

Infosafe No™ 3NUC8	Issue Date : July 2019	ISSUED by NUFARM
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 Product Name **LION® HERBICIDE**

1. Identification

GHS Product Identifier	LION® HERBICIDE
Product Code	00452
Product Type	Herbicide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency phone number	0800 651 911
Email	info@nz.nufarm.com
Recommended use of the chemical and restrictions on use	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 Safety Data Sheet describes the properties of the concentrated product. The physical properties and the assessments may not apply to the properties of the product once it has been diluted for application.

2. Hazard Identification

Other Information	6.1D acute toxicant, 6.4A eye irritant, 9.1B aquatic toxicant, TOXICITY Harmful - may be harmful if swallowed, inhaled or absorbed through the skin. May cause eye irritation. ECOTOXIC Toxic to aquatic organisms with long-lasting effects. Non-selective herbicide - toxic to plants.
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3. Composition/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		Balance

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 contact	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.

Infosafe No™ 3NUC8	Issue Date : July 2019	ISSUED by NUFARM
--------------------	------------------------	------------------

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5. Fire-fighting 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
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

6. Accidental release measures

Spills & 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 degreasing agent or detergent is advised.
Personal Protection	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.

7. Handling and storage

Precautions for Safe Handling	Avoid skin and eye contact and inhalation of spray mist. APPROVED HANDLER: This product must be under the control of an approved handler when applied directly onto or into water. TRACKING: Is not required RECORD KEEPING: Not applicable BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.
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.

8. Exposure controls/personal protection

Occupational exposure limit values	The EEL for glyphosate is set at 0.37mg/L.
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate.

Infosafe No™ 3NUC8	Issue Date : July 2019	ISSUED by NUFARM
--------------------	------------------------	------------------

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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.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear green liquid
Odour	Mild surfactant odour
Boiling Point	>100°C (water)
Solubility in Water	Soluble
Specific Gravity	1.17 @ 20°C
pH	4.6 (8% aqueous)
Flash Point	None
Flammability	Non combustible material.
Other Information	(SL) Soluble concentrate

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	

11. Toxicological Information

Toxicology Information	No harmful effects are expected if the precautions on the label and this SDS are followed.
Acute Toxicity - Oral	LD50 (rat) >5,000 mg/kg for glyphosate as the isopropylamine salt
Acute Toxicity - Dermal	LD50 (rabbit) >5,000 mg/kg for glyphosate as the isopropylamine salt
Acute Toxicity - Inhalation	LC50(rat) (4h) = >1.3mg/L air for glyphosate 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 hypotension and pulmonary oedema.
Inhalation	When applying the product as a spray avoid breathing in spray mist. May cause irritation to mucous membranes and respiratory tract.
Skin	The concentrated product may cause slight irritation on contact. Prolonged contact is likely to result in irritation.
Eye	The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.
Skin Sensitisation	Not a contact sensitiser.
Carcinogenicity	Various regulatory agencies classify glyphosate as non-carcinogenic. The International Agency for Research on Cancer (IARC) classified glyphosate as

Infosafe No™ 3NUC8	Issue Date : July 2019	ISSUED by NUFARM
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Reproductive Toxicity	'probably carcinogenic to humans' (Group 2A). This finding was considered by various regulators post 2015.
Chronic Effects	No data to support a positive result.
Serious eye damage/irritation	No information available, no chronic effects expected.
Mutagenicity	Slight irritant
Respiratory Irritation	No data to support a positive result.
Skin corrosion/irritation	No data available to indicate product is a respiratory sensitiser.
Other Information	Not an irritant.
	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: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', March 2013).

12. Ecological information

Persistence and degradability	Adsorption studies indicate that glyphosate has very low mobility. DT50 varies from 1-130 days depending on environmental conditions for glyphosate.
Bioaccumulative Potential	Glyphosate is not bio accumulative, BCF = <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	Acute LC50 (96hr) for bluegill sunfish = 45mg/L for glyphosate isopropylamine Chronic NOEC (21d) for rainbow trout = 52mg/L for glyphosate
Acute Toxicity - Daphnia	LC50 (48h) = 930mg/L for glyphosate isopropylamine
Acute Toxicity - Algae	Acute: EC50 (96hr) Skeletonema costatum (diatom) = 1.2mg/L (based on chlorophyll a decrease) for glyphosate isopropylamine Chronic: EC50 (7d) for Marine diatom; skeletonema costatum = 0.77ppm for glyphosate isopropylamine
Acute Toxicity - Other Organisms	Acute oral LD50 for bobwhite quail = >3,850mg/kg for glyphosate Bee LD50 (contact and oral) = >100µg/kg for glyphosate Earthworm (Eisenia foetida) LC50(14d) = >5,000mg/kg soil for glyphosate isopropylamine salt
Other Information	Environmental Exposure Limit (EEL) for glyphosate = 0.37mg/L

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.

14. Transport information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
U.N. Number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (glyphosate, 36%)
Transport hazard class(es)	9
Hazchem Code	2X
Packaging Method	-
Packing Group	III

Infosafe No™ 3NUC8	Issue Date : July 2019	ISSUED by NUFARM
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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.

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 & Labelling	HARMFUL * ECOTOXIC - keep out of reach of children
Hazard Rating Systems	NFPA/HMIS: 1-1-1
Hazard Category	HARMFUL * ECOTOXIC - Keep out of reach of children

16. Other Information

Date of preparation or last revision of SDS	June 2019
Contact Person/Point	Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted	Minor changes made to sub section-Carcinogenicity under section-11. ...End Of MSDS...

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