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

PRODUCT NAME: **VIXEN**
 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: Phosphinic Acid USE: Herbicide

2. HAZARDS IDENTIFICATION:

6.1E; Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.
 6.3A; Harmful - may cause skin irritation. Avoid contact with skin.
 6.4A; Harmful - may cause eye irritation, avoid contact with eyes. may cause skin or eye irritation.
 6.8B; Harmful - may cause reproductive/developmental damage from repeated oral exposure.
 6.9A; Toxic - may cause organ damage from repeated oral exposure at high doses.
 9.1C; Harmful to fish with long lasting effects.
 9.2A; Very toxic to the soil environment. [Selective herbicide]
 9.3C; Harmful to terrestrial vertebrates [birds]
 Refer to Section 15 for NZ EPA Requirements.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

COMMON NAME:	CAS NUMBER:	CONCENTRATION %:	HAZARD CLASSIFICATIONS:
Glufosinate Ammonium	77182-82-2	20	
Oxyfluorfen	42874-03-3	< 4	
Propylene Glycol	57-55-6	< 2	
Inerts		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 THE SKIN. Wash clothing before reuse.
 INHALATION: If inhaled, move the victim to fresh air immediately. Begin artificial respiration if breathing has stopped. Use mouth to nose rather than mouth to mouth. Seek medical attention.
 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:	2 Z
FLAMMABLE LIMITS:			
EXTINGUISHING MEDIA:	Dry powder, carbon dioxide, or foam.		
THERMAL DECOMPOSITION PRODUCTS:	None.		
SPECIAL FIRE FIGHTING METHODS	Addition of water may cause excessive foaming. Vapours may be toxic. Self contained breathing apparatus required. Do not allow contaminated runoff to enter drains.		
UNUSUAL FIRE OR EXPLOSION HAZARDS:			

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.

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.
 Chemical resistant gloves and eye protection should be worn when handling this product. Wear other 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 (TEL, or EELs) have been specifically assigned for this product.
 WES set for Propane-1,2-diol [CAS 57-55-6] - 8h TWA (vapour & particulates): 150 ppm - 474 mg/m³
 EYE PROTECTION: Avoid contact with eyes. Chemical goggles or face shield where splash may occur.
 RESPIRATORY PROTECTION: Not normally required. Exceptions: in the case of fire or during the formation of mists or aerosols.
 PROTECTIVE CLOTHING: When handling wear waterproof gloves, overalls and boots.
 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:	Opaque Tan Liquid	pH:	4 - 6
BOILING POINT:	>100 Degrees C	SETTING POINT:	Not available.
DENSITY:	1.08	AUTOIGNITION TEMP:	Not applicable.
DECOMPOSITION TEMP:	Not available.	VAPOUR DENSITY:	Not available.
FLASHPOINT:	Not applicable.	VAPOUR PRESSURE:	Not available.
EXPLOSION PROPERTIES:	Not applicable.		
SOLUBILITY:	Soluble in water		
OTHER DATA:			
OCTANOL / WATER PARTITION COEFFICIENT:	Not available.		

10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID: None
 MATERIALS TO AVOID: None
 HAZARDOUS DECOMPOSITION Thermal decomposition may release ammonia, carbon monoxide and oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION:

ACUTE ORAL: LD50 Rats: >5000 mg/Kg (by calculation)
 ACUTE DERMAL: LD50 Rats: >4000 mg/Kg (by calculation)
 ACUTE INHALATION: LD50 Rats: >5 mg/L (by calculation)
 OTHER TOXICITY INFORMATION:
 May be harmful if swallowed, inhaled or absorbed through the skin.
 May cause skin and eye irritation. Avoid contact with skin or eyes.
 May cause reproductive/developmental damage from repeated oral exposure and organ damage from repeated oral exposure at high doses.

12. ECOLOGICAL INFORMATION:

Aquatic Toxicity: LC50 (96h) fish 17.7 mg/L (by calculation).
 Terrestrial Vertebrates - Birds: LD50 birds 4890 mg/kg (by calculation).
 Terrestrial Invertebrates - Bees: LD50; Not toxic to bees.
 Harmful to fish with long lasting effects. Avoid contamination of any water supply with this product or empty container.
 Very toxic to the soil environment. Herbicide - very toxic to some plant species (certain plants may be killed or damaged from root uptake of this product).
 Harmful to terrestrial vertebrates [birds]

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: Not Classified as Dangerous Goods for Transport (Glufosinate Ammonium & Oxyfluorfen)
 UN Number: N/A UN Hazard Class: N/A
 Packing Group: N/A Hazchem Code: 2Z
 Additional Information: Do not carry more than 1 litre of this product on a passenger service vehicle.

15. REGULATORY INFORMATION:

APPROVED HANDLER: The product shall 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.

RECORD KEEPING: A written record of each application or discharge must be kept where -
 a) members of the public may lawfully be present; or
 b) the substance is likely to enter the air or water supply and leave the area where it is under control.

The information must be kept for a minimum of three [3] years.
 TRACKING: This product DOES NOT have Tracking Requirements.

Vixen shall NOT be applied onto or into water and shall be applied via ground-based methods only.
 This product shall be applied at a maximum rate of 8 L Vixen/ha with a maximum application frequency of 2 applications per year.

Approved pursuant to the HSNO Act 1996. NZ EPA Approval Code: HSR100515 See <www.epa.govt.nz> for controls.
 Registered pursuant to the ACVM Act 1997. ACVM Pesticide No: P008405 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.