SAFETY DATA SHEET

NUFARM ESTERCIDE 800 HERBICIDE

Infosafe No.: 3NU9B
ISSUED Date : 08/02/2023
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier
NUFARM ESTERCIDE 800 HERBICIDE

Product Code
0400 NUL 2515

Product Type
Group 4 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
This is a PHENOXY HERBICIDE that can cause severe damage to native vegetation and susceptible crops such as cotton, grapes, tomatoes, oilseed crops and ornamentals.

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
Acute toxicity: Category 4 - Oral
Eye damage/irritation: Category 1
Sensitisation - skin: Category 1
Carcinogenicity: Category 2
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.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s)
Exclamation mark,Corrosion,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.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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
P308+P313 IF exposed or concerned: Get medical advice/attention.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P362+P364 Take off contaminated clothing and wash it before reuse.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P370+P378 In case of fire: Use water fog, foam, carbon dioxide or dry chemical to extinguish.
P391 Collect spillage.

Precautionary Statement–Storage
P403 Store in a well-ventilated place.
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
2,4-D (present as the ethyl ester)	94-75-7	800 g/L
Liquid Hydrocarbons	64742-94-5	10-30 %
Tetrapropylene benzene sulphonate-Ca salt	11117-11-6	<5%
Other ingredients (non-hazardous)		10-30 %

Section 4 - First Aid Measures

Inhalation
If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist 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 until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate 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 chloride or phosgene.

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.
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).

Other Information
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.

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:

2,4-D
TWA: 10 mg/m³
NOTE: Sen

Refined mineral oil mist
TWA: 5 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.
'Sen' Notice: The substance may cause sensitization by skin contact or by inhalation.
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**	Clear brown liquid
Colour	Clear brown	**Odour**	Typical solvent odour
Melting Point	Not available	**Boiling Point**	296°C (2,4-D ethyl ester); 179 - 219°C (solvent)
Decomposition Temperature	Not available	**Solubility in Water**	Disperses in water
Specific Gravity	1.219	**pH**	Not available
Vapour Pressure	145 mPa @ 20°C for 2,4-D ethyl ester; 83 mPa @ 20°C for solvent.	**Relative Vapour Density (Air=1)**	>1
Evaporation Rate	Not available	**Odour Threshold**	Not available
Viscosity	Not available	**Volatile Component**	Not available
Partition Coefficient: n-octanol/water (log value)	Kow Log P is 3.2 (pH 1-10)	**Density**	Not available
Flash Point	93°C	**Flammability**	C1 Combustible
Auto-Ignition Temperature	>400°C for solvent	**Flammable Limits - Lower**	Not available
Flammable Limits - Upper	Not available	**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
Keep away from strong oxidising agents, may react violently.

Conditions to Avoid
Heat, open flames and other sources of ignition.

Incompatible Materials
Strong oxidising agents

Hazardous Decomposition Products
Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including hydrogen chloride or phosgene.

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 a similar formulation is given below.

Acute Toxicity - Oral
A similar 2,4-D formulation
LD50 (rat): 720 - 982 mg/kg

Acute Toxicity - Dermal
A similar 2,4-D formulation
LD50 (rat): >2000 mg/kg

Acute Toxicity - Inhalation
A similar 2,4-D formulation
LC50 (rat): >5.4 mg/l/4h

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.
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
High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects. When applying the product as a spray avoid breathing in spray mist.
May cause respiratory irritation. Inhalation of product vapours can cause irritation of the nose, throat and respiratory system.

Skin
May be irritating to skin. The symptoms may include redness and itching. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis. May cause sensitization by skin contact.

Skin Corrosion/Irritation
Prolonged contact with the concentrate may result in absorption of 2,4-D in harmful amounts.

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.
An impurity present in the solvent has been found to cause tumors in laboratory studies. The active ingredient(s), 2,4-D is not considered carcinogenic.
2,4-D is listed as a Group 2B: Possibly carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity
Not considered to be toxic to reproduction.

STOT - Single Exposure
Not expected to cause toxicity to a specific target organ.

STOT - Repeated Exposure
Not expected to cause toxicity to a specific target organ.

Aspiration Hazard
May be fatal if swallowed and enters airways.

Chronic Effects
Chronic Overexposure: Repeated absorption of relatively large amounts of 2,4-D presents a risk to the liver and kidneys.

Other Information
The Australian Acceptable Daily Intake (ADI) for 2,4-D for a human is 0.05 mg/kg/day, set for the public for daily, lifetime exposure.This is based on the NOEL of 5 mg/kg/day, the level determined to show no effects during long term exposure for the mostsensitive 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.
The available ecological data is given below.

Persistence and degradability
2,4-D acid is readily biodegradable.

Mobility
2,4-D ethyl ester hydrolyses rapidly in natural waters.

Bioaccumulative Potential
Not available

Other Adverse Effects
Not available

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
LC50 (zebra fish): 2.7 mg/l/96h

Acute Toxicity - Daphnia
EC50 (daphnia magna): 5.1 mg/l/48h

Acute Toxicity - Algae
EC50 (algae): 7.3 mg/l/48h

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

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 2,4-D) (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 2,4-D)
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 9 (flammable liquid category 4)

Poisons Schedule
S6

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: 31209.
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: February 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