



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **POLARIS 450 HERBICIDE**
Chemical Name of Active Ing: Glyphosate, isopropylamine salt
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 March 2023

Section 2. Hazards Identification

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

HSNO Approval No: HSR000227

Pictograms



Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement
Acute inhalation toxicity Category 4	H332	Harmful if inhaled.
Eye irritation Category 2	H319	Causes eye irritation.
Hazardous to the aquatic chronic Category 2	H411	Toxic to aquatic life with long lasting effects.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P261	Avoid breathing fumes, vapours or spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid unintended release into the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P304 + P312 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE/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.
P337 + P313	If eye irritation persists: Get medical advice/attention.
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.
Glyphosate	45%	38641-94-0
Other non-hazardous ingredients	To bal	-

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
If on Skin	Take off contaminated clothing and wash before re-use. Wash skin with plenty of soap and water.
If Swallowed	Do not induce vomiting. Wash out mouth with water and drink several glasses of water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs.
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. Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion:	Not applicable.
Inhalation:	Harmful if inhaled.
Skin:	Not applicable.
Eye:	Causes serious eye irritation.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable / Not combustible.
Hazards from combustion products	Carbon dioxide, Nitrogen and it's compounds and under some circumstances nitrogen oxides.
Suitable Extinguishing media	Use extinguishing media suited to burning materials.
Precautions for firefighters and special protective clothing	When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus. There is no risk of explosion from this product under normal circumstances if it is involved in a fire.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Wear full protective clothing including face mask, face shield and gauntlets. All skin areas should be covered. 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

Absorb remainder in sand or other inert material. Avoid using sawdust or other combustible materials. Dispose of in an authorized waste collecting point.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Avoid breathing fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Avoid unintended release into the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in original, unopened container in a cool, dry place, out of direct sunlight and away from stock feed or foodstuffs.
- Keep out of reach of children.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m3	ppm	mg/m3

No ingredients have exposure limits

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 2017 9TH EDITION.

Engineering Controls

No special ventilation requirements are normally necessary for this product.

Personal Protection Equipment



Eyes	Safety goggles or face shield.
Hands and Skin	Chemical resistant gloves. Wear suitable protective clothing. Chemical resistant boots.
Respiratory	Respirator is recommended.
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	Clear Blue liquid
Odour	Odourless to mild amine odour
Odour Threshold	Not applicable
Coefficient pH	4.9-5.3
Boiling Point	Approximately 100°C at 100kPa
Melting Point	Not applicable
Flash Point	Not applicable
Flammability	Not flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	2.37 kPa at 20°C (water vapour pressure)
Density	Not applicable.
Solubilities	Completely soluble in water
Coeff Oil/water distribution:	Not applicable
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	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon dioxide, Nitrogen and its compounds and under some circumstances nitrogen oxides.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable
Dermal	Not applicable
Inhalation	Harmful if inhaled.
Skin	Not applicable
Eye	Causes severe eye irritation.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Preparation

Acid & isopropylamine salt

Acute toxicity - Oral:	LD50 (rats) 750 mg/kg
Acute toxicity - Dermal:	LD50 (rats) >5000 mg/kg
Acute toxicity - Inhalation:	LC50 (rat) 5 to 12 mg/L (4 hours)
Skin irritation:	Non irritating (rabbits)
Eye irritation:	Slightly irritating (rabbit).
Sensitization:	Non sensitizer (guinea-pig)

Common name:	Glyphosate
Chronic toxicity:	No toxic effects observed in rats given 400mg/kg/day
Carcinogenicity:	No signs of cancer observed in rats given 400mg/kg/day
Mutagenicity:	Not mutagenic
Reproduction toxicity:	None

Section 12. Ecotoxicological Information

HSNO Classes: Hazardous to the aquatic chronic Category 2

Ecotoxicity:	Fish			
	LC ₅₀ (96 hours)	bluegill sunfish	=	120 mg/L
		Harlequin	=	168 mg/L
		Rainbow trout	=	86 mg/L
	Daphnia similes			
	LC ₅₀ (48 hours)		=	780 mg/L
	Birds			
	LC ₅₀ in both mallard and bobwhite quail		=	>450ppm

Glyphosate:

Persistence and degradability	The product is moderately persistent. Half-life time (t _{1/2}): 47 days. Breakdown of product is primarily via: microbes
Bioaccumulation	Slightly toxic: wild birds & aquatic invertebrates, Low Toxic: fish, Non toxic: Honey bees
Mobility in Soil	Soil - Moderately persistent
Other adverse effects	No data available

Section 13. Disposal Considerations

Disposal Method: Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle. Avoid contamination of any water supply with product or empty container.



Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not allow product to enter waterways.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012



Road and Rail Transport

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

Air Transport

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

Marine Transport

UN No: 3082
Class-primary 9
Packing Group III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, (Glyphosate)
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: HSR000227

HSNO Classification: Acute inhalation toxicity Category 4, Eye irritation Category 2, Hazardous to the aquatic chronic Category 2.

HSW (HS) Regulations 2017	Trigger Quantity
Certified Handlers	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L
Emergency Response Plan	1000L
Secondary Containment	1000L
Tracking	Not required
HSNO Additional Controls and modifications to controls	
Labelling Notice	Clause 20 of the Labelling Notice does not apply to this substance
HPC Notice Part 4B	Clause 52 of the Hazardous Property Controls Notice does not apply to this substance.
HPC Notice Part 4C	Where the substance is applied onto or into water and the water has the potential to leave the place containing the application area, clauses 62, 63 and 64 of the Hazardous Property Controls Notice apply as if the substance has a hazard classification of hazardous to the aquatic environment acute Category 1.
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 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	P7285

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.

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