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1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY:

PRODUCT NAME: **QUANTUM**
 MANUFACTURER: Lonza NZ Ltd
 SUPPLIER NAME: Lonza NZ Ltd
 SUPPLIER ADDRESS: 13-15 Hudson Rd, Bell Block, New Plymouth, New Zealand
 SUPPLIER PHONE: +64 6 7559234 SUPPLIER FAX: +64 6 7551174
 EMERGENCY PHONE: 0800 243 622, 0800 CHEMCALL INTERNATIONAL EMERGENCY PHONE: +64 4 917 9888
 CHEMICAL FAMILY: Nicotinanalide USE: Herbicide

2. HAZARDS IDENTIFICATION:

6.9B; Harmful - may cause organ damage from repeated oral exposure at high doses.
 9.1A; Very Toxic to fish/aquatic organisms with long lasting effects.
 9.2C; Harmful to the soil environment. [Selective herbicide.]
 Refer to Section 15 for NZ EPA Requirements.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

COMMON NAME:	CAS NUMBER:	CONCENTRATION %:	HAZARD CLASSIFICATIONS:
Diflufenican	83164-33-4	<50 %	Class 6,9.
Surfactants		<10 %	
Diethylene Glycol	111-46-6	<3 %	Class 6.
Water		Balance	

4. FIRST - AID MEASURES:

EYE CONTACT: Immediately flush with flowing water for at least 15 minutes. Seek medical attention if irritation persists.
 SKIN CONTACT: Wash with plenty of soap and flowing water for at least 15 minutes while removing contaminated clothing. DO NOT scrub skin. Wash clothing before reuse.
 INHALATION: If ill-effects occur, move the victim to fresh air.
 INGESTION: If swallowed, rinse mouth with water immediately. DO NOT induce vomiting. Seek medical attention.
 NOTES TO DOCTOR: No specific antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES:

FLASHPOINT: Not applicable. HAZCHEM CODE: 2X
 FLAMMABLE LIMITS: Not applicable.
 EXTINGUISHING MEDIA: Dry chemical, water spray (fog), foam or carbon dioxide.
 THERMAL DECOMPOSITION PRODUCTS: None.
 SPECIAL FIRE FIGHTING METHODS: Spills may be slippery and should be cleaned up immediately.
 UNUSUAL FIRE OR EXPLOSION HAZARDS: None.

6. ACCIDENTAL RELEASE MEASURES:

Use appropriate protective equipment. Clear area of unnecessary personnel. Spills may be slippery and should be cleaned up immediately.
 Large spill: Dike and pump as much as possible to a salvage container. Absorb the remaining liquid and any small spills with clay granules, sand or other absorbent material and sweep to a waste container. Cover the spill area with water and absorb. Minimise runoff into waterways or drains.
 Warning this substance is very toxic to aquatic organisms. Avoid contamination of any water supply with this substance or empty container.

7. HANDLING AND STORAGE:

Harmful - Keep out of reach of children.
 Store in original container, tightly closed away from food, food related materials, animal feedstuffs, seed or fertilizer.
 Wear personal protective equipment appropriate to the situation when handling product. Wash protective clothing daily after work.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

EXPOSURE LIMITS: No exposure limits (WES, TEL, or EELs) have been specifically assigned for this product.
 EYE PROTECTION: Avoid contact with eyes. Wear a face shield or full chemical workers goggles where there is a risk of a splash.
 RESPIRATORY PROTECTION: Not normally required. Exceptions: in the case of fire or during the formation of mists or aerosols.
 PROTECTIVE CLOTHING: Wear protective clothing such as impervious gloves, boots and overalls buttoned to the neck and wrist when using. Wash protective clothing daily after work.
 VENTILATION: General (mechanical) room ventilation is considered satisfactory.
 HYGIENE PRECAUTIONS: Do not eat drink or smoke while working with this product. Remove clothing that becomes soaked or contaminated and wash before reuse. Wash hands before breaks and after work. The use of a skin barrier cream is useful to give additional skin protection.

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9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE / STATE / ODOUR: White Liquid.
BOILING POINT: 100°C pH: 7
DENSITY: 1.126 SETTING POINT: Not available.
DECOMPOSITION TEMP: Not available. AUTOIGNITION TEMP: Not applicable.
FLASHPOINT: Not applicable. VAPOUR DENSITY: Not available.
EXPLOSION PROPERTIES: Not applicable. VAPOUR PRESSURE: 0.00453 mPA diflufenican
SOLUBILITY: <.05 mg/L water. soluble in polar organic solvents
OTHER DATA:
OCTANOL / WATER PARTITION COEFFICIENT: Kow log P = 4.9

10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID: Extreme Temperatures.
MATERIALS TO AVOID: Oxidising agents.
HAZARDOUS DECOMPOSITION Thermal decomposition may release ammonia, carbon monoxide and carbon dioxide and oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION:

ACUTE ORAL: LD50 4008 mg/Kg rats [by calculation].
ACUTE DERMAL: LD50 3901 mg/Kg rats [by calculation].
ACUTE INHALATION: LC50 (4 hours) 5.1589 rats [by calculation].
OTHER TOXICITY INFORMATION:
May cause organ damage from repeated oral exposure at high doses.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity: Very toxic to fish. LC50 (96 hr) for Rainbow trout 105 mg/L [by calculation].
Soil Toxicity: Harmful to the soil environment.
Terrestrial Vertebrates - Birds: Not toxic to birds.
Terrestrial Invertebrates - Bees: Not toxic to bees.

Very Toxic to fish/aquatic organisms with long lasting effects. Avoid contamination of any water supply with this product or empty container.
Harmful to the soil environment. Selective herbicide - toxic to some plant species (certain plants may be killed or damaged from root uptake of this product).

13. DISPOSAL CONSIDERATIONS:

Triple rinse empty container and add rinsate to the spray tank. If recycling, discard cap and deliver clean container to an Agrecovery depot. Alternatively crush and bury in an approved landfill.
Dispose of product only by using according to this label, or at an approved disposal facility.
Avoid contamination of any water supply or stream with product or empty container.

14. TRANSPORT INFORMATION:

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Diflufenican)
UN Number: 3082 UN Hazard Class: 9
Packing Group: III Hazchem Code: 2X
Additional Information:

15. REGULATORY INFORMATION:

APPROVED HANDLER: The product must be under the personal control of an approved handler when:
a) the product is applied in a wide dispersive manner; or
b) used by a commercial contractor.
However, it may be handled by a person who is not an approved handler if:
- an approved handler is present at the facility where the substance is being handled; and
- the approved handler has provided guidance to the person in respect to the handling of the product; and
- the approved handler is available at all times to provide assistance if necessary.

This product shall NOT be applied onto or into water.

RECORD KEEPING: A written record of use is required if 3 kg or more of this product is used within 24 hours in a place where:
a) public may lawfully be present; or
b) the substance is likely to enter air or water supply and leave the place where it is under control.
The information must be kept for a minimum of three [3] years.

This product DOES NOT have Tracking Requirements.

Approved pursuant to the HSNO Act 1996. NZ EPA Approval Code: HSR001647. See <www.epa.govt.nz> for controls.
Registered pursuant to the ACVM Act 1997. ACVM Pesticide No: P007306. See <www.nzfsa.govt.nz> for registration conditions.

16. OTHER INFORMATION:

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.