

NUFARM BIFFO HERBICIDE

Infosafe No.: 3NUYH
ISSUED Date : 06/05/2022
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier

NUFARM BIFFO HERBICIDE

Product Code

0175

Product Type

Group N Herbicide

Company Name

NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

Address

103-105 Pipe Road Laverton North
Victoria 3026 AUSTRALIA

Telephone/Fax Number

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Emergency Phone Number

1800 033 498 (24hr Australia)

Emergency Contact Name

www.nufarm.com.au

E-mail Address

SDSANZ@nufarm.com

Recommended use of the chemical and restrictions on use

For non-residual control of broadleaf and grass weeds in various situations as per the Directions for Use table on the label.

Additional Information

This Safety Data Sheet describes the properties of the concentrated product.

The physical properties and the assessments may not apply to the properties of the product once it has been diluted for application.

Other Information

This Safety Data Sheet describes the properties of the concentrated product. The physical properties and the assessments may not apply to the properties of the product once it has been diluted for application.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Eye damage/irritation: Category 2

Toxic to Reproduction: Category 1

Acute toxicity: Category 4 - Inhalation

Acute toxicity: Category 4 - Oral

Acute toxicity: Category 4 - Dermal

Specific target organ toxicity (repeated exposure): Category 2

Hazardous to the Aquatic Environment - Acute Hazard: Category 3

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 3

Signal Word (s)

DANGER

Hazard Statement (s)

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Pictogram (s)

Exclamation mark, Health hazard



Precautionary Statement–Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement–Response

P308+P313 IF exposed or concerned: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water.
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P314 Get medical advice/attention if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P312 Call a POISON CENTER/doctor if you feel unwell.

Precautionary Statement–Storage

P405 Store locked up.

Precautionary Statement–Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

Section 3 - Composition and Information on Ingredients

Ingredients

Name	CAS	Proportion
1-methoxy-2-propanol	107-98-2	10-<20 %
glufosinate ammonium (ISO)	77182-82-2	<20 %
Ingredients determined not to be hazardous		Balance

Section 4 - First Aid Measures

Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion

Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. Seek medical attention.

First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

The treatment below may be warranted following ingestion of significant quantities of the concentrated product. Significant effects from exposure to dilute spray solution are unlikely.

Glufosinate-ammonium is a glutamine synthase inhibitor and can interfere with neurotransmitter function. Early symptoms shortly after exposure are mainly gastrointestinal (nausea, diarrhoea, and vomiting, abdominal pain). In the course of time impaired respiration and neurological defects such as mental status changes, tremor, fever and convulsions may develop. Recovery is normally spontaneous, usually within 48 hours. As these symptoms may be delayed up to 48 hours after exposure, the patient should be admitted to hospital for at least 36 hours or 48 hours if a large amount has been ingested.

DECONTAMINATION

If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by administration charcoal and sodium sulfate solution. Elimination by dialysis (forced alkaline diuresis) and/or haemo-perfusion must be conducted soon after ingestion to be effective.

ANTICONVULSANT THERAPY

Phenobarbital-sodium 1 mg/kg intramuscularly or subcutaneously until maximum 5mg/kg daily; when necessary 10 mg diazepam slowly intravenously. Repeat as necessary until fully sedated.

MONITOR respiratory, cardiac and central nervous systems, electrolyte balance (especially for hypokalemia) and signs of increased intracranial pressure; ECG (electrocardiogram) ; EEG (electroencephalogram).

CONTRAINDICATION

Atropine, as glufosinate-ammonium does not inhibit cholinesterase.

Other Information

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Water fog, foam, carbon dioxide or dry chemical.

Unsuitable Extinguishing Media

Strong water jet.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases, including oxides of nitrogen, phosphorous and sulfur, carbon monoxide and carbon dioxide.

Specific hazards arising from the chemical

This product will burn if exposed to fire.

Decomposition Temperature

Not available

Precautions in connection with Fire

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

Section 6 - Accidental Release Measures

Emergency Procedures

Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

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.

Section 7 - Handling and Storage

Precautions for Safe Handling

Avoid inhalation of vapours and mists, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of mists or vapours in the work atmosphere. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene by washing hands prior to eating, drinking, smoking or using toilet facilities.

Avoid exposure. Do not handle until all safety precautions have been read and understood. It is recommended that pregnant or breastfeeding women should not handle this product unless adequate exposure protection can be assured at all times. Female personnel planning pregnancy should be made aware of the potential risks.

Thoroughly flush all spray equipment with water following the use of this product and before use with other products.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, foodstuffs, seed, fertilisers, clothing and incompatible materials such as oxidising agents. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

Storage Regulations

Classified as a Class C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940 (2017) The storage and handling of flammable and combustible liquids.

Unsuitable Materials

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.

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below.

1-methoxy-2- propanol:

TWA: 100 ppm, 369 mg/m³

STEL: 150 ppm, 553 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

Source: Safe Work Australia

Biological Monitoring

No biological limits allocated.

Control Banding

Not available

Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye and Face Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as elbow-length PVC gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Thermal Hazards

No further relevant information available.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist and a washable hat are recommended. Chemical resistant apron is recommended where large quantities are handled.

Hygiene Measures

Re-entry period: Do not enter treated area until spray has dried.

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

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Liquid
Colour	Blue	Odour	Not available
Melting Point	Not available	Boiling Point	Not available
Decomposition Temperature	Not available	Solubility in Water	Soluble
Specific Gravity	1.10	pH	4-6 (1% solution)
Vapour Pressure	3.10 x 10 ⁻² mPa	Relative Vapour Density (Air=1)	Not available
Evaporation Rate	Not available	Odour Threshold	Not available
Viscosity	Not available	Volatile Component	~40%
Partition Coefficient: n-octanol/water (log value)	Kow Log P is -4.01	Flash Point	>94°C(closed cup)
Flammability	Not flammable	Auto-Ignition Temperature	Not available
Flammable Limits - Lower	Not available	Flammable Limits - Upper	Not available
Particle Characteristics	Not applicable		

Section 10 - Stability and Reactivity

Reactivity

Reacts with incompatible materials.

Chemical Stability

Stable under normal conditions of storage and handling.

Possibility of hazardous reactions

Not available

Conditions to Avoid

Heat, flames and other sources of ignition.

Incompatible Materials

Strong acids, bases and oxidising materials.

Hazardous Decomposition Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases, including oxides of nitrogen, phosphorous and sulfur, carbon monoxide and carbon dioxide. The addition of a strong alkali such as caustic soda will cause release of ammonia vapour.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Toxicology Information

Toxicity data for product is given below.

Acute Toxicity - Oral

LD50 (rat) 2000 mg/kg (product)

Acute Toxicity - Dermal

LD50 (rat) 1400 mg/kg (product)

Acute Toxicity - Inhalation

LC50 (rat) : >3 mg/l/4h (product)

Ingestion

Harmful if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

Inhalation

Harmful if inhaled. Inhalation of product vapours can cause irritation of the nose, throat and respiratory system. Early symptoms after exposure are mainly gastrointestinal (nausea, diarrhoea, vomiting, abdominal pain). In the course of time, impaired respiration and neurological defects such as mental status changes, tremor, fever and convulsions may develop.

Skin

Harmful in contact with skin. Product can be absorbed through skin with resultant harmful systemic effects.

Eye

Causes serious eye irritation. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

Respiratory Sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Germ Cell Mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Reproductive Toxicity

May damage fertility or the unborn child. Classified as a Known or presumed human reproductive or developmental toxicant. Evidence from animal studies suggests the potential for impaired fertility or developmental toxicity on repeated or prolonged exposure.

STOT - Single Exposure

Not expected to cause toxicity to a specific target organ.

STOT - Repeated Exposure

May cause damage to organs (nervous system) through prolonged or repeated exposure.

Aspiration Hazard

Not expected to be an aspiration hazard.

Other Information

The Australian Acceptable Daily Intake (ADI) for glufosinate ammonium for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2.1 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: Australian Pesticides and Veterinary Medicines Authority (APVMA) March 2022)

Section 12 - Ecological Information

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Persistence and degradability

Half life (DT50) in soil is typically 8 days.

Mobility

Not available

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Environmental Protection

Spray drift should be avoided, read the label for more information. Do not discharge this material into waterways, drains and sewers. Do not spray in high winds.

Acute Toxicity - Fish

Data for a similar product:

LC50 (rainbow trout): 34 mg/l/96h

Acute Toxicity - Daphnia

Data for a similar product:
EC50 (Daphnia): 27 mg/l/48h

Acute Toxicity - Algae

Data for a similar product:
LD50 (Desmodemus subspicatus): 36 mg/L/72h

Hazardous to the Ozone Layer

This product is not expected to deplete the ozone layer.

Section 13 - Disposal Considerations

Disposal Considerations

Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. To minimise personal exposure to the chemical, refer to Section 8—Exposure controls and personal protection.

Product Disposal: On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose.

Container Disposal: Do not use this container for any other purpose. Triple or preferably pressure rinse 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, 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. 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. 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.

Section 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. (7th edition)

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN Number

None Allocated

Proper Shipping Name

None Allocated

Transport Hazard Class

None Allocated

Special Precautions for User

Not available

IMDG Marine pollutant

No

Transport in Bulk

Not available

Section 15 - Regulatory Information

Regulatory Information

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule

S5

Montreal Protocol

Not listed

Stockholm Convention

Not listed

Rotterdam Convention

Not listed

International Convention for the Prevention of Pollution from Ships (MARPOL)

Not available

Agricultural and Veterinary Chemicals Act 1994

Not available

Basel Convention

Not available

Other Information

This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 62489.

Section 16 - Any Other Relevant Information

Date of Preparation

SDS Amended: September 2023

Section 1, Product Identifier updated

SDS created: April 2022

Version Number

1.1

Literature References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.

Standard for the Uniform Scheduling of Medicines and Poisons.

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Code of Practice for Supply Diversion into Illicit Drug Manufacture.

National Code of Practice for Chemicals of Security Concern.

Agricultural Compounds and Veterinary Chemicals Act.

International Agency for Research on Cancer (IARC) Monographs.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Stockholm Convention on Persistent Organic Pollutants (POPs).

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

International Air Transport Association (IATA) Dangerous Goods Regulations.

International Maritime Dangerous Goods (IMDG) Code.

Workplace exposure standards for airborne contaminants.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

Globally Harmonised System of Classification and Labelling of Chemicals. (7th revised edition)

Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

Contact Person/Point

Normal hours: SDS coordinator : Phone +61 3 9282 1000

After hours: Shift supervisor : Phone 1800 033 498

User Codes

User Title Label	User Codes
Field 4	Y

END OF SDS

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