SAFETY DATA SHEET
Last revised: August 2024

STINGER™ 450

Section 1: Identification

Product name:	STINGER™ 450
Other names:	Glyphosate 450g/L SL
Recommended use:	Non-residual non-selective herbicide
Manufacturer/Importer details:	PGG Wrightson Limited 1 Robin Mann Place Christchurch Airport 8053 PO Box 292, Christchurch 8140 Phone: 03 372 0800 or 0800 102 276
24 hour emergency contact:	0800 CHEMCALL (0800 243 622)
National Poisons Centre:	0800 POISON (0800 764 766)

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:	HSR101286
Hazardous classification:	Hazardous to the aquatic environment chronic Category 2
Pictograms:	
Signal word:	Not required
Hazard statements:	H411 Toxic to aquatic life with long lasting effects.
Prevention statements:	P103 Read label before use. P273 Avoid release to the environment.
Response statements:	P391 Collect spillage.
Storage statement/s:	No storage requirements
Disposal statement/s:	P501 Dispose of product and containers in accordance with local Regulations. See section 13 for more details.

Section 3: Composition/information on ingredients

Chemical identity of ingredients with health or environmental hazards:

Ingredient	*CAS No.*	*Proportion w/w*
Glyphosate acid*	1071-83-6	37.5
Other ingredients	Trade secret	balance
* present as the glyphosate IPA salt		

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.
Inhalation:	Remove person to fresh air and keep at rest in a position comfortable for breathing until recovered. Get medical advice if person feels unwell.
Ingestion:	Rinse mouth. Get medical advice if person feels unwell.
Skin contact:	Wash with soap and water. Get medical advice if irritation or rash occurs.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice if irritation persists.
First aid facilities:	Provide eye baths and safety showers close to areas where product contact or splashing may occur.
Advice to doctor:	Treat symptomatically.
Section 5: Fire-fighting measures	
Flammability:	Non-flammable.
Appropriate extinguishing media:	Foam, water spray, dry powder, carbon dioxide (CO2).
Combustion products:	Smoke, oxides of carbon, oxides of nitrogen and other unidentified compounds.
Special protective equipment and precautions for fire-fighters:	Wear protective equipment including self-contained breathing apparatus (SCBA).
HAZCHEM code:	3Z
Section 6: Accidental release measures	
Personal precautions:	Wear protective equipment; chemical resistant coveralls, boots, gloves, eye protection. Wear respiratory protection if there is a risk of contact with vapours or mist.
Environmental precautions:	Contain spill. Prevent from entering waterways, drains, sewers. Notify local authorities if contamination of waterway occurs.
Procedure for clean up:	Spill may be slippery and should be cleaned up immediately. Contain and recover liquid into labelled container for re-use or disposal. Absorb residue or small spills with suitable material, e.g. sand, vermiculite. Dispose of contaminated waste to approved landfill.
Section 7: Handling and storage	
Safe handling:	Read label before use. 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. Store in cool, well-ventilated area away from foodstuffs, seeds, fertilisers and human/animal health products. Storage must be in accordance with the NZS 8409 Management of Agrichemicals.

Section 8: Exposure controls/personal protection

Occupational exposure limits:

Ingredient	*Exposure route*	*WES-TWA*	*WES-STEL*
-	-	-	-

Biological limit value:	None set as of 14th edition of WorkSafe's Workplace Exposure Standards and Biological Index values – November 2023.
Engineering controls:	Use with adequate ventilation, i.e. outdoors.
Respiratory protection:	Not required if used outdoors with adequate ventilation. If risk of inhalation, wear respirator fitted with suitable filter.
Hand protection:	Waterproof gloves, e.g. PVC, nitrile.
Eye protection:	Chemical goggles, safety glasses with side shields or face shield.
Skin protection:	Chemical resistant coveralls and closed in boots.
General hygiene:	Wash hands and exposed skin thoroughly with soap and water before rest breaks or meals and after work. Wash protective clothing daily after work.

Section 9: Physical and chemical properties

(a)	Appearance:	Clear light yellowish liquid
(b)	Odour:	Very slight odour
(c)	Odour threshold:	Not available
(d)	pH:	4.0 – 6.0 – 1% aqueous solution.
(e)	Melting point/freezing point:	Not available
(f)	Initial boiling point and boiling range:	>100^{0}C
(g)	Flash point:	Non-flammable
(h)	Flammability (solid, gas):	Not applicable
(i)	Upper/lower flammability or explosive limits:	Not applicable
(j)	Vapour pressure:	Not available
(k)	Vapour density:	Not available
(l)	Relative density:	1.20
(m)	Solubility:	Soluble in water
(n)	Partition coefficient n-octanol/water:	K_{OW} log P -3.2 @ 25^{0}C (for glyphosate)

(o)	Auto-ignition temperature:	Not available
(p)	Decomposition temperature:	>120^{0}C
(q)	Kinematic viscosity:	Not available

Section 10: Stability and reactivity

Stability of the substance:	Stable under normal conditions of storage and use.
Conditions to avoid:	No information available.
Incompatible materials:	Galvanised steel, or unlined mild steel. May produce hydrogen a highly flammable gas.
Hazardous polymerisation:	Not known to occur.

Section 11: Toxicological information

		Toxicity classifications determined by assessment of the components in the formulated mixture.
(i)	Acute toxicity:	No classified as harmful if ingested, by dermal absorption or by inhalation. Not classified as aspirant hazard.
(ii)	Aspiration hazard:	Not classified.
(iii)	Respiratory irritation:	
(iv)	Skin corrosion / irritation:	May be slightly irritating to skin but no GHS classification applies.
(v)	Serious eye damage / irritation:	May be slightly irritating to eyes but no GHS classification applies.
(vi)	Respiratory or skin sensitisation:	Not classified as respiratory or contact sensitizer.
(vii)	Germ cell mutagenicity:	Not classified for mutagenic effects.
(viii)	Carcinogenicity:	Not classified for carcinogenic effects.
(ix)	Reproductive toxicity:	Not classified for adverse fertility or developmental effects.
(x)	Specific organ toxicity:	Not classified for adverse effects to organs/systems.
(xi)	Narcotic effects:	Not classified for narcotic effects.

Toxicological information:	For glyphosate acid:	Oral LD_{50} (rat)	> 5000 mg/kg b.w.
		Dermal LD_{50} (rabbit)	> 5000 mg/kg b.w.

Section 12: Ecological information

		Ecotoxicological classifications determined by assessment of the components in the formulated mixture.
(a)	Aquatic toxicity:	Toxic to aquatic life with long lasting effects.
(b)	Soil environment	Not classified.
(c)	Terrestrial vertebrate toxicity:	Not classified.
(d)	Terrestrial invertebrate toxicity:	Not classified.
(e)	Persistence and degradability:	Expected to be rapidly degradable. Absorption studies indicate glyphosate has very low mobility. Average field half-life of glyphosate is 47 days.

(f)	Potential to be bioaccumulative:	Not identified as being bioaccumulative. Glyphosate is not bio-accumulative; BCF = <1 for bluegill sunfish.
(g)	Mobility in soil:	Log Pow -3.2 @ 25 ^{0}C (for glyphosate) Product is soluble in water. May contaminate groundwater. Glyphosate is however strongly absorbed by soil and therefore becomes practically immobile. Microbial degradation is the major cause of loss from soil with liberation of carbon dioxide.
Ecotoxicological information:		For glyphosate: Rainbow trout (*Oncorhynhus mykiss*) LC_{50} (96 hr) 86 mg/L Bluegill sunfish (*Lepomis macrochirus*) LC_{50} (96 h) 120 mg/L *Daphnia magna* EC_{50} (48 h) 780 mg/L Bobwhite quail (*Colinus virginianus*) LD_{50} > 3850 mg/kg Honey bee (*Apis mellifera*) oral, LD_{50} 100 µg/bee

Section 13: Disposal considerations

Product disposal:	Dispose of this product only by using according to the label or through Agrecovery chemical disposal or to an approved landfill.
Container disposal:	Dispose through Agrecovery if possible. Alternatively, crush and bury in an approved landfill. Do not use container for any other purpose. Avoid contamination of any water supply, drains, streams or sewer with product or empty container.

Section 14: Transport information

UN number:	3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (GLYPHOSATE 45%)
UN class:	9
Packing group:	III
Subsidiary risk:	-
Environmental hazards:	Marine Pollutant
Special precautions:	-
	This product is classified as a Dangerous Good. Consult the Land Transport Rule: Dangerous Goods 2005 and NZS 5433:2012 Transport of Dangerous Goods on Land for more information

Section 15: Regulatory information

HSNO Act 1996: HSNO approval number:	Approved substance under the HSNO Act 1996. HSR101286;
Tolerable exposure limit / environmental exposure limit:	Not set

Additional Controls:	**Regulation:** 77A **Description:** A maximum application rate is set for this substance. **Variation:** The maximum application rate of this substance is 14.4 L/ha (equivalent to 7.2 kg of glyphosate /ha) for aerial and ground-based application methods on land. The maximum application frequency of this substance on land must not be more than two per calendar year with minimum interval period of 3 months. The maximum application rate of this substance is 4.5 L/ha (equivalent to 2.25 kg of glyphosate /ha) for aerial and ground-based application methods into or onto water. The maximum application frequency of this substance into or onto water must not be more than once per calendar year with minimum interval period of one year.
ACVM Act 1997: ACVM registration number: Conditions of registration:	Registered tradename product under the Agricultural Compounds Veterinary Medicines Act 1997. P009466 See www.foodsafety.govt.nz
Section 16: Other information	
Date of issue: Reason for reissue: Replaces:	28 August 2024 Update to GHS 7 SDS issued on 6 March 2020
Information references:	Supplier Safety Data Sheet NZ EPA Approved hazardous substances with controls Workplace Exposure Standards and Biological Exposure Indices
Abbreviations:	ACVM: Agricultural Chemicals and Veterinary Medicines Group 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 BEI: Biological Exposure Indices WES: Workplace Exposure Standards
Personal Protection Standards:	The following Standards provide general advice regarding safety clothing and equipment: Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**

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.