr><tr><td>Nonoxynol</td><td>9016-45-9</td><td>10-30 %</td></tr></tbody></table>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	MCPA present as the ethyl hexyl ester	94-74-6	250 g/L	Diflufenican	83164-33-4	25 g/L	N-Methyl-2-pyrrolidone	872-50-4	362 g/L	Nonoxynol	9016-45-9	10-30 %
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## 4. FIRST AID MEASURES

<b>Inhalation</b>	Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.
<b>Ingestion</b>	Rinse mouth and then drink plenty of water. 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.
<b>Skin</b>	Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use.



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

## 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Water fog, foam, carbon dioxide or dry chemical. Avoid using large volumes of water which would spread the product.
<b>Hazards from Combustion Products</b>	If involved in a fire, it will emit oxides of carbon, oxides of nitrogen and possibly hydrogen flouride or phosgene.
<b>Special Protective Equipment for fire fighters</b>	Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.
<b>Other Information</b>	STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Spills &amp; Disposal</b>	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.
<b>Personal Protection</b>	For appropriate personal protective equipment (PPE), refer Section 8.
<b>Clean-up Methods - Large Spillages</b>	Place damaged containers in recovery bins (if available) and return to manufacturer. If large liquid spills occur, attempt to recover as much spilt material from sumps and banded areas before absorbing remaining material into vermiculite or other absorbent.
<b>Environmental Precautions</b>	This product is a herbicide and spills can damage crops, pastures and desirable vegetation. Use earthen bunds or absorbent bunding to prevent spreading of spillage. Prevent from entering drains, waterways or sewers.

## 7. HANDLING AND STORAGE

<b>Conditions for Safe Storage</b>	Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.
<b>Unsuitable Materials</b>	Rubber components present in some spraying units may be affected by exposure to the solvents in Nugrex. Wash spray unit thoroughly with boom cleaner and fresh water after use.
<b>Other Information</b>	Do not use on or in situations where damage to susceptible crops or plants such as cotton, tobacco, tomatoes, flowers, vines, fruit trees or other susceptible crop plants may result from direct application or drift. Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning. Care should be taken especially where capeweed, Paterson's curse and variegated thistles predominate in the pasture. Always read the label and any attached leaflet before use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>National Exposure Standards</b>	No exposure standard has been established for this product. Permissible Exposure Level (PEL) for diflufenican recommended by the manufacturer is 2.3 mg/m <sup>3</sup> . NOHSC has set the following exposure standard for N-methyl pyrrolidone : TLV (TWA) 103 mg/m <sup>3</sup> , STEL 309 mg/m <sup>3</sup> . SK 'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.
<b>Engineering Controls</b>	Handle in well ventilated areas, generally natural ventilation is adequate.



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<b>Personal Protective Equipment</b>	When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.
<b>Hygiene Measures</b>	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.
<b>Requirements Concerning Special Training</b>	NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form</b>	Liquid
<b>Appearance</b>	Clear, dark brown liquid
<b>Odour</b>	Distinctive strong ester odour
<b>Melting Point</b>	<0°C
<b>Boiling Point</b>	between 176 - 200°C (solvent)
<b>Solubility in Water</b>	Forms an emulsion in water.
<b>Specific Gravity</b>	1.063
<b>Vapour Pressure</b>	1.77 mPa for MCPA 2EHE @ 25°C; 4.25 x 10 <sup>-3</sup> mPa for diflufenican @ 25°C
<b>Octanol/Water Partition Coefficient</b>	Kow Log P is 5.37 for MCPA 2EHE; 4.9 for diflufenican
<b>Flash Point</b>	74.5°C
<b>Flammability</b>	Combustible liquid C1.
<b>Flammable Limits - Lower</b>	0.8 for solvent
<b>Flammable Limits - Upper</b>	6.7% for solvent

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Incompatible Materials</b>	Avoid contact with rubber.
<b>Hazardous Reactions</b>	Keep away from strong oxidising agents. May react exothermically with strong alkalis and acids.
<b>Hazardous Polymerization</b>	Hazardous polymerisation is not possible.

## 11. TOXICOLOGICAL INFORMATION

<b>Toxicology Information</b>	No harmful effects are expected if the precautions on the label and this MSDS are followed.
<b>Inhalation</b>	May cause irritation to mucous membranes.
<b>Ingestion</b>	Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea.
<b>Skin</b>	Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
<b>Eye</b>	Symptoms of over exposure may be similar to those described for ingestion. The concentrate will cause irritation of the eyes.
<b>Chronic Effects</b>	Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive.
<b>Reproductive Toxicity</b>	Data indicates no reproductive effects.
<b>Mutagenicity</b>	Data indicates no mutagenic effects.
<b>Acute Toxicity - Oral</b>	LD50 (rat) 1580 mg/kg for the formulated product

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<b>Acute Toxicity - Dermal</b>	LD50 (rat) >2040 mg/kg for the formulated product
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr) >4.5 mg/l for MCPA 2EHE LC50 (rat) (4hr) >5.11 mg/l for diflufenican
<b>Eye Irritation</b>	The product is an eye irritant.
<b>Skin Irritation</b>	Not a skin irritant.
<b>Skin Sensitisation</b>	Prolonged and repeated skin contact may result in skin sensitisation.
<b>Other Information</b>	The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.1 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). ADI for diflufenican is 0.2 mg/kg/day, NOEL 16.3 mg/kg/day.

## 12. ECOLOGICAL INFORMATION

<b>Persistence / Degradability</b>	Average field half life of MCPA 2EHE is 24 days. Average field half life of diflufenican is 100 - 200 days.
<b>Other Precautions</b>	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
<b>Environ. Protection</b>	Spray drift can cause damage, read the label for more information.
<b>Acute Toxicity - Fish</b>	LC50 (96hr) for rainbow trout is 50 mg/l for MCPA acid LC50 (96hr) for rainbow trout is 56 - 100 mg/l for diflufenican MCPA 2EHE has very low water solubility (0.1 mg/l) and rapidly hydrolyses in natural waters. The above data is for the hydrolysis product: MCPA acid.
<b>Acute Toxicity - Daphnia</b>	EC50 (48hr) for daphnia is >190 mg/l for MCPA acid. EC50 (48hr) for daphnia is >10 mg/l for diflufenican.
<b>Acute Toxicity - Other Organisms</b>	LD50 for quail is 377 mg/kg for MCPA 2EHE LD50 for quail is >2150 mg/kg for diflufenican Not toxic to bees.

## 13. DISPOSAL CONSIDERATIONS

<b>Product Disposal</b>	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®).
<b>Container Disposal</b>	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 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

<b>Transport Information</b>	It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.
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<b>Storage and Transport</b>	Considered non dangerous for road and rail transport (in packs less than 3000 kg or 1t) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.
<b>UN Number (Sea Transport)</b>	3082
<b>IMO Class/Packing Group</b>	Class 9
<b>IMO Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains MCPA 2 EHE)

## 15. REGULATORY INFORMATION

<b>Poisons Schedule</b>	S5
<b>Packaging &amp; Labelling</b>	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
<b>Hazard Category</b>	Harmful,Irritant
<b>AICS (Australia)</b>	All of the components in this product are listed on the Australian Inventory of Chemical Substances.

## 16. OTHER INFORMATION

<b>Date of preparation or last revision of MSDS</b>	Revised 08/04/2009
<b>Contact Person/Point</b>	Normal Hours: Mr Volker Maier Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498
<b>Revisions Highlighted</b>	The MSDS was reviewed. Various changes were made to the information. ...End Of MSDS...

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