SAFETY DATA SHEET

DROPZONE

Infosafe No.: 3NV6Q
ISSUED Date : 18/12/2024
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier
DROPZONE

Product Code
0479

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
For the control of broadleaf weeds in situations as per directions for use on the label with a range of benefits including: spray droplet optimisation to enhance coverage, improve retention and reduce the risk of spray drift; increased speed of action and final weed control; low odour and non-volatile. 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.

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.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Acute toxicity: Category 4 - Oral
Acute toxicity: Category 4 - Dermal
Skin corrosion/irritation: Category 1C
Eye damage/irritation: Category 1
Sensitisation - skin: Category 1

Signal Word (s)
DANGER

Hazard Statement (s)
H302 Harmful if swallowed.

H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Pictogram (s)
Exclamation mark,Corrosion

Precautionary Statement–Prevention
P260 Do not breathe dusts or mists.
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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement–Response
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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.
P312 Call a POISON CENTER/doctor 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.
P310 Immediately call a POISON CENTER/doctor.

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
2,4-D Acid	94-75-7	40-50 %
di-methylamine	124-40-3	10-20 %
Fatty acid	Proprietary	10-20 %
mono-methylamine	74-89-5	<10 %
Sodium caseinate	9005-46-3	<1 %
Ingredients determined not to be hazardous, including wate r		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 gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate 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.

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
Carbon dioxide, dry chemical, foam, water fog or water mist.

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

Specific hazards arising from the chemical
This product can burn if exposed to fire after evaporation of water.

Hazchem Code
2X

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
Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to 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.

Spills & Disposal
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, as possible, before absorbing remaining material into vermiculite or other absorbent.

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
Corrosive liquid. Attacks skin and eyes. Causes burns. Avoid breathing in vapours, mist or fumes. Wear suitable protective clothing, gloves and eye/face protection when mixing and using. Use in designated areas with adequate ventilation. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Prevent the build up of mists or vapours in the work atmosphere. Keep containers sealed when not in use. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and before eating, drinking, smoking or using the toilet facilities.

Conditions for safe storage, including any incompatibilities
Corrosive liquid for storage and handling purposes. Keep tightly closed in a dry, cool, well-ventilated area, out of direct sunlight. Provide a catch-tank in a bunded area. Avoid sparks, flames and other ignition sources. Store away from incompatible materials. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. 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 AS 3780 - The storage and handling of corrosive substances.

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

Dimethylamine
TWA: 2 ppm, 3.8 mg/m³
STEL: 6 ppm, 11 mg/m³

Monomethylamine
TWA: 10 ppm, 13 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.
'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
Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. 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 full face shield should be used. 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. 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.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	**Appearance**	Clear, brown liquid
Colour	Brown	**Odour**	Negligible amine odour
Melting Point	<0°C	**Boiling Point**	100°C
Decomposition Temperature	Not available	**Solubility in Water**	Soluble in water
Specific Gravity	1.146	**pH**	6.8 (1% solution)
Vapour Pressure	2,4-D is non-volatile	**Relative Vapour Density (Air=1)**	Not available
Evaporation Rate	Not available	**Odour Threshold**	Not available
Viscosity	Not available	**Volatile Component**	20% (water)
Partition Coefficient: n-octanol/water (log value)	Not available	**Flash Point**	Not available
Flammability	Not flammable	**Auto-Ignition Temperature**	Not available
Explosion Limit - Upper	Not available	**Explosion Limit - Lower**	Not available
Explosion Properties	Not available	**Oxidising Properties**	Not available
Particle Characteristics	Not available		

Other Information
pKa is 2.73 for 2,4-D

Section 10 - Stability and Reactivity

Reactivity
Reacts with incompatible materials. Reaction of the concentrate or spray mix with acids will precipitate solid 2,4-D and largely de-activate the product and cause blockages in spray equipment. The addition of a strong alkali such as caustic soda will cause release of dimethylamine and monomethylamine vapour.

Chemical Stability
Stable under normal conditions of storage and handling.

Possibility of hazardous reactions
Product may release dimethylamine and monomethylamine vapours.

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

Incompatible Materials
Strong oxidising agents, acids and bases.

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

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Toxicology Information
Toxicity data for a similar product is given below.

Acute Toxicity - Oral
LD50(Rat): 550 mg/kg - 2000 mg/kg

Acute Toxicity - Dermal
LD50 (rat): >200 - <2000 mg/kg

Acute Toxicity - Inhalation
LC50 (rat) : >2.11 mg/l

Ingestion
Harmful if swallowed. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Inhalation
Inhalation of mist or vapour will result in respiratory irritation and possible harmful corrosive effects including burns, lesions of the nasal septum, pulmonary edema, and scarring of tissue.

Skin
Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction. Harmful in contact with skin. Product can be absorbed through skin with resultant harmful systemic effects. May cause an allergic skin reaction.

Skin Corrosion/Irritation
Skin Corrosion test (OECD 404, rabbit): Corrosive to skin

Eye
Causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

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
Not considered to be a carcinogenic hazard.

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

Aspiration Hazard
Not expected to be an aspiration hazard.

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 most sensitive indicators and the most sensitive species. Ref: Australian Pesticides and Veterinary Medicines Authority (APVMA) June 2024.

Section 12 - Ecological Information

Ecotoxicity
Ecological data available is given below. 2,4-D products do not appear to pose any threat to birds. 2,4-D products do not appear to pose any threat to fish or other aquatic organisms other than in very high concentrations.

Persistence and degradability
Loss from soil is principally by microbial degradation. 2,4-D is rapidly biodegraded. Half life in soil is typically 7 days.

Mobility
Rapid degradation in soil prevents significant downward movement under normal conditions.

Bioaccumulative Potential
Not available

Other Adverse Effects
Not available

Sewage Treatment
Not inhibitory in sewage system, 2,4-D is rapidly biodegraded.

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 (rainbow trout) : ~ 100 mg/l/96h

Acute Toxicity - Daphnia
LC50 (Daphnia, 2,4-D amines): 184 mg/l/48h.

Acute Toxicity - Other Organisms
Birds: Not toxic to birds.
LD50 (bobwhite quail): 500 mg/kg
Bees: Not toxic to bees.
LD50 94 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. To minimise personal exposure, refer to Section 8 - Exposure Controls and Personal Protection.
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 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. Empty containers and product should not be burnt.
If recycling, replace cap and return clean containers to recycler or designated collection point. Triple or preferably pressure rinse inner bladder or containers before disposal. Add rinsings to the spray tank.

Section 14 - Transport Information

Transport Information
Road and Rail, Australia:

This material is classified as Dangerous Goods Class 8 Corrosive Substances according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).
Class 8 Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1, Explosives
- Division 4.3, Dangerous When Wet Substances
- Division 5.1, Oxidising substances
- Division 5.2, Organic Peroxides
- Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
- Class 7, Radioactive Substances

and are incompatible with food and food packaging in any quantity.
Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.

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: 8
UN No: 1760
Proper Shipping Name: CORROSIVE LIQUID, N.O.S.(Contains 2,4-D)
Packing Group: III
EMS : F-A, S-B
Special Provisions: 223, 274

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: 8
UN No: 1760
Proper Shipping Name: Corrosive liquid, n.o.s. (Contains 2,4-D)
Packing Group: III
Packaging Instructions (passenger & cargo): 852
Packaging Instructions (cargo only): 856
Hazard Label: Corrosive
Special Provisions: A3, A803

UN Number
1760

Proper Shipping Name
CORROSIVE LIQUID, N.O.S.(Contains 2,4-D)

Transport Hazard Class
8

Packing Group
III

Hazchem Code
2X

IERG Number
37

Special Precautions for User
Not available

IMDG Marine pollutant
No

Transport in Bulk
Not available

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

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 38 (skin corrosion 1C)

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: 91596.
This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Basel Convention
Not available

Section 16 - Any Other Relevant Information

Date of Preparation
SDS amended SECTION 3 Composition and information on ingredients : April 2025
SDS reviewed: December 2024
Supersedes: August 2022

Version Number
2.1

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