

Infosafe No™ 3NU4U	Issue Date : February 2012	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **INVADER 600 Herbicide**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	INVADER 600 Herbicide
Product Code	0521
Product Type	Group I 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 various woody and broadleaf weeds as specified 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 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. R36 Irritating to eyes. 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. S24/25 Avoid contact with skin and eyes. 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>
	Triclopyr (present as the butoxyethyl ester)	64700-56-7	600 g/L
	Other non-hazardous ingredients		Balance
	Butyl diglycol	112-34-5	10-30 %

4. FIRST AID MEASURES

Inhalation	Remove affected person to fresh air until recovered. If symptoms develop or persist, 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

Infosafe No™ 3NU4U	Issue Date : February 2012	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **INVADER 600 Herbicide**

Classified as hazardous

Skin	concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 10ml) 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 taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.
Eye	Remove contaminated clothing and launder before re-use. Wash affected areas thoroughly with soap and water. Seek medical advice, but only after the exposed skin has been thoroughly washed.
First Aid Facilities	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.
Advice to Doctor	If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26. 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, it will emit oxides of carbon, oxides of nitrogen, hydrogen chloride and possibly phosgene.
Special Protective Equipment for fire fighters	Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.
Specific Hazards	
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	Do NOT contaminate dams, rivers or streams, or any other water bodies with chemical or used containers.
Conditions for Safe Storage	Store in the closed, original container in a dry, cool well ventilated area out of direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.
Tank Cleaning	See label for detailed information on cleaning of spray equipment.
Other Information	Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Other Exposure Information	EU. exposure standards for triclopyr are TWA 67.5mg/m ³ , STEL 101.2 mg/m ³ .
Engineering Controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment	It is good practice to wear suitable personal protective equipment (PPE). 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.
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.

Infosafe No™ 3NU4U	Issue Date : February 2012	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **INVADER 600 Herbicide**

Classified as hazardous

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
Appearance	Amber liquid
Solubility in Water	Disperses in water.
Specific Gravity	1.21
pH Value	4-6 (1% in water)
Vapour Pressure	0.48 mPa (triclopyr butoxyethyl ester)
Flash Point	95°C
Flammability	Combustible C1.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed.
Inhalation	High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract.
Ingestion	Ingestion of the concentrate in relatively large amounts can result in headache, nausea, lethargy, motor weakness and incoordination.
Skin	May irritate the skin.
Eye	May cause sensitisation by prolonged skin contact.
Chronic Effects	Will irritate the eyes.
Mutagenicity	Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.
Carcinogenicity	Data indicates no mutagenic effects.
Acute Toxicity - Oral	Triclopyr has been assessed in animals and some data exists that triclopyr is a substance which causes some concern for humans owing to possible carcinogenic effects from long term exposure, but in respect of which the available information is not adequate for making a satisfactory assessment.
Acute Toxicity - Dermal	LD50 (rat) 803 mg/kg for triclopyr butoxyethyl ester
Acute Toxicity - Inhalation	LD50 (rabbit) >2000 mg/kg for triclopyr butoxyethyl ester
Eye Irritation	LC50 (rat) (4hr) >4.8 mg/l for triclopyr butoxyethyl ester
Skin Irritation	Moderate eye irritant.
Skin Sensitisation	Mild to moderate skin irritant.
Other Information	Prolonged and repeated skin contact may result in skin sensitisation.
	The Australian Acceptable Daily Intake (ADI) for triclopyr for a human is 0.005 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.5 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 and Environmental Health, 'ADI List', June 2011).

12. ECOLOGICAL INFORMATION

Persistence / Degradability	Triclopyr butoxyethyl ester is rapidly hydrolysed to triclopyr acid in soil and water. Triclopyr acid is degraded by microbial action and photodecomposition. Triclopyr acid, in soil, has a half-life of approximately forty
------------------------------------	---

Infosafe No™ 3NU4U	Issue Date : February 2012	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **INVADER 600 Herbicide**

Classified as hazardous

days, depending on soil and climatic conditions. In water, triclopyr acid will decompose rapidly with a half-life of one to two days. Minimal leaching of triclopyr acid may occur in light soils under high rainfall conditions. Contamination of ground water by triclopyr is highly unlikely. If used according to the label, Invader 600 will not be harmful to the environment.

Other Precautions Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

Environ. Protection Spray drift can cause damage, read the label for more information. Marine pollutant.

Acute Toxicity - Fish The following is data for the active ingredient, triclopyr as the butoxyethyl ester.
LC50 (96hr) for the most sensitive species tested is 0.31 mg/l.
LC50 (48hr) for daphnia is 0.66 mg/l for triclopyr butoxyethyl ester.

Acute Toxicity - Daphnia

Acute Toxicity - Algae EC50 (48hr) for algae is 0.193 mg/l.

Acute Toxicity - Other Organisms Bees: Not toxic to bees. LD50 >100 µg/bee.
LD50 for bobwhite quail is 735 mg/kg for triclopyr butoxyethyl ester

13. DISPOSAL CONSIDERATIONS

Product Disposal DO NOT dispose of undiluted chemicals on site. 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 or preferably pressure rinse inner bladder or containers before disposal. Add rinsings to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government 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. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. DO NOT burn empty containers or product.

14. TRANSPORT INFORMATION

Transport Information It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

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.

UN Number (Sea Transport) For bulk shipments as Class 9, use UN 3082, HazChem code 2Z. 3082

IMO Class/Packing Group Class 9;

IMO Marine Pollutant Marine Pollutant

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

Infosafe No™ 3NU4U	Issue Date : February 2012	ISSUED by NUFARM
--------------------	----------------------------	------------------

Product Name **INVADER 600 Herbicide**

Classified as hazardous

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
Other Information	This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 49998.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS	Revised 15/02/2012 This SDS replaces document dated January 2007.
Contact Person/Point	Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498
Literature References	EFSA Scientific Report (2005) 56, 1-103 conclusion on the peer review of triclopyr
Revisions Highlighted	The MSDS was reviewed. Various changes were made to the information. See sections 8, 9, 13, 14, 15 and 16. ...End Of MSDS...

© Copyright ACOHS Pty Ltd

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.