



Material Safety Data Sheet

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Infosafe No. 3NU2X Issue Date : May 2004 ISSUED by NUFARM

Product Name : **ARSENAL XPRESS® Herbicide**

Not classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name ARSENAL XPRESS® Herbicide
Product Code 0099
Product Use For the control of various annual and perennial weeds in non-crop situations as indicated in the Directions for Use table.
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone/Telex Number Tel: (03) 9282-1000 Fax: (03) 9282-1001
Product Type Group BM Herbicide
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. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Glyphosate present as the isopropylamine salt	1071-83-6	150 g/L
	Imazapyr present as the isopropylamine salt	81334-34-1	150 g/L
	Other ingredients (considered non-hazardous)		10-30 %
	Water		Remainder

3. HAZARDS IDENTIFICATION

Other Information Poisons Schedule 5

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.
Give a glass of water.
If vomiting occurs, give more water to drink to assist dilution.

Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
If irritation persists consult a doctor.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media None required but use water spray to cool containers or personnel threatened by fire.



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Hazardous Combustion Products If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and possibly oxides of phosphorus.
This product, or spray solutions of this product, react with galvanised steel or unlined steel (except stainless steel) containers and tanks, to produce hydrogen gas which may form a highly flammable or explosive gas mixture.

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.

Environmental Precautions This product is a herbicide and spills can damage crops, pastures and desirable vegetation.
Prevent from entering drains, waterways or sewers.

Clean-up Methods - Large Spillages 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 bunded areas before absorbing remaining material into vermiculite or other absorbent.

7. HANDLING AND STORAGE

Handling Do not mix, store or apply the product or spray solutions of the product in galvanised steel or unlined steel (except stainless steel) containers or spray tanks.

Storage Store in the closed, original container in a cool, well ventilated area.
Do not store for prolonged periods in direct sunlight.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits No exposure standards have been set for this product or the active ingredients.

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.

Eng. Controls Handle in well ventilated areas, generally natural ventilation is adequate.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear amber liquid

Odour Faint amine

Solubility in Water Soluble in water.

Specific Gravity (H₂O=1) 1.12

pH Value 7.3

Vapour Pressure <0.013 mPa @ 60°C for imazapyr; 0.0113 mPa @ 25°C for glyphosate

Volatile Component 54% (for water)

Partition co-efficient, n-octanol/water 0.11 for imazapyr; <-3.2 (pH2-5) glyphosate

Flammability Non combustible material.

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.



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Hazardous Polymerization Hazardous polymerisation is not possible.

Materials to Avoid The addition of a strong alkali such as caustic soda will cause release of isopropylamine vapour.
Isopropylamine vapour is moderately toxic, LD50 (oral, rat) is 820 mg/kg and a TLV of 5 ppm (TWA) has been set.

11. TOXICOLOGICAL INFORMATION

Inhalation The components of the product are of low volatility and no adverse effects are expected from handling the concentrate.
However, care should be taken to avoid the inhalation of excessive amounts of spray mist during field spraying, respiratory irritation may occur.

Ingestion The concentrate is of low toxicity if swallowed.

Skin May irritate the skin.

Eye May irritate the eyes.

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 mutagenic effects.

Carcinogenicity Data indicates no carcinogenic effects.

Acute Toxicity - Oral LD50 (rat) 4050 mg/kg for glyphosate as isopropylamine salt
LD50 (rat) >5000 mg/kg for imazapyr

Acute Toxicity - Inhalation LC50 (rat) (4hr) >1.3 mg/l for glyphosate as isopropylamine salt
LC50 (rat) (4hr) >5.1 mg/l for imazapyr

Eye Irritation Mild eye irritant.

Skin Irritation Mild skin irritant.

Other Information The Australian Acceptable Daily Intake (ADI) for glyphosate for a human is 0.3 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 30 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, 'ADI List', TGA, August 2003).

The Australian Acceptable Daily Intake (ADI) for imazapyr for a human is 2.5 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 250 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, 'ADI List', TGA, August 2003).

12. ECOLOGICAL INFORMATION

Persistence / Degradability Glyphosate is rapidly absorbed and inactivated by contact with soil.
Soil residual activity for imazapyr is 6 months to 2 years in temperate climates; 6 months in tropical climates.

Acute Toxicity - Fish The following is data for the active ingredient, imazapyr.
Not toxic to fish.
LC50 (96 hr) for rainbow trout, bluegill sunfish and channel catfish is >100 mg/l.
The following data is for a similar glyphosate isopropylamine salt/surfactant formulation.
LC50 (96 hr) for rainbow trout is 1080 mg/l.

Acute Toxicity - Other Organisms Not toxic to birds.
Not toxic to bees.

13. DISPOSAL CONSIDERATIONS



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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 (ChemCollect).

Container Disposal 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.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses.

Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number None Allocated

DG Class None Allocated

Hazchem Code None Allocated

Packing Group None Allocated

Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Poisons Schedule S5

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

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

16. OTHER INFORMATION

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Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions Highlighted First Issue
...End Of MSDS...