

Safety Data Sheet – Chariot

1. IDENTIFICATION

Product Name: Chariot
Other Names:
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: WARNING

Hazards:

Specific target organ toxicity (repeated exposure) category 2
 Aquatic toxicity (acute/chronic) category 1
 Hazardous to terrestrial invertebrates

Hazard Phrases:

May cause damage to organs through prolonged or repeated exposure.
 Very toxic to aquatic life with long lasting effects.

Precautionary Phrases:

Read label before use.
 Do not breathe mist/vapours/spray.
 Get medical advice/attention if you feel unwell.
 Collect spillage.
 Dispose of contents/container in accordance with local/regional/national/international regulations.
 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)
Spinosad	168316-95-8	11.6
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 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 with water. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention if necessary.

Skin Contact

Immediately wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Seek medical attention if necessary.

Eye Contact

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Do NOT allow victim to rub eyes or keep eyes closed. Obtain medical attention if necessary.

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Inhalation

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

First Aid facilities

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

Medical Attention

Treat symptomatically. No known antidote. 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, foam, dry chemical powder or carbon dioxide. Do not use water stream directly. Cool fire exposed container with water spray.

Hazards from combustion products

Decomposition from combustion may emit acrid smoke and toxic fumes containing carbon oxides and nitrogen oxides.

Precautions for fire fighters and special protective equipment

Full fire fighting clothing with 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

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 absorb with inert 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-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 original container tightly closed and in a locked, dry, cool, place away from direct sunlight.. Store in original containers. Protect from physical damage to prevent accidental release. Do not store with human or animal foodstuffs, seeds and fertilisers. Store in accordance with NZS 8409 Management of Agrichemicals.

Incompatible materials

None known.

Fire Extinguisher Requirements

No specific requirements.

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8. EXPOSURE CONTROLS: Personal Protection

Exposure Limits

No WES TEL or EEL has been set by EPA NZ for this product. A WES has been set by Worksafe for one material in this product, propane-1,2 diol (propylene glycol). The WES is TWA (vapour and particulates) 150ppm or 474 mg/m³. TWA (particulates only) 10 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.

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: When handling this material it is recommended to use an approved respirator or half face mask filter respirator for particulates and organic vapours.

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:	Off white to pale tan opaque liquid
Odour:	Characteristic odour
Odour Threshold:	No data available
Boiling Point (°C):	Approximately 100
Boiling Point Range	No data available
Melting Point (°C):	Not applicable
Flash Point (°C):	>100
Lower Explosive Limit, LEL (%):	No data available
Upper Explosive Limit, UEL (%):	No data available
SG/ Density, 20°C (g/mL):	1.00 – 1.05
Vapour Pressure, 20°C (kPa):	No data available
Vapour Density:	No data available
Alkalinity/ acidity as pH:	6.0 – 8.0
Solubility in water:	Forms a suspension
Partition Coefficient (Kow):	Log P 4.1 (spinosad 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.

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.

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11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion: Low toxicity if swallowed. Harmful effects not expected from swallowing small quantities.

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

Skin Contact: Brief skin contact should be non-irritating, and prolonged skin contact is unlikely to result in dermal toxicity

Inhalation: The vapour/mist may be discomforting to the upper respiratory tract and lungs in large doses. Avoid inhaling spray or mist when applying.

Chronic Effects

In long-term repeat exposure studies in mice and rats, tissue vacuolation and other histological alterations (lungs, lymph nodes, stomach, and tongue primarily affected) were again observed at doses at and above the LOAEL (9.5 mg/kg bw/day). Persons with pre-existing conditions are advised to limit or avoid product contact.

Other Health Effects Information

Not Available.

Toxicological Information

Oral LD₅₀: 3700 mg/kg (rat), spinosad active ingredient; >19,000 mg/kg (product, estimated)

Dermal LD₅₀: >500,000 mg/kg (product, estimated)

Inhalation LC₅₀: >2,000 mg/L (product, estimated)

12. ECOLOGICAL INFORMATION

Ecotoxicity

This product is toxic to the environment, with the potential to result in irreparable and irreversible effects in the aquatic environment. This product will result in toxic effects to terrestrial invertebrates.

Persistence/ Biodegradability: log P: 4.1. This substance (spinosad) is regarded as non-biodegradable and non-bioaccumulative by EPA NZ.

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, *Cyprinus carpio* LC₅₀: 4.99 mg/L; spinosad active ingredient, 40 mg/L (product, estimated)

Daphnia Magna LC₅₀: 92.7 mg/L; spinosad active ingredient, 324 (product, estimated)

Algae, *Navicula pelliculosa* EC₂₅: 0.0791 mg/L; spinosad active ingredient, 0.7 mg/L (product, estimated)

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:	3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, NOS (contains spinosad)
DG Class:	9
Packing Group:	III
Hazchem Code:	3Z
Marine Pollutant:	YES

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15. REGULATORY INFORMATION

Country/ Region: New Zealand

ACVM Approval Number: P9937

EPA NZ Approval Number: HSR000714

Exposure limits: See section 8 for exposure limits

HSNO Controls: Trigger Quantities for this Material:

- Certified Handler Test Certificate: Not Required
- Location Compliance Certificate: Not Required
- Hazardous Atmosphere Zone: Not Required
- Signage: 100 L
- Emergency Plan, Secondary Containment: 100 L

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 the supplier for a full list of HSNO controls.

16. OTHER INFORMATION

Reasons for Issue:

Update to sections 4,6,8 and 15.

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 NZ: Environmental Protection Authority New Zealand

HSNO: Hazardous Substances and New Organisms

References:

- Supplier Safety Data Sheets
- HSDB, Toxnet
- EPA NZ Chemical Classification Information Database
- PPDB Pesticides Database

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.