



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
Fax Number: +64 3 543 8274

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 28 May 2019

Section 2. Hazards Identification

This substance is hazardous according to the *Hazardous Substances (Classification) Notice 2017*

EPA Approval No: HSR000227

Pictograms



Toxic/Irritant

Ecotoxic

Signal Word: **Warning**

| HSNO Classification | Hazard Code | Hazard Statement | GHS Category |
|---------------------|-------------|--|-------------------|
| 6.1D (inh) | H332 | Harmful if inhaled. | Acute Tox. 4 |
| 6.4A | H319 | Causes serious eye irritation. | Eye Irrit. 2A |
| 9.1B | H411 | Toxic to aquatic life with long lasting effects. | Aquatic Chronic 2 |

| 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 release to 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. |
| P391 | Collect spillage. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position 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. |

| 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 with plenty of soap and water. If skin irritation or rash occurs: get medical advice/attention. |
| 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. Call a POISON CENTER or doctor/physician 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: | 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.
- Do not smoke, drink or eat while using.
- Avoid release to 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: 9.1B = Toxic to aquatic life.

Ecotoxicity:**Fish**

LC₅₀ (96 hours) bluegill sunfish = 120 mg/L
 Harlequin = 168 mg/L
 Rainbow trout = 86 mg/L

Daphnia similis

LC₅₀ (48 hours) = 780 mg/L

Birds

LC₅₀ 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 |
| Precautions | Do not allow to enter waterways. |

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 and methods to avoid:

Avoid contamination of any water supply with product or empty container.

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 (Classification) Notice 2017

EPA Approval Code: HSR000227
 HSNO Classification: 6.1D(oral), 6.4A, 9.1B

Refer to EPA website www.epa.govt.nz for controls document - HSR000227

| HSW (HS) Regulations 2017 | Trigger Quantity |
|--|---|
| Signage Trigger Quantities (Schedule 3) | 1000L (9.1B) |
| Emergency Response Plan (Schedule 5) | 1000L (6.1D, 9.1B) |
| Secondary Containment (Schedule 5) | 1000L (6.1D, 9.1B) |
| Tracking (Schedule 26) | Not required |
| 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. |
| HSNO Additional Controls (Restrictions of use) | |
| 77A | (1) Where the substance is applied onto or into water and the water has the potential to leave the place containing the application area, any application of the substance must be under the personal control of an Qualified |

| | |
|---|--|
| | Person (2) For the purpose of Clause (1), water means water in all its physical forms, whether flowing or not, and whether over or under ground, but does not include water in any form while in a pipe, tank or cistern. |
| Hazardous Property Controls Notice 2017 | |
| HPC Notice Part 4 Clause 47 | Equipment for class 9 substances must be appropriate |
| HPC Notice Part 4 Clause 48 | Records of application of class 9 pesticides and plant growth regulators |
| HPC Notice Part 3 | Hazardous substances in a place other than a workplace |
| HPC Notice Part 4 Subpart A | Site and storage controls for class 9 substances |
| ACVM Act and Regulations | |
| ACVM Approval No See www.foodsafety.govt.nz for registration controls | P7285 |

Section 16 Other Information

Glossary

| | |
|------|---|
| EC50 | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| 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. |
| OSHA | American Occupational Safety and Health Administration. |
| 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

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Please contact the ADAMA, if further information is required.

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