Key Industries
Protecting people, crops and native species

PO Box 65 070 Mairangi Bay, Auckland 0754, New Zealand
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www.keyindustries.co.nz

Safety Data Sheet: Key Beta

1. IDENTIFICATION

Product Name:	Key Beta
Other Names:	Environmentally Hazardous Substance, Liquid, NOS (contains beta-cyfluthrin)
Recommended Use:	Insecticide
Distributor:	Key Industries Ltd
Address:	15d Paul Matthews Road, Rosedale, Auckland 0632
Telephone:	0800 539 463
Emergency Phone:	0800 539 463 (027 4941659 after hours)
National Poisons Centre:	0800 764 766

2. HAZARDS IDENTIFICATION

Signal Word: DANGER

Hazards:	**Hazard Phrases**
Acute toxicity: inhalation category 3	Toxic if inhaled.
Acute toxicity: oral category 4	Harmful if swallowed.
Eye damage category 2	Causes serious eye irritation.
Skin sensitization category 1	May cause an allergic skin reaction.
Reproductive toxicity effects on or via lactation	May cause harm to breast-fed children.
Specific target organ toxicity (repeated exposure) Category 1	Causes damage to organs through prolonged or repeated exposure.
Aquatic toxicity (acute/chronic) category 1	Very toxic to aquatic life with long lasting effects.
Hazardous to terrestrial vertebrates	
Hazardous to terrestrial invertebrates	

Precautionary Phrases:
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist/spray
Wash any areas of the body that have come into contact thoroughly after handling.
Avoid contact during pregnancy/while nursing.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
Call a POISON CENTER or doctor/physician.
Get medical advice/attention if you feel unwell.
Rinse mouth.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before re-use.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national regulations

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Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area
Do not apply directly into or onto water
Do not apply substance to plants if bees are foraging; or the plants are in flower or part flower

Pictograms:

3. COMPOSITION: Information on Ingredients

Ingredient	CAS Number	Concentration (%w/w)
beta-Cyfluthrin	68359-37-5 (or) 1820573-27-0	12.1
1,2-benzisothiazol-3(2H)-one	2634-33-5	<0.01
2-methyl-2H-isothiazol-3-one	2682-20-4	<0.01
Propylene Glycol	57-55-6	<10.0
Balance – Proprietary ingredients of low hazard	Proprietary	To 100%

4. FIRST AID MEASURES

Consult the National Poisons Information Centre 0800 POISON (0800 764 766) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Swallowed
If swallowed, do not induce vomiting. If conscious and alert, rinse mouth and drink 1-2 cupfuls of water. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain urgent medical attention.

Skin Contact
Immediately wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes and other contaminated leather articles such as belts and watchbands. Seek medical attention.

Eye Contact
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses if present and easy to do and continue rinsing. Do NOT allow victim to rub eyes or keep eyes closed. Obtain urgent medical attention.

Inhalation
Move the victim to fresh air immediately. Begin artificial respiration if breathing has stopped. Obtain medical attention immediately.

First Aid facilities
Provide eye baths and safety showers close to areas where exposure may occur.

Medical Attention
Treat symptomatically and supportively, monitoring the development of hypersensitivity reactions with respiratory distress. Gastric lavage may be indicated if ingested. No known antidote. Do not confuse with cholinesterase poisoning. Skin contacted may be carefully cleaned with cleansing milk. Symptoms can be partially alleviated by the application of a vitamin E or moisturising cream or anaesthetic ointment. For eyes, instil local anaesthetic drops e.g. 1% amethocaine hydrochloride eye drops. Give analgesics as necessary. In all cases consult the National Poisons Centre for the most up to date treatment information.

5. FIRE FIGHTING MEASURES

Shut off product that may 'fuel' a fire if safe to do so. Allow trained personnel to attend a fire in progress, providing fire fighters with this Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

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Suitable extinguishing media
Water fog, fine spray, foam, dry chemical powder or carbon dioxide. Do not use water stream directly as this may spread fire or give a violent steam eruption. Cool fire exposed container with water spray.

Hazards from combustion products
Decomposition from combustion will emit acrid smoke and toxic fumes containing carbon oxides, nitrogen oxides, hydrogen fluoride, hydrogen chloride and hydrogen cyanide.

Precautions for fire fighters and special protective equipment
Full protective clothing with chemical goggles, butyl or neoprene glovaes and self-contained breathing apparatus

Hazchem Code
3Z

Flash Point
>100°C

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Prevent product from escaping to drains and waterways. Contain leaking packaging in a containment vessel or bunded area. Prevent any vapours or dust from building up in confined areas. Ensure that drain valves are closed at all times. Clean up minor spills immediately.

Methods and materials for containment for a major spill

Eliminate sources of ignition. Warn occupants of downwind areas of possible hazards. Keep the public away from the area. Prevent product from entering sewers, watercourses, or low-lying areas. Shut off the source of the spill if safe to do so. Advise relevant authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation. Take measures to minimise the effect on the groundwater. If possible, recover product using a pump paying attention to flammability hazards or absorbent material. Collect and seal in properly labelled containers for disposal. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations. In all instances due consideration must be given for First Aid Measures (Section 4), PPE requirements (Section 8), Stability and Reactivity (Section 10) for this material.

7. HANDLING AND STORAGE

Precautions for safe handling
Keep out of reach of children. Keep containers closed. Use only in well-ventillated areas. When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before reuse.

Conditions for safe storage
Store in a cool, dry place away from direct sunlight. Keep away from heat and ignition sources. Store in original containers. Protect from physical damage to prevent accidental release. Do not store with food, feedstuffs, fertilizers and seeds.

Incompatible materials
None known.

Fire Extinguisher Requirements
No specific requirements.

8. EXPOSURE CONTROLS: Personal Protection

Exposure Limits
A WES has been set by MBIE for a material in this product, propane-1,2 diol (propylene glycol). The WES for propylene glycol is TWA (vapour and particulates) 150ppm or 474 mg/m^3. TWA (particulates only) 10 mg/m^3. The lack of a published WES for this product or other materials in it should not be taken to mean that it is safe under all conditions, and that no restriction should be placed on its use. It is important to understand the hazards of the product and contents of this SDS to allow steps to be taken to eliminate or minimise the concentration of airborne substances as far as is reasonably practicable.

Engineering Controls:
The use of local exhaust ventilation is recommended to control process emissions near the source. Sufficient ventilation should be provided to keep the solvent in air concentrations below any relevant exposure limit. Provide mechanical ventilation of confined spaces.

Hygiene Controls:

Facilities storing or utilising this material should be equipped with an eyewash facility, safety shower and facility for washing hands/face after work.

Personal Protective Equipment

Respiratory Protection: An approved half/full face filter respirator for organic vapours and particulates/spray droplets should be worn when applying this product. When Spraying Key Beta below 1m height use a P2 disposable facemask as minimum respiratory protection.

Eye protection: Always use safety glasses or a chemical goggles when handling this product. Contact lenses may absorb and concentrate irritants, glasses are recommended.

Skin/ Body Protection: Always wear long sleeves and long trousers or coveralls, and enclosed footwear of safety boots when handling this product. It is recommended that chemical resistant gloves (eg nitrile, neoprene) be worn when handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White opaque liquid
Odour:	Characteristic odour
Odour Threshold:	No data available
Boiling Point (°C):	Approximately 100
Boiling Point Range	No data available
Melting Point (°C):	No data available
Flash Point (°C):	>100
Lower Explosive Limit, LEL (%):	No data available
Upper Explosive Limit, UEL (%):	No data available
SG/ Density, 20°C (g/mL):	1.02 – 1.05
Vapour Pressure, 20°C (kPa):	No data available
Vapour Density:	No data available
Alkalinity/ acidity as pH:	4.5 – 6.0
Solubility in water:	Forms a suspension
Partition Coefficient (Kow):	No data available for formulated product
Auto-ignition Temperature (°C):	No data available
Decomposition Temperature (°C):	No data available
Kinematic Viscosity:	No data available

The values listed are indicative of this product's physical and chemical properties. If Physical and Chemical Properties are not listed then no data is available for those properties.

10. STABILITY AND REACTIVITY

Chemical stability

Stable at room temperature and pressure.

Hazardous decomposition products

Decomposition from combustion will emit acrid smoke and toxic fumes containing carbon oxides, nitrogen oxides, hydrogen bromide and hydrogen cyanide.

Specific Materials to Avoid

Strong acids, alkalis, oxidising agents, reducing agents and heat.

Hazardous Polymerisation

Not known to occur.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion: Moderate toxicity if swallowed. Symptoms include burning sensations in the mouth, headache, dizziness, drowsiness, diarrhoea, nausea, vomiting, listlessness, stomach pain, muscular twitching or arms or legs.
Ingestion of small amounts is unlikey to cause permanent injury, however swallowing large quantities can result in confusion, convulsions, coma, seizures and death. Contact a doctor immediately

Eye Contact: The liquid may cause transient eye irritation. Avoid eye contact

Skin Contact: Contact with the skin, especially the face, may result in initial stinging or burning sensations (parasthesia) followed by numbing which may persist for a few hours. Avoid skin contact.

Inhalation: The vapour/mist is discomforting to the upper respiratory tract and lungs. Acute effects from inhalation of high vapour concentrations may cause effects similar to that of ingestion.

Chronic Effects

Prolonged or repeated exposure may result in central nervous system effects such as tremors, uncoordination and disorientation. Persons with pre-existing conditions are advised to limit or avoid product contact.

Other Health Effects Information

The active ingredient, beta-Cyfluthrin, has been shown to decrease weight of young during lactation through breat milk.

No information is availbale to suggest this product is mutagenic or carcinogenic.

Toxicological Information

Oral LD_{50}: 140 mg/kg (rat), beta-cyfluthrin active ingredient; 1108 mg/kg (product, estimated)

Inhalation LC_{50}: 0.532 mg/L (dust, 4 hr, rat), beta-cyfluthrin active ingredient; 0.8 mg/L (aerosol, product, estimated)

12. ECOLOGICAL INFORMATION

Ecotoxicity

This product is highly toxic to the environment, with the potential to result in irreparable and irreversible effects. See hazard classifications in section 15 of this document. No specific ecological data available on this product.

Persistence/ Biodegradability: log P: 5.9. This substance (beta-cyfluthrin) is regarded as persistant and bioaccumulative by EPA.

Mobility: This product is not readily soluble with water limiting its mobility in the environment. This product is likely to have low mobility in the environment and low leaching potential

Aquatic Toxicity:

Fish toxicity LC_{50}: 0.000028 mg/L; beta-cyfluthrin active ingredient

Daphnia Magna EC_{50}: 0.00014 mg/L; beta-cyfluthrin active ingredient

Honeybee: 0.0098 µg/organism; beta-cyfluthrin active ingredient

13. DISPOSAL CONSIDERATIONS

Product Disposal

Dispose of product only by using according to label or using an approved waste disposal contractor. If this material as supplied becomes a waste care should be taken to ensure compliance with national and local authorities. It is the responsibility of the waste generator to determine the toxicity and physical properties of the waste generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Do not dispose of via municipal sewers, drains, natural streams or rivers

Packaging Disposal

Triple rinse container and add rinsate to the spray tank. Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should be taken to ensure compliance with national and local authorities. Packaging may still contain product residue that may be harmful. Incinerate via approved incinerators or crush and bury in an approved landfill. Ensure that empty packaging is managed in accordance with Dangerous Goods and HSNO regulations.

14. TRANSPORT INFORMATION

UN No:	UN3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, NOS (contains beta-cyfluthrin)
DG Class:	9
Packing Group:	III
Hazchem Code:	3Z

Dangerous Goods Segregation

This product is classified as Dangerous Goods by Road and Rail. Please consult the Land Transport Rule: Dangerous Goods 2005, and NZS 5433:1999 Transport of Dangerous Goods on Land for further information.

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15. REGULATORY INFORMATION

Country/ Region: New Zealand

ACVM Approval Number: Not applicable

HSNO Approval Number: HSR000275

HSNO Controls: Trigger Quantities for this Material:

- Certified Handler Test Certificate: Not Required
- Record Keeping: Required for application of ≥3kg of product in 24 hours (See HPC Notice 2017, section 48 for more detail).
- Qualified Person for mixing and application: Required
- Location/Transit Depot Certificate: Not required
- Hazardous Atmosphere Zone: Not required
- Emergency Plan, Secondary Containment, Signage : 100L

The trigger quantities above must take into account any other hazardous substance that is present at that location. This represents a partial list of the controls for this material. Contact Key Industries Ltd a full list of HSNO controls.

16. OTHER INFORMATION

Reasons for Issue:
Review. Updated H&P phrases to GHS 7 format and removed HSNO hazard codes.

Abbreviations:
TWA - the highest allowable exposure concentration in an eight-hour day for a five-day working week
STEL - maximum allowable exposure concentration at any time
CAS Number: Chemical Abstracts Number
EPA - Environmental Protection Agency of New Zealand
MBIE - Ministry of Business, Innovation and Employment
HSNO: Hazardous Substances and New Organisms

References:

- Supplier Safety Data Sheets
- Hazardous Substances Databank
- EPA Chemical Classification Information Database
- FOOTPRINT Pesticides Database
- Sax's Dangerous Properties of Industrial Materials, 11th Ed, 2007
- Synapse Chemlib Handbook of Solvents