SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	**PROTUGAN HERBICIDE**
Chemical Name of Active Ing:	Isoproturon: 3-(4-isopropylphenyl)-1,1-dimethylurea; 3-p-cumenyl-1,1-dimethylurea
Product Use:	Herbicide
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	ADAMA New Zealand Ltd
Address:	Level 1/93 Bolt Road Tahunanui, Nelson
Telephone:	+64 3 543 8275
Email:	nzorders@adama.com
Emergency Telephone:	**0800 764 766 (National Poison Centre)** **0800 734 607 (24hr Emergency Response)**
Date of SDS Preparation:	17 July 2023

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

HSNO Approval No: HSR101292

Pictograms

Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement
Hazardous to the aquatic environment acute Category 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment chronic Category 1		
Hazardous to soil organisms	H421	Very toxic to the soil environment.
Hazardous to terrestrial vertebrates	H433	Harmful to terrestrial vertebrates.

Prevention Code	Prevention Statement
P103	Read label before use.
P273	Avoid release to the environment.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P391	Collect spillage.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients

Ingredients	Wt %	CAS NUMBER.
Isoproturon	44-49	34123-59-6
Ethylene Glycol	4-5	107-21-1
Other non-hazardous ingredients	To bal	-

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention if needed.

If on Skin — Remove contaminated clothing. Gently wash skin with water and soap for 15 minutes or until chemical is removed. Get medical attention if needed.

If Swallowed — If swallowed do NOT induce vomiting. Wash mouth with water and contact National Poisons Centre 0800 764 766 or a doctor if you feel unwell.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed
Symptoms:
Ingestion: Not applicable.
Inhalation: Not applicable.
Skin: Not applicable.
Eye: Not applicable.
Chronic: Not applicable.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable/Combustible.
Hazards from combustion products	Nitrogen oxide, carbon oxides (CO, CO2)
Suitable Extinguishing media	For small fire: dry chemical powder, water spray carbon dioxide For large fire: foam, water fog, water spray
Precautions for firefighters and special protective clothing	Self-contained breathing apparatus and total protection required in enclosed areas.
HAZCHEM CODE	**2X**

Section 6. Accidental Release Measures

Wear suitable protective clothing, gloves and eye/face protection. Evacuate all unnecessary personnel.

Environmental precautions
In the event of a major spill, prevent spillage from entering into drains and water courses.

Methods and material for containment and cleaning up
Collect and contain as much free liquid as possible. Absorb remainder in sand or other inert material. Place into a clean container and cover the container loosely for later disposal. Dispose as per Section 15.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Avoid release to the environment.
- Use personal protective equipment as required.
- Do not eat, drink or smoke while using.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in original, unopened container in cool, dry place, well ventilated place, out of direct sunlight and away from stockfeed or foodstuffs.
- As a substance with Aquatic Ecotoxicity Classifications, storage of Protugan Herbicide must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS8409) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management Regulations. Store in original, unopened container in a cool, dry place, out of direct sunlight and away from stock feed or foodstuffs.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m3**	**ppm**	**mg/m3**
Ethylene glycol (vapour and mist) [107-21-1]	Ceiling 50 ppm (127 mg/m3)			

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11TH EDITION.

Engineering Controls
Ventilation required

Personal Protection Equipment

Eyes	Safety goggles or face shield.
Hands and Skin	Chemical resistant gloves. Wear protective clothing, including chemical resistant boots.
Respiratory	Respiratory protection is not required if good ventilation is maintained.
General	When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

Section 9 Physical and Chemical Properties

Appearance	Whitish Liquid
Odour	Faint
Odour Threshold	Not applicable
pH	7 – 8.5
Boiling Point	Approximately 100◦C (water)
Melting Point	158^0C (Isoproturon)
Flash Point	Not applicable
Flammability	Not flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	0.003@ 20◦C (Isoproturon)
Specific Gravity	Not applicable
Solubilities	Miscible
Log P Octanol/water	2.5 @ 22◦C (Isoproturon)
Auto-ignition Temperature	Not applicable
Kinematic viscosity mm2/s 40 °C	Not applicable
Particle Characteristics	Not applicable
Volatiles	No specific data.

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	None known.
Conditions to Avoid	None known.
Incompatible Materials	Oxidizing agents, acids, alkali
Hazardous Decomposition Products	Nitrogen oxides, carbon oxides (CO, CO2)

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable. Rat Oral LD50 [mg/kg]: >5,000
Dermal	Not applicable. Rat Dermal LD50 [mg/kg]: >2,000
Inhalation	Not applicable Rat Inhalation LC50 [mg/l/4h]: >4.32
Skin	Not applicable
Eye	Not applicable

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

On product

96 H-LC50[mg/l]	96.1 - Rainbow trout
48 H-LC50 [mg/l]	112.2 - Daphnia magna
48 H-LC50 [mg/l]	0.08- Algae
LD50	= 4,150 Japanese quail [mg/l]
LD50 [µ/Bee]	Not toxic to bees

Persistence and degradability	Isoproturon: Soil: Moderately persistent in soil Half life time (t1/2) : 15-40 days
Bioaccumulation	No data available
Mobility in Soil	Soil: Mobile
Other adverse effects	No data available
Precautions	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company (Agrecovery). Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill.

Precautions and methods to avoid: Do not allow product or container to enter waterways.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433

Road and Rail Transport

UN No:	3082
Class-primary	9
Packing Group	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, (Isoproturon)

Air Transport

UN No:	3082
Class-primary	9
Packing Group	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, (Isoproturon)

Marine Transport

UN No:	3082
Class-primary	9
Packing Group	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, (Isoproturon)
Marine Pollutant	Yes

Special Provisions:

If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

HSNO Approval Code: HSR101292

HSNO Classification: Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms, Hazardous to terrestrial vertebrates.

Refer to EPA website www.epa.govt.nz for controls document - HSR101292

HSW (HS) Regulations 2017	**Trigger Quantity/Regulation**
HSW(Hazardous substance) Regulations Part 4 Certified Handlers and supervision and training of workers	HSW Reg 4.5 – 4.6 Information, instruction, training and supervision.
Location Certificate	Not required
Signage Trigger Quantities (Schedule 3)	100 L
Emergency Response Plan (Schedule 5)	100 L
Secondary Containment (Schedule 5)	100 L
Tracking (Schedule 26)	Not required
Hazardous Property Controls Notice 2017	
HPC Notice Part 1	Hazardous Property Controls preliminary provisions
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment: Site and storage controls
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate
HPC Notice Part 4 Clause 48	Record of application of agrichemicals
HPC Notice Part 4 Clause 52	Agrichemicals that are hazardous to the aquatic environment must not be applied to water
HPC Notice Part 4 Subpart C	Qualifications required for the application of substances that are hazardous to the environment
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P8123

Section 16 Other Information

Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations	Health and Safety at Work (Hazardous Substances) Regulations 2017.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level.
WES	Workplace Exposure Limit.

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer:

This document has been issued by Adama New Zealand Ltd and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which is held by Adama New Zealand Ltd or has been obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. While Adama New Zealand Ltd have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Adama New Zealand Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS. The information herein is given in good faith, but no warranty, express or implied is made.

Issue Date: 17 July 2023 Review Date: 17 July 2028