


## Section 1: Identification

Product name:	Patriot®
Other names:	Soluble concentrate containing 200 g/litre glufosinate-ammonium.
Recommended use:	A non-selective contact herbicide for the control of a wide range of grasses, broad leaf weeds and clovers in a variety of crop land and non-crop land situations.
Manufacturer/Importer details:	Agritrade 1 Robin Mann Place Christchurch Airport PO Box 292, Christchurch 8140 Phone: 03 372 0890
24 hour emergency contact:	0800 CHEMCALL (0800 243622)
National Poisons Centre:	0800 POISON (0800 764766)

## Section 2: Hazard identification

	Product is classified as hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020 of the HSNO Act, 1996.
HSNO Approval:	HSR000152
Hazardous classification:	Flammable liquid Category 4, Acute oral toxicity Category 4, Acute dermal toxicity Category 4, Acute inhalation toxicity Category 4, Eye irritant Category 2, Reproductive toxicant Category 2, Specific target organ toxicity (repeated exposure) Category 1, Hazardous to the aquatic environment chronic Category 3, Hazardous to soil organisms, Hazardous to terrestrial vertebrates
Pictograms:	
Signal word:	<b>DANGER</b>
Hazard statements:	H227 Combustible liquid. H302 Harmful if swallowed. H312 Harmful in contact with skin. H332 Harmful if inhaled. H319 Causes serious eye irritation. H361 Suspected of damaging fertility or the unborn child. H370 Causes damage to organs. H412 Harmful to aquatic life with long lasting effects. H422 Toxic to the soil environment. H433 Harmful to terrestrial vertebrates.
Prevention statements:	P102 Keep out of reach of children.

Response statements:

P103 Read label before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from open flames and hot surfaces. No smoking.  
P280 Wear protective gloves, protective clothing, eye and face protection.  
P264 Wash hands, arms and face thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P260 Do not breathe spray mist.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P370+P378 In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction.  
P101 If medical advice is needed, have product container or label at hand.  
P307+P311 IF exposed or concerned: Call a POISON CENTRE or doctor.  
P301+P312 IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.  
P330 Rinse mouth.  
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P363 Wash contaminated clothing before re-use.  
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 attention.  
P391 Collect spillage.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of product and containers in accordance with local Regulations. See Section 13 for details.

Additional Label Requirements: Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

Storage statements:

Disposal statement:

### Section 3: Composition/information on ingredients

Chemical identity of ingredients with health or environmental hazards:

<i>Ingredient</i>	<i>CAS No.</i>	<i>Proportion %w/w</i>
Glufosinate-ammonium	77182-82-2	20
Propylene glycol monomethyl ether	107-98-2	<10
Other ingredients	Proprietary	30 – 60
Water	7732-18-5	To 100

### Section 4: First-aid measures

First aid measures:

If medical advice is needed, have product container or label at hand. For advice contact National Poisons Centre 0800 POISON [0800 764 766] or a doctor.

Ingestion:	Do not induce vomiting. Rinse mouth. Call a POISON CENTRE or doctor if you feel unwell.
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
Skin contact:	Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs get medical attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
First aid facilities:	Provide eye baths and safety showers close to areas where product contact or splashing may occur.
Advice to doctor:	Treat symptomatically.
<b>Section 5: Fire-fighting measures</b>	
Flammability:	Combustible liquid.
Appropriate extinguishing media:	Extinguish fire with foam, dry powder, carbon dioxide or water spray.
Hazardous decomposition products:	In a fire, irritant and toxic fumes containing oxides of carbon, nitrogen, phosphorus and sulphur and other toxic substances may be generated.
Special protective equipment and precautions for fire-fighters:	In the event of fire, wear self-contained breathing apparatus. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Prevent run-off from contaminating drains, sewers or waterways. Inform appropriate authorities immediately if product or run-off enters waterways.
HAZCHEM code:	2Z
<b>Section 6: Accidental release measures</b>	
Personal precautions:	Combustible liquid. No smoking. Extinguish or remove all sources of ignition. Wear protective equipment; chemical resistant coveralls, boots, gloves, eye protection. Do not touch or walk through spilled material. Stop leak when safe to do so. Exclude all bystanders from the vicinity.
Environmental precautions:	Contain spill. Prevent product entering drains or waterways by activating emergency shut-off valves or using bunding. Inform appropriate authorities immediately if spill enters sewers or waterways. Prevent chemical contaminating soil.
Procedure for clean up:	Isolate sources of ignition. Contain and recover liquid into a suitable labelled container for disposal. Absorb residue or small spills with suitable inert material, e.g. sand, vermiculite. Wash contaminated area with water and detergent, absorb and put in

container for disposal. Dispose of contaminated waste at an approved facility.

## Section 7: Handling and storage

**Safe handling:** Read label before use. Combustible liquid. No smoking. Keep away from heat and open flames. Wear personal protective equipment. To be used only by suitably qualified person and in compliance with HSNO Controls.

**Safe storage:** Keep out of reach of children. Keep container tightly closed when not in use. Combustible liquid. Store in secure, cool, well-ventilated area away from foodstuffs, seeds, fertilisers and human/animal health products. Storage must be in accordance with the current version NZS 8409 Management of Agrichemicals.

## Section 8: Exposure controls/personal protection

Occupational exposure limits:	<i>Ingredient</i>	<i>CAS No.</i>	<i>WES-TWA</i>	<i>WES-STEL</i>
	Propylene glycol monomethyl ether	107-98-2	100ppm (369 mg/m <sup>3</sup> )	150ppm (553 mg/m <sup>3</sup> )
Biological limit value:	None set as of WorkSafe's 14 <sup>th</sup> edition of WES and BEI values, published November 2023.			
Engineering controls:	Control process conditions to avoid contact. Use only in well-ventilated areas. If necessary, use local exhaust ventilation to keep airborne concentration below the exposure limits.			
Respiratory protection:	Wear half or full mask fitted with particle filter when mixing or applying spray.			
Hand protection:	Elbow length, chemical resistant gloves.			
Eye protection:	Face shield.			
Skin protection:	Overalls and PVC or rubber boots.			
General hygiene:	Do not eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.			
Personal Protection:	Further information on specific types of personal protective gear and related standards is available in Section 16.			

## Section 9: Physical and chemical properties

(a)	Appearance:	Blue liquid.
(b)	Odour:	Odourless.
(c)	Odour threshold:	Not available.
(d)	pH:	5.2-6.2 in 5% aqueous solution.
(e)	Melting point/freezing point:	Not applicable.

(f)	Initial boiling point and boiling range:	96°C
(g)	Flash point:	>61 <93 °C
(h)	Flammability (solid, gas):	Not applicable.
(i)	Upper/lower flammability or explosive limits:	Not available.
(j)	Vapour pressure:	Low.
(k)	Vapour density:	Not available.
(l)	Relative density:	1.11
(m)	Solubility:	Soluble in water.
(n)	Partition coefficient: n-octanol/water:	Not available.
(o)	Auto-ignition temperature:	440°C
(p)	Decomposition temperature:	Not available.
(q)	Kinematic viscosity:	Not available.
(r)	Particle characteristics	Not applicable.

#### Section 10: Stability and reactivity

Stability of the substance:	Product is unlikely to react or decompose under normal conditions of storage and use. If you have any doubts, contact the supplier for advice on shelf-life properties.
Conditions to avoid:	Avoid heat, flames, sunlight. Avoid exposure to temperatures >30°C
Incompatible materials:	Strong acids, strong bases, strong oxidising agents. Ammonia may be evolved in the presence of alkalis.
Hazardous decomposition products:	Ammonia. In a fire, oxides of carbon, nitrogen, phosphorus and sulphur may be emitted.

#### Section 11: Toxicological information

	Toxicity classifications determined by assessment of the components in the formulated mixture.
a) Acute toxicity:	Classified as harmful if ingested, in contact with skin or inhaled.
b) Aspiration hazard:	Not classified.
c) Respiratory irritation:	Not classified.
d) Skin corrosion / irritation:	Mild skin irritant.
e) Serious eye damage / irritation:	Eye irritant.
f) Respiratory or skin sensitisation:	Not classified.
g) Germ cell mutagenicity:	Not classified.

h) Carcinogenicity:	Not classified.
i) Reproductive toxicity:	Classified as a suspected reproductive or developmental toxicant.
j) Specific organ toxicity:	Causes damage to human target organs (kidney) or systems.
k) Narcotic effects:	Not classified.
l) Other adverse effects:	No information.
m) Toxicological information for product:	<p>Oral LD<sub>50</sub> (female rat): 1910 mg/kg bw</p> <p>Oral LD<sub>50</sub> (male rat): 2170 mg/kg bw</p> <p>Dermal LD<sub>50</sub> (female rat): 1380 mg/kg bw</p> <p>Dermal LD<sub>50</sub> (male rat): 1400 mg/kg bw</p> <p>Inhalation LC<sub>50</sub> (female rat): 4.31mg/L (4hr)</p> <p>Inhalation LC<sub>50</sub> (male rat): 3.22mg/L (4hr)</p>
<b>Section 12: Ecological information</b>	
(a) Aquatic ecotoxicity:	Ecotoxicological classifications determined by assessment of the active ingredient.
(b) Soil ecotoxicity	Toxic to aquatic life with long lasting effects.
(c) Terrestrial vertebrate ecotoxicity:	Very toxic in the soil environment.
(d) Terrestrial invertebrate ecotoxicity:	Harmful to terrestrial vertebrates.
(e) Persistence and degradability:	Not classified.
(f) Potential to be bioaccumulative:	Glufosinate-ammonium is very soluble in water and is hydrolytically and photolytically stable. This product is considered to not be readily biodegradable.
(g) Mobility in soil.	Glufosinate-ammonium does not accumulate in the fatty tissues of fish or other animals.
(h) Ecotoxicological information for glufosinate-ammonium:	Product is soluble in water.
	<p>Sheepshead minnow LC<sub>50</sub> (96 hr) 13.1 mg/L</p> <p><i>Daphnia magna</i> EC<sub>50</sub> (48 hr): 15 mg/L</p> <p><i>Lemna gibba</i> EC<sub>50</sub> (72 hr) 1.5 mg/L</p> <p>Japanese quail LC<sub>50</sub>: &gt;5000mg/kg (8-day dietary)</p>
<b>Section 13: Disposal considerations</b>	
Product disposal:	Dispose of this product only by using according to the label or through Agrecovery chemical disposal or similar approved service. Do not allow material to contaminate ground water system or surface water.
Container disposal:	Triple rinse container and add residue to spray tank. Recycle clean, empty container through Agrecovery if possible or bury in an approved landfill. Do not use container for any other purpose. Avoid contamination of any water supply or stream with product or empty container.
<b>Section 14: Transport information</b>	
UN number:	Not applicable (non-regulated)
UN proper shipping name:	Not applicable.
UN class:	Not applicable.

Packing group:	-																								
HAZCHEM:	-																								
Marine pollutant:	-																								
Special precautions:	-																								
<b>Section 15: Regulatory information</b>																									
HSNO:	Approved substance under the HSNO Act 1996.																								
Substance approval number:	HSR000152; Soluble concentrate containing 200 g/litre glufosinate-ammonium.																								
Tolerable exposure limit / environmental exposure limit:	None set.																								
HSNO controls:	See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>																								
Additional controls:	<table> <tr> <td>Qualifications</td><td>No</td></tr> <tr> <td>Tracking:</td><td>No</td></tr> <tr> <td>Safety Data Sheet:</td><td>Any quantity</td></tr> <tr> <td>Restricted to workplace only:</td><td>No</td></tr> <tr> <td>Quantity that must be secured when unattended:</td><td>-</td></tr> <tr> <td>Fire extinguishers</td><td>&gt;500 L requires 2 extinguishers</td></tr> <tr> <td>Quantity for secondary containment and emergency response plan:</td><td>1000 L</td></tr> <tr> <td>Quantity for signage:</td><td>1000 L</td></tr> <tr> <td>Quantity for Location certificate</td><td>-</td></tr> <tr> <td>Records of use (3 kg or more applied to area within 24 hours)</td><td>-</td></tr> <tr> <td>Quantity that requires management in accordance with HSW HS Regulations</td><td>1000 L</td></tr> <tr> <td>Hazardous Substances (Packaging) Notice 2017; Clause 9</td><td>UN Pack Group III</td></tr> </table>	Qualifications	No	Tracking:	No	Safety Data Sheet:	Any quantity	Restricted to workplace only:	No	Quantity that must be secured when unattended:	-	Fire extinguishers	>500 L requires 2 extinguishers	Quantity for secondary containment and emergency response plan:	1000 L	Quantity for signage:	1000 L	Quantity for Location certificate	-	Records of use (3 kg or more applied to area within 24 hours)	-	Quantity that requires management in accordance with HSW HS Regulations	1000 L	Hazardous Substances (Packaging) Notice 2017; Clause 9	UN Pack Group III
Qualifications	No																								
Tracking:	No																								
Safety Data Sheet:	Any quantity																								
Restricted to workplace only:	No																								
Quantity that must be secured when unattended:	-																								
Fire extinguishers	>500 L requires 2 extinguishers																								
Quantity for secondary containment and emergency response plan:	1000 L																								
Quantity for signage:	1000 L																								
Quantity for Location certificate	-																								
Records of use (3 kg or more applied to area within 24 hours)	-																								
Quantity that requires management in accordance with HSW HS Regulations	1000 L																								
Hazardous Substances (Packaging) Notice 2017; Clause 9	UN Pack Group III																								
Additional information:	<p>Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.</p> <p>Refer to WorkSafe for additional information on controls in the workplace; <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a>.</p>																								
ACVM:	Registered under the Agricultural Compounds Veterinary Medicines Act 1997.																								
Registration number:	P9264																								
Conditions of registration:	See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a>																								
<b>Section 16: Other information</b>																									
Date of issue:	15/03/2024																								
Reason for reissue:	Review and update of SDS and HSNO Controls.																								
Replaces:	SDS issued March 2022																								
Information references:	Supplier Safety Data Sheet																								

Abbreviations:	NZ EPA Approved hazardous substances databases. Workplace Exposure Standards and Biological Exposure Indices  ACVM: Agricultural Chemicals and Veterinary Medicines Group Bw: Bodyweight. HSNO: Hazardous substances and New Organisms Act 1996 (HSNO Act) EPA: Environmental Protection Authority of New Zealand CAS Number: Chemical Abstracts Service Number LD50: Lethal Dose 50% (Population) LC50: Lethal Concentration 50% (Population) WES-TWA: Workplace exposure standards – Time-weighted average WES-STEL: Workplace exposure standards – Short-term exposure limit
Personal Protection Standards:	The following Standards provide general advice regarding safety clothing and equipment: Respiratory equipment: <b>AS/NZS 1715</b> , Protective Gloves: <b>AS 2161</b> , Occupational Protective Clothing: <b>AS/NZS 4501</b> , Industrial Eye Protection: <b>AS1336</b> and <b>AS/NZS 1337</b> , Occupational Protective Footwear: <b>AS/NZS2210</b>

The data provided in this safety data sheet is based on current knowledge and experience. The purpose of this document is to describe the product in terms of its safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.