

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

#### TWISTER

SUPPLIER NAME: Zelam Limited  
MANUFACTURER: Zelam Limited  
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CHEMICAL FAMILY: Urea derivative USE: Selective herbicide

### 2. COMPOSITION / INFORMATION ON INGREDIENTS:

COMMON NAME:	CAS NUMBER:	CONCENTRATION %:	HAZARD CLASSIFICATIONS:
Inerts		<10 %	
Isoproturon	34123-59-6	<50 %	Class 6, 9.
Water		Balance	

### 3. HAZARDS IDENTIFICATION:

Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.  
Harmful - may cause skin sensitisation from prolonged skin contact. Avoid skin contact.  
Harmful - may cause organ damage from repeated oral exposure at high doses.  
Very toxic to fish/aquatic organisms with long-lasting effects. Avoid contamination of any water supply with product or empty container.  
Very Toxic to the soil environment. [Selective herbicide].  
Refer to Section 15 for NZ EPA Requirements.

### 4. FIRST - AID MEASURES:

EYE CONTACT: Hold eyelids open and immediately flush eyes with flowing water for at least 15 minutes. Get prompt medical attention.  
SKIN CONTACT: Immediately flush with plenty of water while removing contaminated clothing. DO NOT scrub the skin. Continue for at least 15 minutes. 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. Obtain 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 X  
FLAMMABLE LIMITS: Not applicable.  
EXTINGUISHING MEDIA: Dry chemical, water spray (fog), foam or carbon dioxide.  
THERMAL DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen and volatile isoproturon.  
SPECIAL FIRE FIGHTING METHODS: Vapours may be toxic. Self contained breathing apparatus and chemical suit required. Do not allow contaminated run-off to enter drains.  
UNUSUAL FIRE OR EXPLOSION HAZARDS: An aqueous suspension not usually flammable - avoid inhalation of steam volatile vapours.

### 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 in a cool, well ventilated place, 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: 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: Wear protective clothing such as impervious gloves, boots and overalls 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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE / STATE / ODOUR: White free flowing liquid.

BOILING POINT:	100°C.	pH:	6.
DENSITY:	1.08.	SETTING POINT:	<0°.
DECOMPOSITION TEMP:	Not Available.	AUTOIGNITION TEMP:	>100°C.
FLASHPOINT:	Not Available.	VAPOUR DENSITY:	Not Available.
EXPLOSION PROPERTIES:	Stable.	VAPOUR PRESSURE:	0.00315 Mpa 20°C isoproturon.
SOLUBILITY:	65 mg/L in water 22°C isoproturon.		
OTHER DATA:			
OCTANOL / WATER PARTITION COEFFICIENT:	Kow Log P = 2.5 20°C.		

### 10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID: Stable under normal temperatures and pressures. Stable to light acids and alkalis.  
MATERIALS TO AVOID: Strong oxidising agents.  
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include toxic oxides of carbon and nitrogen.

### 11. TOXICOLOGICAL INFORMATION:

ACUTE ORAL: Acute oral LD50 rats >2000 mg/kg. (Isoproturon)  
ACUTE DERMAL: Acute dermal LD50 rats >2000 mg/kg (isoproturon)  
ACUTE INHALATION:  
OTHER TOXICITY INFORMATION: 6.1E; Harmful - may be harmful if swallowed, inhaled or absorbed through the skin.  
6.5B; Harmful - may cause skin sensitisation from prolonged skin contact. Avoid skin contact.  
6.9B; Harmful - may cause organ damage from repeated oral exposure at high doses.

### 12. ECOLOGICAL INFORMATION:

Aquatic Toxicity: Very toxic to fish. LC 50 (96 hr) for Rainbow trout: 64.4 mg/L.  
Soil Toxicity: Soil DT50 - 6 to 20 days. [Isoproturon tech]  
Terrestrial Vertebrates - Birds: Not toxic to birds.  
Terrestrial Invertebrates - Bees: Not toxic to bees.

9.1A; Very Toxic to fish/aquatic organisms with long lasting effects. Avoid contamination of any water supply with this product or empty container.  
9.2A; Very toxic to the soil environment. Selective herbicide - very toxic to some plant species (certain plants may be killed or damaged from root uptake of this product).

### 13. DISPOSAL CONSIDERATIONS:

Dispose of this product only by using according to the label. Triple rinse container and add rinsate to spray tank. Crush or puncture cleaned, empty containers and dispose of container at an approved landfill or Agrecovery Depot. Avoid contamination of any water supply or stream with this product or empty container.

### 14. TRANSPORT INFORMATION:

Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID N.O.S	UN Hazard Class:	9.
UN Number:	3082	Packing Group:	III
Hazchem Code:	2X		
Additional Information:	Contains Isoproturon.		
Do not carry more than 0.1 L of this product on a passenger service vehicle			

### 15. REGULATORY INFORMATION:

APPROVED HANDLER: The product must be under the personal control of an approved handler when:

- the product is applied in a wide dispersive manner; or
- 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.

Twister 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:

- public may lawfully be present; or
- 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.

NZ EPA Approval Code: HSR000246.  
See the NZ EPA Website for more details: [www.epa.govt.nz](http://www.epa.govt.nz)

ACVM Pesticide Number: P006095.

### 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 products' properties.