SAFETY DATA SHEET

T-REX SELECTIVE HERBICIDE

Infosafe No.: 3NV0O
ISSUED Date : 10/02/2023
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier
T-REX SELECTIVE HERBICIDE

Product Code
0614

Product Type
Group F I 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
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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 the control of certain broadleaf weeds in winter cereals and clover as specified 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).

Acute toxicity: Category 4 - Oral
Skin corrosion/irritation: Category 2
Eye damage/irritation: Category 2A
Reproductive toxicity: Category 1B
Specific target organ toxicity (single exposure): Category 3 (Respiratory tract irritation)
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)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H360 May damage fertility or the unborn child.
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.
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.
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.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
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
N-Methyl-2-pyrrolidone	872-50-4	362 g/L
MCPA (ISO)	94-74-6	250 g/L
Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-	9016-45-9	10-30 %
diflufenican (ISO)	83164-33-4	25 g/L
Ingredients determined not to be hazardous		Balance

Information on Composition
MCPA is present as the ethyl hexyl ester.

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.
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.

Unsuitable Extinguishing Media
Do not use water jet.

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

Specific hazards arising from the chemical
This product will burn if exposed to fire.

Special Protective Equipment and Precautions for Firefighters
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.

Hazchem Code
•3Z

Decomposition Temperature
Not available

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.

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
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.
Always read the label and any attached leaflet before use.
Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning. Care should be taken especially where capeweed, Paterson's curse and variegated thistles predominate in the pasture.
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 C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940 2017.

Unsuitable Materials
Rubber components present in some spraying units may be affected by exposure to the solvents.
Wash spray unit thoroughly with boom cleaner and fresh water after use.

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:

N-Methyl-2-pyrrolidone
TWA: 25 ppm; 103 mg/m³
STEL: 75 ppm; 309 mg/m³
NOTE: Sk

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.
'Sk' Notice: Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Source: Safe Work Australia.

Biological Monitoring
Name: N-METHYL-2-PYRROLIDONE
Determinant: 5-Hydroxy-N-methyl-2-pyrrolidone in urine
Value: 100 mg/L
Sampling time: End of shift

Source: American Conference of Industrial Hygienists (ACGIH).

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.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	**Appearance**	Clear, dark brown liquid
Colour	Dark brown	**Odour**	Distinctive strong ester odour
Melting Point	<0°C	**Boiling Point**	176 - 200°C (solvent)
Decomposition Temperature	Not available	**Solubility in Water**	Forms an emulsion in water
Specific Gravity	1.063	**pH**	Not available
Vapour Pressure	1.77 mPa for MCPA 2EHE @ 25°C; 4.25 x 10-3 mPa for diflufenican @ 25°C	**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 5.37 for MCPA Kow Log P is 4.9 for diflufenican	**Flash Point**	103°C
Flammability	Combustible liquid C2	**Auto-Ignition Temperature**	Not available
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
Reacts with incompatible materials.

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 oxides of carbon, oxides of nitrogen and possibly hydrogen flouride or phosgene.

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Toxicology Information
Toxicity data is given below.

Acute Toxicity - Oral
LD50 (rat): 1580 mg/kg

Acute Toxicity - Dermal
LD50 (rat): >2040 mg/kg

Acute Toxicity - Inhalation
MCPA
LC50 (rat): >4.5 mg/l/4h
Diflufenican
LC50 (rat): >5.11 mg/l/4h

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
May cause respiratory irritation.Inhalation of product vapours can cause irritation of the nose, throat and 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 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 mutegenic 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.

STOT - Single Exposure
May cause respiratory irritation.

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 MCPA for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.
ADI for diflufenican is 0.2 mg/kg/day, NOEL 23.3 mg/kg/day.
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
Average field half life of diflufenican is 100 - 200 days.
Average field half life of MCPA is 24 days.

Mobility
Not available

Bioaccumulative Potential
Not available

Other Adverse Effects
Not available

Environmental Protection
Spray drift can cause damage, read the label for more information.
Do not contaminate dams, waterways or sewers with this product.

Acute Toxicity - Fish
MCPA has very low water solubility (0.1 mg/l) and rapidly hydrolyses in natural waters. The below data is for the hydrolysis product: MCPA acid.
LC50 (rainbow trout): 50 mg/l/96h
Diflufenican
LC50 (rainbow trout): 56 - 100 mg/l/96h

Acute Toxicity - Daphnia
MCPA Acid
EC50 (daphnia): >190 mg/l/48h
Diflufenican
EC50 (daphnia): >10 mg/l/48h

Acute Toxicity - Algae
Diflufenican
EC50 (Scenedesmus subcapitata): 0.00025 mg/l

Acute Toxicity - Other Organisms
Not toxic to bees.
MCPA
LD50 (quail): 377 mg/kg
Diflufenican
LD50 (quail): >2150 mg/kg

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 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.

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 diflufenican)
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 diflufenican)
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
For bulk shipments as Class 9, use UN 3082, HazChem code•3Z.

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: classification not listed.

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: 68008.
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: February 2023
Supersedes: October 2018

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.
Australian Pesticides and Veterinary Medicines Authority (APVMA) March 2022.

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