

NUFARM TRIFLURX HERBICIDE

Infosafe No.: 3NU2K
ISSUED Date : 24/01/2023
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier

NUFARM TRIFLURX HERBICIDE

Product Code

0792/9616/9617

Product Type

Group 3 Herbicide

Company Name

NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

Address

103-105 Pipe Road Laverton North
Victoria 3026 AUSTRALIA

Telephone/Fax Number

Tel: +61 3 9282-1000

Fax: +61 3 9282-1001

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

A pre-emergence herbicide for the control of annual grasses and certain broadleaf weeds in certain horticultural and agricultural crops as listed in the Directions For Use table on the label.

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.

Complies with the requirements of Special Provision AU01 and therefore exempted from being classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Classified as Dangerous Goods according to International Maritime Dangerous Goods Code (IMDG) and International Air Transport Association (IATA).

Flammable liquids: Category 4

Sensitisation - skin: Category 1

Carcinogenicity: Category 2

Specific target organ toxicity (single exposure): Category 3 (Narcotic)

Aspiration hazard: Category 1

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

Signal Word (s)

DANGER

Hazard Statement (s)

AUH066 Repeated exposure may cause skin dryness or cracking.

H227 Combustible liquid.
 H317 May cause an allergic skin reaction.
 H351 Suspected of causing cancer.
 H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s)

Exclamation mark, Health hazard, Environment



Precautionary Statement–Prevention

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement–Response

P312 Call a POISON CENTER/doctor if you feel unwell.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor
 P331 Do NOT induce vomiting.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 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.
 P370+P378 In case of fire: Use water fog, foam, carbon dioxide or dry chemical. to extinguish.
 P391 Collect spillage.

Precautionary Statement–Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 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
Trifluralin	1582-09-8	480 g/L
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	450-600 g/L
Ingredients determined not to be hazardous		Balance

Other Information

di-n-propylNitrosamine < 0.5ppm

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 and lips with water. Where vomiting occurs naturally have affected person place head below hip level in order to reduce risk of aspiration. 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. If symptoms develop and/or persist seek medical attention.

First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

If vomiting occurs, solvent present may cause pulmonary pneumonitis.

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.

Hazards from Combustion Products

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

Specific hazards arising from the chemical

This product will burn if exposed to fire.

Hazchem Code

•3Z

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. Increase ventilation. If possible contain the spill. Place inert absorbent material onto spillage. Collect the material and place into a suitable labelled container. Do not dilute material but contain. 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.

Environmental Precautions

This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

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.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, foodstuffs, 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.

Ensure any crystals are dissolved before adding to the spray tank. 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.

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 C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940 (2017).

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values

No exposure standards have been established for this material, however, the TWA exposure standards for refined mineral oil mist is 5 mg/m³. As with all chemicals, exposure should be kept to the lowest possible levels.

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.

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.

Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, 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 is recommended. Chemical resistant apron is recommended where large quantities are handled.

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.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Bright orange, clear liquid
Colour	Bright orange	Odour	Solvent odour
Melting Point	Some crystallisation occurs between 0 and -7°C	Boiling Point	183-210°C (for solvent)
Decomposition Temperature	Not available	Solubility in Water	Disperses in water
Specific Gravity	1.116	pH	7.5 - 8.5
Vapour Pressure	0.5 kPa @ 38°C for solvent, 13.7 mPa @ 25°C for trifluralin	Relative Vapour Density (Air=1)	4.8 (solvent)
Evaporation Rate	Not available	Odour Threshold	Not available
Viscosity	Not available	Volatile Component	51% v/v
Partition Coefficient: n-octanol/water (log value)	Not available	Density	Not available
Flash Point	72.5°C	Flammability	Combustible
Auto-Ignition Temperature	443°C (solvent)	Flammable Limits - Lower	0.9% (for solvent)
Flammable Limits - Upper	6% (for solvent)	Explosion Properties	Not available
Oxidising Properties	Not available	Particle Characteristics	Not available

Section 10 - Stability and Reactivity

Reactivity

Reacts with incompatible materials.

Chemical Stability

Stable under normal conditions of storage and handling.

Possibility of hazardous reactions

Reacts with incompatible materials.

Conditions to Avoid

Heat, open flames and other sources of ignition.

Incompatible Materials

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.

Hazardous Decomposition Products

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

Hazardous Polymerization

Hazardous polymerization is not possible.

Section 11 - Toxicological Information

Toxicology Information

No toxicity data available for this material. The available acute toxicity data for the ingredient/s is/are given below.

Nufarm trifluralin (technical) is manufactured to comply with a maximum limit of 0.5 ppm di-n-propylnitrosamine, generally, the levels are not detectable at a detection limit of 0.2 ppm. The final product specification is set in accordance with the current FAO specification of max 0.5 ppm di-n-propylnitrosamine.

Acute Toxicity - Oral

Trifluralin

LD50 (mouse): 5,000 mg/kg

LD50 (rat): >10,000 mg/kg

In 2 year feeding trials, rats receiving 2,000 mg/kg diet suffered no ill effects.

In 2 year feeding trials, dogs receiving 1,000 mg/kg body weight suffered no ill effects.

Ingestion

May be fatal if swallowed and enters airways. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause severe pulmonary injury that may lead to death. May cause irritation to the mouth, throat, esophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

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, can be anaesthetic and may have other central nervous system effects. May cause irritation to the mucous membrane and upper airways, especially where vapours or mists are generated. Symptoms include sneezing, coughing, wheezing, shortness of breath, headache, dizziness, drowsiness, nausea and vomiting.

Skin

May be irritating to skin. The symptoms may include redness, itching and swelling. Repeated exposure may cause skin dryness, defatting of the skin and cracking and may lead to dermatitis. May cause an allergic skin reaction.

Eye

May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory Sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

May cause an allergic skin reaction.

Germ Cell Mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Suspected of causing cancer. Classified as a suspected human carcinogen.

The active ingredient trifluralin, and an impurity present in the solvent naphthalene have been found to cause tumors in laboratory animals and are classified as suspected human carcinogens.

Trifluralin and Petroleum solvents are listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity

Not considered to be toxic to reproduction.

STOT - Single Exposure

May cause drowsiness or dizziness.

STOT - Repeated Exposure

Not expected to cause toxicity to a specific target organ.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Other Information

The Australian Acceptable Daily Intake (ADI) for trifluralin for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2.5 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: Australian Pesticides and Veterinary Medicines Authority (APVMA) December 2022.

Section 12 - Ecological Information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

No ecological data available for this material. The available ecological data for the ingredients is given below:

Persistence and degradability

Trifluralin degrades in soil at a relatively moderate rate, about 85 - 90% of the material is lost in normal soil in 1/2 to 1 year.

Mobility

Not available

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Other Precautions

Do not spray in high winds.

Environmental Protection

Do not discharge this material into waterways, drains and sewers.
Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish

Trifluralin

LC50 (young rainbow trout): 0.088 mg/l/96h

Acute Toxicity - Daphnia

Trifluralin

LC50 (daphnia): 0.245 mg/l/48h

Acute Toxicity - Other Organisms

Birds: Not toxic to birds. LD50 for bobwhite quail is >2,000 mg/kg

Bees: Not toxic to bees. LD50 >100 µg/bee.

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, 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. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Container Disposal and Methods

Do not use this container for any other purpose.

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 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.

Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank.

If not recycling, puncture or shred and bury containers in local authority landfill.

If recycling, replace cap and return clean containers to recycler or designated collection point.

Section 14 - Transport Information

Transport Information

Road and Rail Transport (ADG Code):

This product complies with the requirements of Special Provision AU01 and is therefore exempted from being classified as

Dangerous Goods according to the ADG Code.

Note: Special Provision AU01:

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 9

UN No: 3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Trifluralin) (Marine Pollutant)

Packing Group: III

EMS: F-A, S-F

Special Provisions: 274, 335, 969

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 9

UN No: 3082

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(Contains Trifluralin)

Packing Group: III

Label: Miscellaneous

Packaging Instructions (passenger & cargo): 964

Packaging Instructions (cargo only): 964

Special provisions: A97, A158, A197, A215

UN Number

None Allocated

Proper Shipping Name

None Allocated

Transport Hazard Class

None Allocated

Hazchem Code

•3Z

Special Precautions for User

Not available

IMDG Marine pollutant

Yes

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).

Australia: WHS regulations (2011) - Schedule 11: Item 10 (flammable liquid category 4)

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

APVMA product number: 56421.

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

Basel Convention

Not listed

Section 16 - Any Other Relevant Information

Date of Preparation

SDS Revised: January 2023

Supersedes: December 2021

Version Number

2.0

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

© Copyright Chemical Safety International 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 SDS displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe SDS displayed is the intellectual property of Chemical Safety International Pty Ltd.

The compilation of SDS's displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copying of any SDS displayed is permitted for personal use only and otherwise is not permitted. In particular the SDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of SDS without the express written consent of Chemical Safety International Pty Ltd.