SAFETY DATA SHEET

SILVASHIELD INJECTABLE TREE INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	14.09.2023	11270868-00001	Date of first issue: 14.09.2023

SECTION 1: IDENTIFICATION

Product name : SILVASHIELD INJECTABLE TREE INSECTICIDE

Product code : Article/SKU: 84438170 UVP: 06364284 Specification: 102000011108

Manufacturer or supplier's details

Company : 2022 Environmental Science AU Pty Ltd
ABN 49 656 513 923

Address : Suite 2.06, Level 2, 737 Burwood Road
Hawthorn East, Australia 3123

Telephone : (03) 7019 3839

Emergency telephone number : +61 2 9037 2994

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage/eye irritation : Category 2B

GHS label elements

Hazard pictograms : None

Signal word : Warning

Hazard statements : H320 Causes eye irritation.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ at-

tention.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Soluble concentrate (SL)

Components

Chemical name	CAS-No.	Concentration (% w/w)
Propylene carbonate	108-32-7	>= 10 -< 30
Imidacloprid	138261-41-3	>= 10 -< 30

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : If large amounts are ingested, the following symptoms may occur:
Dizziness
Nausea
Abdominal pain
Causes eye irritation.
This product contains a nicotinoid.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment

when the potential for exposure exists (see section 8).

Notes to physician : There is no specific antidote available.
Treat symptomatically.
Monitor: respiratory and cardiac functions.
In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours.
However, the application of activated charcoal and sodium sulphate is always advisable.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Sulphur oxides
Carbon oxides
Nitrogen oxides (NOx)
Chlorine compounds

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Hazchem Code : •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Take care to prevent spills, waste and minimize release to the environment.

Do not breathe decomposition products.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.

Conditions for safe storage : Keep in properly labelled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dimethyl sulphide	75-18-3	TWA	10 ppm	ACGIH
Formaldehyde	50-00-0	STEL	2 ppm 2.5 mg/m3	AU OEL
	Further information: Category 2 (Carc. 2) Suspected human carcinogen, Sensitiser			
		TWA	1 ppm 1.2 mg/m3	AU OEL
	Further information: Category 2 (Carc. 2) Suspected human carcinogen, Sensitiser			
		TWA	0.1 ppm	ACGIH
		STEL	0.3 ppm	ACGIH

Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Filter type : Organic vapour type

Hand protection
- Material : Nitrile rubber
- Break through time : > 480 min
- Glove thickness : > 0.4 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety goggles

Skin and body protection : Skin should be washed after contact.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow, light brown
Odour	:	aromatic
Odour Threshold	:	No data available
pH	:	6 - 8 (23 °C) Concentration: 1 % deionised water
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	97 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Ignitable (see flash point)
Self-ignition	:	295.00 °C Method: Tested according to Directive 92/69/EEC.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	ca. 1.17 g/cm³ (20 °C)
Solubility(ies)		

Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	220 °C Heating rate: 3 K/min Decomposition energy (mass): 630 kJ/kg
Viscosity		
Viscosity, dynamic	:	0.004 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive Method: OECD Test Guideline 113
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Surface tension	:	43 mN/m, 25 °C, Regulation (EC) No. 440/2008, Annex, A.5, Determined in the undiluted form.
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents

Hazardous decomposition products

Thermal decomposition	:	Dimethyl sulphide Formaldehyde

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): > 2,500 mg/kg
Method: OECD Test Guideline 423

Components:

Propylene carbonate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Imidacloprid:

Acute oral toxicity : LD50 (Mouse, male): 131 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.323 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

Propylene carbonate:

Species : Rabbit
Result : No skin irritation

Imidacloprid:

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Causes eye irritation.

Product:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 7 days
Method	:	OECD Test Guideline 405

Components:

Propylene carbonate:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

Imidacloprid:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Imidacloprid:

Test Type	:	Magnusson-Kligman-Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

Propylene carbonate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Imidacloprid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Propylene carbonate:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	104 weeks
Result	:	negative

Reproductive toxicity

Not classified based on available information.

Components:

Propylene carbonate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Result: negative

Imidacloprid:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Propylene carbonate:

Species	:	Rat
NOAEL	:	> 5,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Imidacloprid:

Species	:	Mouse, male
LOAEL	:	17 mg/kg
Application Route	:	Ingestion
Exposure time	:	24 Months

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Propylene carbonate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 1,000 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Selenastrum capricornutum (green algae)): > 929 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Selenastrum capricornutum (green algae)): 929 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): 25,619 mg/l

Exposure time: 16 h
Method: DIN 38 412 Part 8

Imidacloprid:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 211 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 0.0027 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): >= 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 9.02 mg/l Exposure time: 91 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10: 0.000056 mg/l Exposure time: 21 d
Toxicity to microorganisms	:	NOEC (activated sludge): 5,600 mg/l Exposure time: 3 h

Persistence and degradability

Components:

Propylene carbonate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 90 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.A.

Imidacloprid:

Biodegradability	:	Result: not rapidly degradable

Bioaccumulative potential

Components:

Propylene carbonate:

Partition coefficient: n-octanol/water	:	log Pow: -0.48

Imidacloprid:

Partition coefficient: n-octanol/water : log Pow: 0.57

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
Do not dispose of waste into sewer.

Contaminated packaging : Follow advice on product label and/or leaflet.
Empty containers retain residue and can be dangerous.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Imidacloprid)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passen-	:	964

ger aircraft)
Environmentally hazardous : yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid)
Class	:	9
Packing group	:	III
Labels	:	9
Hazchem Code	:	•3Z
Environmentally hazardous	:	yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 6
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

Product Type	:	Insecticides, acaricides and products to control other arthropods
Active substance	:	200 g/l Imidacloprid

SECTION 16: ANY OTHER RELEVANT INFORMATION

Further information

Revision Date	:	14.09.2023
Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
AU OEL / TWA	:	Exposure standard - time weighted average
AU OEL / STEL	:	Exposure standard - short term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No

1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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