

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
Product Name <b>CRUCIAL®</b>		

## Section 1 - Identification

<b>Product Identifier</b>	CRUCIAL®
<b>Product Code</b>	01800
<b>Product Type</b>	Herbicide
<b>Company Name</b>	Nufarm NZ
<b>Address</b>	Central Park, Building 3, Level 4, 666 Great South Road Ellerslie Auckland 1051 New Zealand
<b>Telephone/Fax Number</b>	Tel: 0-9-270 4150
<b>Emergency Phone Number</b>	0800 651 911
<b>Email</b>	nzinfo@nufarm.com
<b>Recommended uses and any restrictions on use or supply</b>	A non-residual, non-selective herbicide for weed control prior to planting crops and pasture, prior to harvesting some crops and for general weed control in horticulture, agriculture, and forestry.
<b>Other Information</b>	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

<b>GHS classification of the substance/mixture</b>	Hazardous to the aquatic environment chronic Category 2
<b>Hazard Statement (s)</b>	H411 Toxic to aquatic life with long lasting effects
<b>Precautionary Statement – General</b>	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.
<b>Pictogram (s)</b>	Environment



<b>Precautionary Statement – Prevention</b>	P273 Avoid release to the environment.
<b>Precautionary Statement – Response</b>	P391 Collect spillage.
<b>Precautionary Statement – Disposal</b>	P501 Dispose of contents/container to an approved landfill.

## Section 3 - Composition and Information on Ingredients

<b>Chemical Characterization</b>	Liquid		
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Glyphosate (as potassium, monomethylamine and ammonium salts)	1071-83-6	600 g/L
	Non hazardous component (s)	-	10-30 %

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
Product Name <b>CRUCIAL®</b>		

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	water		Balance

## Section 4 - First Aid Measures

<b>First-aid Measures</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Skin</b>	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.
<b>Eye</b>	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.
<b>First-aid Facilities</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
<b>Advice to Doctor</b>	Treat symptomatically.

## Section 5 - Firefighting Measures

<b>Suitable Extinguishing Media</b>	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.
<b>Hazards from Combustion Products</b>	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.
<b>Special protective equipment for fire-fighters</b>	Full protective clothing and self-contained breathing apparatus.
<b>Specific Methods</b>	Keep up wind. Do not allow washings to reach sewage or effluent systems.
<b>Hazchem Code</b>	2Z
<b>Decomposition Temperature</b>	Information is not available.
<b>Other Information</b>	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

## Section 6 - Accidental Release Measures

<b>Spills and Disposal</b>	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.
<b>Personal Protection</b>	For appropriate personal protective equipment (PPE), refer Section 8.
<b>Environmental Precautions</b>	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

<b>Precautions for Safe Handling</b>	Any application of CRUCIAL when used as an aquatic herbicide, must be under the personal control of a 'Qualified Loader', 'Qualified Contractor' or a 'Qualified Person'. For more information refer to Hazardous Substances (Hazardous Property Controls) Notice 2017. 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
--------------------------------------	--

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
--------------------	------------------------	--------------------

Product Name **CRUCIAL®**

<b>Conditions for safe storage, including any incompatibilities</b>	<p>in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017.</p> <p>Avoid skin and eye contact and inhalation of spray mist.</p> <p>This product must not be applied onto or into water.</p> <p>BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.</p> <p>CERTIFIED HANDLER: Is not required.</p> <p>TRACKING: Is not required.</p> <p>RECORD KEEPING: Is not required.</p> <p>Keep out of reach of children.</p> <p>Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals.</p> <p>Stores containing 1,000L of CRUCIAL require secondary containment and are subject to signage, and more than 1,000L require emergency response plans. Solutions of CRUCIAL 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. CRUCIAL or solutions of CRUCIAL react with such containers to produce hydrogen gas which may form a highly combustible gas mixture which can flash or explode if ignited.</p>
<b>Other Information</b>	<p>Aggregate Storage Volume Thresholds:</p> <p>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.</p> <p>Avoid contact with foliage or green stems of fruit or crops, desirable plants and trees, since severe injury or death may occur. Do not allow drift to occur outside the target area.</p>

## Section 8 - Exposure Controls and Personal Protection

<b>Occupational Exposure Limits (OEL)</b>	<p>No TEL has been set for CRUCIAL or any element or compound in this substance.</p> <p>No EEL value is set at this time.</p> <p>There are Workplace Exposure Standards (WES) values currently set for components of CRUCIAL but as they are not Prescribed Exposure Standard (PES) they are guidance values used for the management of health risk. No PES has been set for any component of CRUCIAL.</p> <p>WES TWA for Methylamine= 10ppm and 13mg/m<sup>3</sup></p> <p>WES TWA for Potassium and Sodium hydroxide= Ceiling 2</p> <p>WES TWA for 1,2 propanediol = 150ppm and 474mg/m<sup>3</sup></p> <p>WES TWA for 1,2,3- Propanetriol = 10mg/m<sup>3</sup></p> <p>WES STEL for Glutaraldehyde= 0.05ppm</p>
<b>Appropriate Engineering Controls</b>	<p>Handle in well ventilated areas, generally natural ventilation is adequate.</p>
<b>Personal Protective Equipment</b>	<p>When opening the container, preparing spray and using the prepared spray wear safety goggles, impervious gloves, waterproof hat, coat and trousers (worn outside rubber boots)</p>
<b>Hygiene Measures</b>	<p>Do not eat, drink or smoke while using.</p> <p>Remove protective clothing and wash hands and face thoroughly before meals and after work.</p> <p>Wash protective clothing daily after work.</p>

## Section 9 - Physical and Chemical Properties

<b>Form</b>	Liquid
<b>Appearance</b>	Clear green liquid.
<b>Odour</b>	No odour.
<b>Decomposition Temperature</b>	Information is not available.
<b>Melting Point</b>	189.5°C for active ingredient glyphosate.
<b>Boiling Point</b>	>105°C

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
--------------------	------------------------	--------------------

Product Name **CRUCIAL®**

<b>Solubility in Water</b>	Soluble
<b>Specific Gravity</b>	1.323
<b>pH</b>	4.4 - 5.0 (5%w/v)
<b>Vapour Pressure</b>	1.31 x 10 <sup>-2</sup> mPa(25°C) for active ingredient glyphosate.
<b>Vapour Density (Air=1)</b>	Information is not available.
<b>Odour Threshold</b>	Information is not available.
<b>Partition Coefficient: n-octanol/water</b>	Kow Log P is <-3.2 (pH5-9, 20°C) for active ingredient glyphosate.
<b>Flash Point</b>	Information is not available.
<b>Flammability</b>	Non combustible material.
<b>Auto-ignition Temperature</b>	Information is not available.
<b>Flammable Limits - Lower</b>	Information is not available.
<b>Flammable Limits - Upper</b>	Information is not available.
<b>Kinematic Viscosity</b>	Information is not available.
<b>Particle Characteristics</b>	Information is not available.
<b>Other Information</b>	(SL) Soluble concentrate

## Section 10 - Stability and Reactivity

<b>Chemical Stability</b>	Stable under normal conditions of handling and storage.
<b>Incompatible Materials</b>	Non corrosive to stainless steel, polyethylene and plastics. CRUCIAL 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.
<b>Possibility of Hazardous Reactions</b>	Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime. Such contact may release isopropylamine vapour with a strong fish like odour, which is an irritant to eyes.
<b>Hazardous Polymerization</b>	Hazardous polymerisation will not occur.

## Section 11 - Toxicological Information

<b>Acute Toxicity - Oral</b>	LD50 (rats) = 5,000mg/kg for active ingredient glyphosate.
<b>Acute Toxicity - Inhalation</b>	LC50 (rats, 4h) >4.98mg/L air for active ingredient glyphosate.
<b>Acute Toxicity - Dermal</b>	LD50 (rabbits) = >5000mg/kg for active ingredient glyphosate.
<b>Skin Corrosion/Irritation</b>	Non-irritating to skin (rabbits) for active ingredient glyphosate.
<b>Serious Eye Damage/Irritation</b>	Eye irritant for active ingredient glyphosate.
<b>Skin Sensitisation</b>	Not a skin sensitiser (guinea pigs) for active ingredient glyphosate.
<b>Germ Cell Mutagenicity</b>	Information is not available.
<b>Carcinogenicity</b>	Information is not available.
<b>Reproductive Toxicity</b>	Information is not available.

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
--------------------	------------------------	--------------------

Product Name **CRUCIAL®**

<b>STOT - Repeated Exposure</b>	Information is not available.
<b>Aspiration Hazard</b>	Information is not available.
<b>Other Information</b>	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

<b>Persistence and Degradability</b>	In soil (field) DT50 = 1-130d depending on edaphic and climatic conditions for active ingredient glyphosate.
<b>Mobility</b>	Information is not available.
<b>Bioaccumulative Potential</b>	Glyphosate is not bio accumulative.
<b>Other Precautions</b>	Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product.
<b>Environmental Protection</b>	Glyphosate is a non-selective contact herbicide. Spray drift can cause damage.
<b>Acute Toxicity - Fish</b>	LC50 (96h) for bluegill sunfish is 120 mg/L for active ingredient glyphosate.
<b>Acute Toxicity - Daphnia</b>	LC50 (48h) 780mg/L for active ingredient glyphosate.
<b>Acute Toxicity - Algae</b>	EbC50 (72h) green algae (Selenastrum capricornutum) = 485mg/L for active ingredient glyphosate.
<b>Acute Toxicity - Other Organisms</b>	Birds: LD50 for bobwhite quail >3851mg/kg for active ingredient glyphosate. Bees: LD50 (48h) (contact & oral) >100 µg/bee for active ingredient glyphosate.

## Section 13 - Disposal Considerations

<b>Product Disposal</b>	Dispose of product only by using according to the label, or at an approved landfill.
<b>Container Disposal</b>	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

<b>Transport Information</b>	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
<b>UN Number</b>	3082
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (glyphosate)
<b>Hazard Class</b>	9
<b>Hazchem Code</b>	2Z
<b>Packaging Method</b>	-
<b>Packing Group</b>	III
<b>EPG Number</b>	-
<b>IERG Number</b>	47
<b>IMO Marine Pollutant</b>	Yes. Environmentally Hazardous Substance mark required.
<b>IMDG EMS</b>	F-A, S-F
<b>Other Information</b>	Do not carry more than 10L of CRUCIAL 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.

Infosafe No™ 3NV3Q	Issue Date : June 2024	ISSUED by NUFARMNZ
--------------------	------------------------	--------------------

Product Name **CRUCIAL®**

## Section 15 - Regulatory Information

<b>National and or International Regulatory Information</b>	Registered pursuant to the ACVM Act 1997, No. P9595 See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR101362 See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> for approval controls.
<b>Packaging and Labelling</b>	READ SAFETY DIRECTIONS BEFORE OPENING OR USING KEEP OUT OF REACH OF CHILDREN

## Section 16 - Any Other Relevant Information

<b>Date of preparation or last revision of SDS</b>	July 2019.
<b>Contact Person/Point</b>	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
<b>Revisions Highlighted</b>	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.