

Safety Data Sheet – Spitfire

1. IDENTIFICATION

Product Name:	Spitfire
Other Names:	Environmentally Hazardous Substance, Liquid, NOS (contains cypermethrin)
Recommended Use:	Insecticide
Manufacturer:	Renovo Technologies Ltd
Address:	PO Box 3218, Fitzroy, New Plymouth 4312
Telephone:	0800 002920
Emergency Phone:	0800 CHEMCALL (0800 243 622)
National Poisons Centre:	0800 764 766

2. HAZARDS IDENTIFICATION

Signal Word: DANGER

Hazards:

Acute toxicity: oral category 4
Eye irritation category 2
Skin sensitization category 1
Reproductive toxicity category 2
STOT (repeated exposure) category 1
Aquatic toxicity (acute/chronic) category 1
Hazardous to terrestrial vertebrates
Hazardous to terrestrial invertebrates

Hazard Phrases

Harmful if swallowed.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary Phrases:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe vapours/spray.
Wash any areas of the body that have come into contact thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
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.
Wash contaminated clothing before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with instructions found on the product label
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, and are likely to be visited by non-target invertebrate pollinators (including bees)

Pictograms:



Safety Data Sheet – Spitfire

3. COMPOSITION: Information on Ingredients

Ingredient	CAS Number	Concentration (%w/w)
Cypermethrin	52315-07-8	19.5
Propylene glycol	57-55-6	<10
Dipropylene glycol methyl ether	34590-94-8	<5
Balance – ingredients of proprietary nature	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 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 if irritation occurs.

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

The decision to induce vomiting should be made by a physician because rapid absorption of this material can occur through the lungs after aspiration from vomiting. Gastric lavage may be indicated if ingested. Emesis should not be performed unless a near fatal dose of material has been ingested. Emesis and aspiration of the lungs may cause chemical pneumonia with hydrocarbon solvent present. Treat symptomatically and supportively, monitoring the development of hypersensitivity reactions with respiratory distress. 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.

Suitable extinguishing media

Water fog, fine spray, alcohol resistant 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 chloride and hydrogen cyanide.

Precautions for fire fighters and special protective equipment

Full protective clothing with chemical goggles, butyl or neoprene gloves and self-contained breathing apparatus

Hazchem Code

2Z

Flash Point

>95°C

Safety Data Sheet – Spitfire

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. This product is combustible. Avoid sources of ignition including smoking. Keep containers closed. Use only in well-ventilated 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

Natural Rubbers.

Fire Extinguisher Requirements

No specific requirements.

8. EXPOSURE CONTROLS: Personal Protection

Exposure Limits

A WES has been set by MBIE for two materials in this product, propane-1,2 diol (propylene glycol) and Propanol, 1(or 2)-(2-methoxymethylethoxy) (dipropylene glycol methyl ether). The WES for propylene glycol is TWA (vapour and particulates) 150ppm or 474 mg/m³. TWA (particulates only) 10 mg/m³. The WES for dipropylene glycol methyl ether is TWA 100ppm or 606 mg/m³, STEL 150ppm or 909 mg/m³

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. Explosion proof electrical equipment recommended but not required based on the flashpoint of this material.

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 should be worn when applying this product.

Eye protection: Always use safety glasses or 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.

Safety Data Sheet – Spitfire

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Opaque pale yellow to brown liquid
Odour:	Hydrocarbon solvent odour
Odour Threshold:	No data available
Boiling Point (°C):	100
Boiling Point Range	No data available
Melting Point (°C):	<0
Flash Point (°C):	>95
Lower Explosive Limit, LEL (%):	No data available
Upper Explosive Limit, UEL (%):	No data available
SG/ Density, 20°C (g/mL):	1.035 – 1.045
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 an emulsion
Partition Coefficient (Kow):	Log P 5.55 (cypermethrin active ingredient)
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. Data is not available for any properties not listed above.

10. STABILITY AND REACTIVITY

Chemical stability

Stable at room temperature and pressure. Separates at elevated temperatures but recombines at ambient temperature

Hazardous decomposition products

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

Specific Materials to Avoid

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

Hazardous Polymerisation

Not known to occur.

Safety Data Sheet – Spitfire

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 unlikely to cause permanent injury, however swallowing large quantities can result in confusion, convulsions, coma, seizures and death. Aspiration of the lungs can occur during vomiting leading to lung damage or death due to chemical pneumonitis. Contact a doctor immediately.

Eye Contact: The liquid is irritating to the eyes and may result in corneal injury. Avoid eye contact.

Skin Contact: May cause transient irritation. 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. Prolonged or repeated skin contact may result in the development of sensitisation (allergy). The active ingredient, cypermethrin is suspected of damaging fertility from repeated oral exposure. Persons with pre-existing conditions are advised to limit or avoid product contact.

Other Health Effects Information

Not Available.

Toxicological Information

Oral LD₅₀: 138 mg/kg (mouse), cypermethrin active ingredient; 642 mg/kg (product, estimated)

Dermal LD₅₀: 1600 mg/kg (rat), cypermethrin active ingredient; >5000 mg/kg (product, estimated)

Inhalation LC₅₀: 2.5 mg/L (rat), cypermethrin active ingredient; >10 mg/L (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: 5.3 (cypermethrin). This substance is regarded as non bioaccumulative and non-persistent 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

Environmental Toxicity:

Fish toxicity LC₅₀: 0.0004 mg/L; cypermethrin active ingredient

Daphnia Magna EC₅₀: 0.00036 mg/L; cypermethrin active ingredient

Honeybee: 0.02 µg/bee; cypermethrin 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.

Safety Data Sheet – Spitfire

14. TRANSPORT INFORMATION

UN No:	UN3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, NOS (contains cypermethrin)
DG Class:	9
Packing Group:	III
Hazchem Code:	3Z
Marin Pollutant:	Yes

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.

15. REGULATORY INFORMATION

Country/ Region: New Zealand

ACVM Approval Number: A011718

EPA Approval Number: HSR100346

HSNO Controls:

Trigger Quantities for this Material:

- Certified Handler Test Certificate: Not required
- Record Keeping: Required under certain conditions – see label
- Location Compliance Certificate: Not required
- Hazardous Atmosphere Zone: Not required
- Signage: 100 L
- Emergency Plan, Secondary Containment: 100L
- Tracking: Not required

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 Renovo Technologies Ltd a full list of EPA or HSW controls.

16. OTHER INFORMATION

Reasons for Issue:

New SDS

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

EPA - Environmental Protection Agency of New Zealand

HSNO - Hazardous Substances and New Organisms

MBIE - Ministry of Business, Innovation and Employment

References:

- Supplier Safety Data Sheets
- Hazardous Substances Databank
- EPA Chemical Classification Information Database
- FOOTPRINT Pesticides Database
- Synapse Chemlib Handbook of Solvents

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the suppliers knowledge. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact Renovo Technologies Limited.