SAFETY DATA SHEET

NUFARM MAKO HERBICIDE

Infosafe No.: 3NU72
ISSUED Date : 30/01/2024
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier
NUFARM MAKO HERBICIDE

Product Code
4114

Product Type
Group 2 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
For the control of certain annual and perennial grasses and broadleaf weeds in commercial and industrial areas: around agricultural buildings and rights of way as per 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).

Skin corrosion/irritation: Category 2
Eye damage/irritation: Category 1
Hazardous to the Aquatic Environment - Acute Hazard: Category 1
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

Signal Word (s)
DANGER

Hazard Statement (s)
H315 Causes skin irritation.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s)
Corrosion,Environment



Precautionary Statement–Prevention
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement–Response
P302+P352 IF ON SKIN: Wash with plenty of water.
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation 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.
P391 Collect spillage.

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
Sulfometuron methyl	74222-97-2	750 g/kg
Kaolin clay	1332-58-7	0-10 %
Anionic surfactant	N/A	0-10 %
Ingredients determined not to be hazardous		Balance

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 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 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
Use appropriate fire extinguisher for surrounding environment.

Unsuitable Extinguishing Media
Do not use water jet.

Hazards from Combustion Products
Non combustible material.

Specific hazards arising from the chemical
This product is non combustible. Dust clouds can ignite on contact with an intensely heated surface.

Special Protective Equipment and Precautions for Firefighters
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

Hazchem Code
2Z

Decomposition Temperature
Not available

Section 6 - Accidental Release Measures

Emergency Procedures
Increase ventilation. Evacuate all unprotected personnel. Wear sufficient respiratory protection and full protective clothing to prevent exposure. Sweep up material avoiding dust generation or dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container. Wash surfaces well with soap and water. Seal all wastes in 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.

Section 7 - Handling and Storage

Precautions for Safe Handling
Always read the label and any attached leaflet before use.
Equipment that has been used for this chemical should not be used for the application of other materials to sensitive plants, unless it has been washed with chlorine bleach solution as directed on the label.
Avoid inhalation of dust, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of dust in the work atmosphere. Maintain high standards of personal hygiene i.e. 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, out of direct sunlight and moisture. Store in the original containers. Keep containers tightly closed. Store away from incompatible materials. Ensure that storage conditions comply with applicable local and national regulations.

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values
Kaolin clay
TWA: 10 mg/m^3

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 solid/dust away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of particulates below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate 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.

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	Solid	**Appearance**	Off-white granules
Colour	Off-white	**Odour**	Not available
Melting/Freezing Point	Not available	**Boiling Point**	Not available
Decomposition Temperature	Not available	**Solubility in Water**	Disperses
Specific Gravity	Not available	**pH**	Not available
Vapour Pressure	7.3 x 10-11 mPa (25°C, sulfometuron methyl)	**Relative Vapour Density (Air=1)**	Not available
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 1.18 (pH5); -0.51 (pH7)	**Flash Point**	Not available
Flammability	Non combustible material. Handling large qualtities of this product, associated with industrial processing, may be a dust explosion hazard.	**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 5.2

Section 10 - Stability and Reactivity

Reactivity
Reacts with incompatible materials.

Chemical Stability
Stable under normal conditions of storage and handling.
Hydrolyses at pH <7.

Possibility of hazardous reactions
Reacts with incompatible materials.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Strong oxidising agents.

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or irritating fumes.

Hazardous Polymerization
Hazardous polymerisation 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.

Acute Toxicity - Oral
Sulfometuron methyl
LD50 (rat): >5000 mg/kg

Acute Toxicity - Dermal
Sulfometuron methyl
LD50 (rbbiat): >2000 mg/kg

Acute Toxicity - Inhalation
Sulfometuron methyl
LC50 (rat): >11 mg/l/4h

Ingestion
Ingestion of this product may irritate the gastric tract causing nausea and vomiting.

Inhalation
Inhalation of dusts may irritate the respiratory system.

Skin
Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

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
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
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
Not expected to be an aspiration hazard.

Other Information
The Australian Acceptable Daily Intake (ADI) for sulfometuron-methyl 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 2023.

Section 12 - Ecological Information

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

Persistence and degradability
Half life in soil is typically 28 days.

Mobility
Not available

Bioaccumulative Potential
Not available

Other Adverse Effects
Spray drift can cause damage, read the label for more information.

Environmental Protection
Do not discharge this material into waterways, drains and sewers.

Do NOT apply, drain or flush equipment on or near desirable trees or other plants, or on an area where their roots extend, or in locations where the chemical may be washed or moved into contact with their roots.

Do NOT contaminate any body of water by spraying, cleaning of equipment, disposal of waste, including chemical or used containers, or run-off from treated areas. If accidental contamination does occur, the water must not be used for irrigation.

Acute Toxicity - Fish
Sulfometuron methyl
LC50 (rainbow trout and bluegill sunfish): >12.5 mg/l/96h

Acute Toxicity - Daphnia
Sulfometuron methyl
LC50: >12.5 ppm

Acute Toxicity - Algae
Sulfometuron methyl
EC50: 0.0046 mg/l.

Acute Toxicity - Other Organisms
Sulfometuron methyl
Birds: Not toxic to birds.
LD50 (mallard ducks): >5000 mg/kg
LD50 (bobwhite quail): >5620 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.

Container Disposal and Methods
Do not use this container for any other purpose.
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 containers before disposal. Add rinsings to the spray tank.
Do not dispose of undiluted chemicals on site.

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: 3077
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Sulfometuron methyl) (Marine Pollutant)
Packing Group: III
EMS: F-A, S-F
Special Provisions: 274, 335, 966, 967, 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: 3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains Sulfometuron methyl)
Packing Group: III
Label: Miscellaneous
Packaging Instructions (passenger & cargo): 956
Packaging Instructions (cargo only): 956
Special provisions: A97, A158, A179, A197, A215

UN Number
None Allocated

Transport Hazard Class
None Allocated

Hazchem Code
2Z

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).

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: 51666.
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 Reviewed: January 2024.
Supersedes: August 2020.

Version Number
3.0

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

END OF SDS

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