

Infosafe No™ 3NUC8 Issue Date : May 2024 ISSUED by NUFARMNZ

Product Name **LION® HERBICIDE**

Section 1 - Identification

Product Identifier	LION® HERBICIDE
Product Code	00452
Product Type	Herbicide
Company Name	Nufarm NZ
Address	Central Park, Building 3, Level 4, 666 Great South Road Ellerslie Auckland 1051 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency Phone Number	0800 651 911
Email	nzinfo@nufarm.com
Recommended uses and any restrictions on use or supply	For weed control in agriculture, horticulture, drains, aquatic areas, forestry and other uses including general weed control. Recommended prior to sowing pasture, crops and for the control of a wide range of brushweeds.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture	Acute inhalation toxicity: Category 4 Hazardous to the aquatic environment chronic Category 2 Eye irritation Category 2
Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed H312 Harmful in contact with skin H319 Causes serious eye irritation H332 Harmful if inhaled H411 Toxic to aquatic life with long lasting effects
Precautionary Statement – General	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read carefully and follow all instructions.
Pictogram (s)	Exclamation mark, Environment



Precautionary Statement – Prevention	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands and face thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Precautionary Statement – Response	P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep 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. P312 Call a POISON CENTER/doctor if you feel unwell. P330 Rinse mouth. P337+P313 If eye irritation persists: Get medical advice/attention. P363 Wash contaminated clothing before reuse.

Infosafe No™ 3NUC8	Issue Date : May 2024	ISSUED by NUFARMNZ
--------------------	-----------------------	--------------------

Product Name **LION® HERBICIDE**

Precautionary Statement – Disposal P391 Collect spillage.
P501 Dispose of contents/container to an approved landfill.

Section 3 - Composition and Information on Ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Glyphosate (present as the isopropylamine salt)	38641-94-0	360 g/L
	Amines, tallow alkyl, ethoxylated	61791-26-2	5-15 %
	Water	7732-18-5	Balance

Section 4 - First Aid Measures

First-aid Measures For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.

Inhalation Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.

Ingestion Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.

Skin Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.

Eye Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance. Remove contact lenses, if present and easy to do.

First-aid Facilities Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Advice to Doctor Treat symptomatically.

Section 5 - Firefighting Measures

Suitable Extinguishing Media If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.
Water, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products This product, or spray solutions of this product, react with galvanised steel or unlined steel (except stainless steel) containers and tanks, to produce hydrogen gas which may form a highly flammable or explosive gas mixture.
If involved in a major fire, could evolve oxides of nitrogen or phosphorus.

Special protective equipment for fire-fighters Full protective clothing and self-contained breathing apparatus.

Specific Methods Keep up wind. Do not allow washings to reach sewage or effluent systems.

Hazchem Code 2X

Decomposition Temperature Information is not available.

Other Information Location Certificate: Not applicable
Hazardous Atmosphere Zone: Not applicable
Number of Fire Extinguishers: Not applicable

Section 6 - Accidental Release Measures

Spills and Disposal Wear protective clothing. Clear area of unprotected personnel. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill. Final clean-up with

Infosafe No™ 3NUC8	Issue Date : May 2024	ISSUED by NUFARMNZ
--------------------	-----------------------	--------------------

Product Name **LION® HERBICIDE**

Personal Protection	degreasing agent or detergent is advised. For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent contamination of soil and water. This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

Section 7 - Handling and Storage

Precautions for Safe Handling	The person mixing or applying LION HERBICIDE must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017. Avoid skin and eye contact and inhalation of spray mist. BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants. CERTIFIED HANDLER: Is not required. TRACKING: Is not required. RECORD KEEPING: Is not required.
Conditions for safe storage, including any incompatibilities	Keep out of reach of children. Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers, pesticides and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 1,000L of LION HERBICIDE require secondary containment and are subject to signage, and more than 1,000L require emergency response plans.
Recommended Materials	Solutions of LION HERBICIDE should be mixed, stored and applied only in stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers. Do not mix or store this product in galvanized or unlined steel (except stainless steel) containers or spray tanks. LION HERBICIDE or solutions of LION HERBICIDE react with such containers to produce hydrogen gas which may form a highly combustible gas mixture which can flash or explode if ignited.
Other Information	Aggregate Storage Volume Thresholds: When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations. Avoid contact with foliage or green stems or fruit or crops, desirable plants and trees, since severe injury or death may occur. Do not allow drift to occur outside the target area.

Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limits (OEL)	The EEL for glyphosate is set at 0.37mg/L.
Appropriate Engineering Controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment	When opening the container, preparing spray and using the prepared spray wear safety goggles, waterproof gloves, cotton overalls buttoned to the neck and wrist, and boots.
Hygiene Measures	Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

Section 9 - Physical and Chemical Properties

Form	Liquid
Appearance	Clear green liquid.
Odour	Mild surfactant odour.

Infosafe No™ 3NUC8	Issue Date : May 2024	ISSUED by NUFARMNZ
--------------------	-----------------------	--------------------

 Product Name **LION® HERBICIDE**

Decomposition Temperature	Information is not available.
Melting Point	Occurs in 2 steps, 143-164°C and 189-223°C for glyphosate as isopropylamine salt.
Boiling Point	>100°C (water)
Solubility in Water	Soluble
Specific Gravity	1.17 @ 20°C
pH	4.6 (8% aqueous)
Vapour Pressure	2.1 x 10 ⁻³ mPa (25°C) for glyphosate as isopropylamine salt.
Vapour Density (Air=1)	Information is not available.
Odour Threshold	Information is not available.
Partition Coefficient: n-octanol/water	Kow logP = -5.4 (20°C) for glyphosate as isopropylamine salt.
Flash Point	Information is not available.
Flammability	Non combustible material.
Auto-ignition Temperature	Information is not available.
Flammable Limits - Lower	Information is not available.
Flammable Limits - Upper	Information is not available.
Kinematic Viscosity	Information is not available.
Particle Characteristics	Information is not available.
Other Information	(SL) Soluble concentrate

Section 10 - Stability and Reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Incompatible Materials	Non corrosive to stainless steel, polyethylene, aluminium, copper, brass, fibreglass and plastics. LION HERBICIDE reacts with galvanised steel or unlined steel (except stainless steel) containers and tanks, to produce hydrogen gas that may form a highly combustible gas mixture which can flash or explode if ignited. Avoid contact of the concentrate with strong alkalis. Such contact may release isopropylamine vapour with a strong fish like odour, which can be irritant to eyes. Isopropylamine has an inhalation LC50(rat) of 9.8mg/L and a WES TWA of 5ppm. Hazardous polymerisation will not occur.
Hazardous Polymerization	

Section 11 - Toxicological Information

Acute Toxicity - Oral	LD50 (rat) >5,000 mg/kg for glyphosate as isopropylamine salt.
Acute Toxicity - Inhalation	LC50(rat) (4h) >1.3mg/L air for glyphosate as isopropylamine salt.
Acute Toxicity - Dermal	LD50 (rabbit) >5,000 mg/kg for glyphosate as isopropylamine salt.
Ingestion	The concentrate is of low toxicity if swallowed. Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury. Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea. Ingestion of a large quantity of the undiluted product may result in

Infosafe No™ 3NUC8	Issue Date : May 2024	ISSUED by NUFARMNZ
--------------------	-----------------------	--------------------

Product Name **LION® HERBICIDE**

Inhalation	hypotension and pulmonary oedema. When applying the product as a spray avoid breathing in spray mist. May cause irritation to mucous membranes and respiratory tract.
Skin	Not a skin irritant (rabbits) for active ingredient glyphosate.
Corrosion/Irritation	
Serious Eye Damage/Irritation	This product causes serious eye irritation.
Skin Sensitisation	Information is not available.
Germ Cell Mutagenicity	Information is not available.
Carcinogenicity	Various regulatory agencies classify glyphosate as non-carcinogenic. The International Agency for Research on Cancer (IARC) classified glyphosate as 'probably carcinogenic to humans' (Group 2A). This finding was considered by various regulators post 2015.
Reproductive Toxicity	Information is not available.
STOT - Repeated Exposure	Information is not available.
Aspiration Hazard	Information is not available.
Other Information	The Australian Acceptable Daily Intake (ADI) for glyphosate for a human is 0.3 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 30 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Aust Govt Dept. of APVMA, 'ADI List', Edition 1/2024).

Section 12 - Ecological Information

Persistence and Degradability	In Soil (field) DT50 varies from 1-130 days depending on environmental conditions for glyphosate.
Mobility	Adsorption studies indicate that glyphosate has very low mobility.
Bioaccumulative Potential	Glyphosate is not bioaccumulative, BCF is <1 for bluegill sunfish.
Other Precautions	Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product.
Environmental Protection	Glyphosate is a non-selective contact herbicide. Spray drift can cause damage.
Acute Toxicity - Fish	LC50 (96hr) for trout and bluegill sunfish >1000mg/L for glyphosate as isopropylamine salt.
Acute Toxicity - Daphnia	LC50 (48h) = 930mg/L for glyphosate as isopropylamine salt.
Acute Toxicity - Algae	EbC50 (72hr) Scenedesmus subspicatus = 72.9mg/L for glyphosate as isopropylamine salt.
Acute Toxicity - Other Organisms	Earthworm (Eisenia foetida) LC50(14d) >5000mg/kg soil for glyphosate as isopropylamine salt.
Other Information	Environmental Exposure Limit (EEL) for glyphosate = 0.37mg/L.

Section 13 - Disposal Considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

Section 14 - Transport Information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
UN Number	3082

Infosafe No™ 3NUC8	Issue Date : May 2024	ISSUED by NUFARMNZ
--------------------	-----------------------	--------------------

Product Name **LION® HERBICIDE**

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (glyphosate)
Hazard Class	9
Hazchem Code	2X
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
IMDG EMS	F-A, S-F
Other Information	Do not carry more than 1L of LION HERBICIDE on a passenger service vehicle. Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

Section 15 - Regulatory Information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P6015 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR000227 See www.epa.govt.nz for approval controls.
Packaging and Labelling	READ SAFETY DIRECTIONS BEFORE OPENING OR USING KEEP OUT OF REACH OF CHILDREN

Section 16 - Any Other Relevant Information

Date of preparation or last revision of SDS	July 2019.
Contact Person/Point	IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE 24Hr Tollfree Emergency No: 0800 651 911 24Hr Emergency No: National Poisons Centre Phone: 0800 764 766
Revisions Highlighted	5 yearly review carried out. Various changes and updates made to the document to comply with GHS7. ...End Of MSDS...

© Copyright Chemical Safety International Pty Ltd

Copyright in the source code of the HTML, PDF, XML, XFO and any other electronic files rendered by an Infosafe system for Infosafe MSDS displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe MSDS displayed is the intellectual property of Chemical Safety International Pty Ltd. The compilation of MSDS's displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copying of any MSDS displayed is permitted for personal use only and otherwise is not permitted. In particular the MSDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of MSDS without the express written consent of Chemical Safety International Pty Ltd.