

1. Identification

Product Identifier:	TELONE™ by Teleos Soil Fumigant
Other Means of Identification:	1,3-Dichloropropene, soil fumigant
SDS Number	200A-NZL-TNZ
Approval No.	HSR001639 with controls
Registration No.	P005700 (NZ Tulip LTD)
Recommended Use:	Plant protection product
Restrictions on Use:	For use only by trained fumigators (Certified Handlers)
Supplier:	TriCal NZ LTD 6 Waitane Place, Onekawa, Napier, 4110, New Zealand Office Phone: +64 6 843 5330
Emergency Phone No.:	FOR CHEMICAL EMERGENCY (Spill, Leak, Fire, Exposure, or Accident), Call CHEMTREC: CHEMTREC (New Zealand) 0800 425 459 (24 hours) National Poisons Centre 0800 764 766 (24 hours)

NOTE: If the end-use labeling contains specific instructions or requirements that conflict with this safety data sheet (SDS), **follow the instructions or requirements on the labeling.**

2. Hazard(s) Identification

Physical Hazards:	Flammable Liquids	Category 3
Health Hazards:	Acute Toxicity, oral	Category 3
	Acute Toxicity, dermal	Category 3
	Acute Toxicity, inhalation	Category 3
	Skin Irritation	Category 2
	Eye Irritation	Category 2
	Skin Sensitization	Category 1
	Germ Cell Mutagenicity	Category 2
	Carcinogenicity	Category 2
	Specific Target Organ Toxicity, (repeated exposure)	Category 2
Environmental Hazards:	Hazardous to the Aquatic Environment, Short-Term (acute)	Category 1
	Hazardous to the Aquatic Environment, Long-Term (chronic)	Category 1
	Hazardous to Soil Organisms	
	Hazardous to Terrestrial Vertebrates	

Label Elements:



Signal Word: DANGER

Hazard Statements:

- Flammable liquid and vapour
- Toxic if swallowed
- Toxic in contact with skin
- Toxic if inhaled
- Causes skin irritation
- Causes serious eye irritation
- May cause an allergic skin reaction

	Suspected of causing genetic effects Suspected of causing cancer May cause damage to organs (blood, hematopoietic system, liver, kidney) through prolonged or repeated exposure Very toxic to aquatic life Very toxic to aquatic life with long lasting effects
Precautionary Statements:	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe gas or vapors. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye protection. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment, [except for intended use]. Do not apply directly into or onto water. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area. Contaminated work clothing should not be allowed out of the workplace.
Response	IF SWALLOWED: Immediately call a POISON Center/doctor. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water. Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor for advice. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. If skin irritation or rash occurs: Get medical help. IF exposed or concerned, get medical advice. Call a POISON Center or a doctor if you feel unwell. In case of fire: Use fire extinguisher to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local / regional / national / international regulations.
Hazard(s) Not Otherwise Classified (HNOC):	For product packaged in cylinders: Do not spray on an open flame or other ignition source. In case of leakage, eliminate all ignition sources. Stop leak, if safe to do so. In case of fire: Evacuate area. Fight fire remotely due to the risk of cylinder rupture.

3. Composition/Information on Ingredients

Ingredients	Common Name and Synonyms	CAS Number	Concentration by Weight %
1,3-Dichloropropene	1,3-D	542-75-6	100*

*Product label will reflect nominal active ingredient percentage.

4. First Aid Measures

Description of Necessary First Aid Measures:

Inhalation	Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth, use rescuer protection (pocket mask, etc.). Call the National Poisons Centre or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.
Skin Contact	Take off immediately all contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call the National Poisons Centre or doctor for treatment advice. Suitable emergency safety shower facility should be immediately available.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call the National Poisons Centre or doctor for treatment advice. Suitable emergency eye wash facility should be immediately available.
Ingestion	Seek medical attention immediately. Do NOT induce vomiting. Rinse mouth thoroughly with water and contact the National Poisons Centre, or call a doctor at once.
Medical Attention and Special Treatment:	Notes to physician: Skin contact may aggravate preexisting dermatitis. Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary oedema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Animal data indicates that this material is a potential skin sensitiser. However, skin sensitisation has not been encountered among employees involved in the manufacture of this material. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Most Important Symptoms and, Effects, Acute and Delayed, from Exposure:	Aside from the information found in this Section 4, any additional important symptoms and effects are described in Section 11: Toxicology Information.
General Information:	Aerate contaminated clothing in a secure area downwind and away from people. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Call the National Poisons Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764 766 from anywhere in New Zealand and is available at all times. Have the Safety Data Sheet (SDS), and if available, the product container or label with you when calling the National Poisons Centre or doctor, or going for treatment. First Aid responders should pay attention to self-protection and use recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

5. Fire-Fighting Measures

Suitable Extinguishing Media:	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred, if available. Alcohol resistant foams (ATC type) may function. Water fog, applied gently, may be used as a blanket for fire extinguishment.
Unsuitable Extinguishing Media:	Do not use water jet as an extinguisher, as this may not be effective to extinguish fire.

Specific Hazards Arising from the Chemical:

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: hydrogen chloride, carbon monoxide, carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Electrically ground and bond all equipment. Flammable mixtures of this product are readily ignited even by static discharge. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapour space of containers at room temperature. Flammable concentrations of vapour can accumulate at temperatures above flash point; see Section 9.

Special Protective Equipment for Firefighters:

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical-resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical-resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Precautions for Firefighters:

Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles.

Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage. Water fog, applied gently may be used as a blanket for fire extinguishment.

Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling and Storage, for additional precautionary measures. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapour to avoid fire or explosion. Vapour explosion hazard. Keep out of sewers. For large spills, warn public of downwind explosion hazard. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapour to avoid fire or explosion. Use appropriate safety equipment. For personal protection, see Section 8 of the SDS.

Environmental Precautions:

Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

Methods and Materials for Containment and Cleaning Up:

Ground and bond all containers and handling equipment. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Contain spilled material if possible.

Small Spills

Absorb with materials such as: clay, dirt, sand. Sweep up. Collect in suitable and properly labeled containers.

Large Spills

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewers, basements or confined areas. Following product recovery, flush area with water.

After Spill Clean-up

Never return spills to original containers for reuse. For waste disposal, see section 13 of this SDS.

7. Handling and Storage

Precautions for Safe Handling:	Certified Handler and CSL required. Do not handle until all safety precautions have been read and understood. Comply with HSNO and WorkSafe controls. Keep out of reach of children. Keep away from heat, sparks and flame. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Avoid contact with eyes, skin, and clothing. Avoid breathing vapour or mist. Do not swallow. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Never use air pressure for transferring product. No smoking, open flames or sources of ignition in handling and storage area. Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, Exposure Controls and Personal Protection. For additional information on equipment bonding and grounding, refer to the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or AS/NZS 1020 Control of Undesirable Static Electricity.
Conditions for Safe Storage, Including Incompatibilities:	Observe all relevant regulations regarding sale, transport and storage of this poison. Store locked up. Store in a dry place. Do not store near food, foodstuffs, drugs or potable water supplies. Store in original, tightly-closed container. Do not store in: zinc, aluminum, aluminum alloys, magnesium, magnesium alloys. Eliminate sources of ignition, such as static build-up, heat, spark or flame. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 500 kg or L of Category 1 Dangerous Goods, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label. Also, avoid contact or contamination of product with incompatible materials listed in Section 10. Store at temperatures not exceeding 55°C.

8. Exposure Controls and Personal Protection

Occupational Exposure Limits:			
WES Values	TWA (ppm)	TWA (mg/m³)	Other Exposure Considerations
1,3-Dichloropropene	1.0	4.5	Skin absorption, Dermal sensitiser
Workplace Exposure Standard Time Weighted Averages (WES-TWA) are derived on an eight-hour work day and 40-hour work week. When shifts are longer than this, either over a day or a week, the WES-TWA needs to be adjusted to account for the longer period of exposure and shorter recovery time.			
Biological Monitoring:	No biological exposure limits noted for the ingredient(s).		
Engineering Controls:	No special ventilation requirements are normally necessary for this product during its intended use outdoors as an agricultural soil fumigant. However, in the event the product is handled indoors, such as in a lab environment, make sure that the work environment remains clean and that vapours and mists are minimised. Good general ventilation (typically 10 air changes per hour) should be used. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Eyebaths or eyewash stations and safety deluge showers or water flushing facilities should, if practical, be provided near to where this product is being handled commercially.		
Individual Protection Measures:	The instructions below are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.		
Eye and Face Protection	Your eyes must be completely protected from this product by splash-resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.		
Skin Protection	Avoid contact with the skin. Because of the hazardous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. Suitable material types include Tyvek®, Saranex®, and/or Tychem®.		

Hand Protection	Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Ethyl vinyl alcohol laminate ("EVAL"). Viton. Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also account for relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Respiratory Protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level, an approved respirator must be worn. If sensory irritation is experienced or if there is a significant chance that vapours or mists are likely to build up in the area where this product is being used, use a full-facepiece air-purifying respirator. It should be fitted with a type A cartridge, suitable for organic vapours, with a particulate pre-filter. For emergency or planned entry into unknown concentrations: Any self-contained breathing apparatus that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode.
General Hygiene Considerations:	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
Relevant New Zealand Standards:	The following New Zealand Standards will provide general advice regarding safety clothing and personal protective equipment (PPE): Respiratory equipment: AS/NZS 1715. Protective Gloves: AS 2161. Occupational Protective Clothing: AS/NZS 4501 set 2008. Industrial Eye Protection: AS1336 and AS/NZS 1337. Occupational Protective Footwear: AS/NZS2210.

9. Physical and Chemical Properties

Appearance:

Physical State	Liquid
Colour	Colourless to yellow
Odour	Sharp, sweet, penetrating, chloroform-like odour
Odour Threshold	No test data available
pH	6.5 1% <i>CIPAC MT 75</i> (1% aqueous suspension)
Melting Point/Range	Not applicable
Freezing Point	No test data available
Initial Boiling Point (760 mmHg) and Boiling Point Range	107°C (225°F); Boiling range - no test data available
Flash Point	27°C (81°F), closed cup <i>EC Method A9 (equivalent to Pensky-Martens)</i>
Flammability (solid, gas)	Not applicable to liquids
Lower Flammability Limit	No test data available
Upper Flammability Limit	No test data available
Vapour Pressure	23 mm Hg @ 20°C (68°F)
Vapour Density (air =1)	3.8
Relative Density (water -1)	1.21 at 20°C (68°F) / 4°C Pyknometer
Liquid Density	1.211 g/cm ³ at 20°C (68°F) Digital density metre
Solubility	Insoluble, but miscible in most organic solvents
Partition Coefficient (n-octanol/water)	log Pow: 1.82 to 2.1 (<i>measured</i>)
Auto-Ignition Temperature	92/69/EEC A15 none below 400°C
Decomposition Temperature	Not available.
Kinematic Viscosity	0.636 mm ² /s at 20°C (68°F)
Dynamic Viscosity	0.66 mPa.s at 40°C (104°F)
Particle Characteristics	Not relevant because the product is a liquid.

Other Information:

Explosive Properties	No data available
Oxidising Properties	No data available
Volatility	Easily evaporates
Molecular Weight	110.97 g/mol

10. Stability and Reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Unstable at elevated temperatures.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid or Prevent: a Hazardous Situation:	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge.
Incompatible substances or materials:	Avoid contact with: acids, bases, oxidisers. Avoid contact with metals such as: zinc, cadmium, magnesium, aluminum, aluminum alloys.
Hazardous Decomposition Products:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: carbon monoxide, carbon dioxide, hydrogen chloride. Toxic gases are released during decomposition. Decomposition products can include trace amounts of phosgene.

11. Toxicological Information

Information on Toxicological Effects:

Acute Oral Toxicity	LD ₅₀ : > 110 mg/kg, Rat [OECD 401 (1981)] Moderate toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Swallowing may result in gastrointestinal irritation.
Acute Dermal Toxicity	LD ₅₀ : > 333 mg/kg, Rabbit [OECD 402 (1981)] Prolonged or widespread skin contact may result in absorption of harmful amounts.
Acute Inhalation Toxicity	LC ₅₀ : > 2.7 to < 3.07 mg/L (595 ppm), Rat, 4-hour, vapour [OECD 403 (1981)] Prolonged excessive exposure may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. Observations in animals include: Lethargy and incoordination (ataxia).
Skin Corrosion/Irritation	Brief contact may cause moderate skin irritation with local redness. May cause drying and flaking of the skin. Direct effects on skin - slight to moderate erythema and edema when 0.5 millilitre of the undiluted substance was applied under occlusion to the skin of rabbits for 4 hours.
Serious Eye Damage/Eye Irritation	May cause severe eye irritation. May cause slight corneal injury. Vapour may cause lacrimation (tears). Vapour may cause eye irritation experienced as mild discomfort and redness.
Respiratory Sensitisation	No data available.
Skin Sensitisation	Animal data indicate that 1,3-Dichloropropene is a potential skin sensitiser (allergic contact dermatitis - itchy skin, edema, blisters, burning feeling).
Carcinogenicity	Has been shown to cause cancer in laboratory animals by the oral route. Inhalation exposure resulted in an increase in normal occurrence of benign lung tumors in male mice. International Agency for Research on Cancer (IARC) Monographs. Overall Evaluation of Carcinogenicity - Group 2B Possibly carcinogenic to humans. There is sufficient evidence in experimental animals for the carcinogenicity of mixed isomers of technical grade. National Toxicology Program (NTP) Report on Carcinogens (14th Report) Reasonably Anticipated to be a Human Carcinogen.

Germ Cell Mutagenicity	In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.								
Reproductive Toxicity	In animal studies, did not interfere with reproduction.								
Teratogenicity	Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.								
Specific Target Organ Toxicity Single Exposure	May cause respiratory irritation. Skin absorption - considered systemically available via liquid or vapour and can be neurotoxic following acute dermal exposure.								
Specific Target Organ Toxicity Repeated Exposure	In animals, effects have been reported on the following organs: bladder, nasal tissue, liver, lung, gastrointestinal tract, respiratory tract, blood-forming organs (bone marrow & spleen).								
Aspiration Hazard	May be fatal if swallowed and enters airways.								
Information on Possible Routes of Exposure:	<table> <tr> <td>Eyes</td><td>Irritation, slight corneal injury, lacrimation (tears)</td></tr> <tr> <td>Respiratory Tract</td><td>Irritation of nose and throat and lungs, lethargy</td></tr> <tr> <td>Skin</td><td>Irritation, redness, drying and flaking of skin, dermatitis</td></tr> <tr> <td>Ingestion</td><td>Gastrointestinal irritation</td></tr> </table>	Eyes	Irritation, slight corneal injury, lacrimation (tears)	Respiratory Tract	Irritation of nose and throat and lungs, lethargy	Skin	Irritation, redness, drying and flaking of skin, dermatitis	Ingestion	Gastrointestinal irritation
Eyes	Irritation, slight corneal injury, lacrimation (tears)								
Respiratory Tract	Irritation of nose and throat and lungs, lethargy								
Skin	Irritation, redness, drying and flaking of skin, dermatitis								
Ingestion	Gastrointestinal irritation								
Early Onset of Symptoms Related to Exposure:	Respiratory, skin, and eye irritation. Headache, dizziness, nausea, chest discomfort, coughing, breathing difficulty. Difficulty breathing if substance is aspirated.								
Delayed Health Effects From Exposure	Allergic contact dermatitis in humans and animals following repeated or prolonged skin exposure.								

12. Ecological Information

Ecotoxicity:

Acute Toxicity to Fish	Material is highly toxic to aquatic organisms on an acute basis (LC ₅₀ /EC ₅₀ between 0.1 and 1 mg/L in the most sensitive species tested). LC ₅₀ : 2.78 mg/L, 96-hour, <i>Oncorhynchus mykiss</i> (rainbow trout) LC ₅₀ : 0.87 mg/L, 96-hour, <i>Cyprinodon variegatus</i> (sheepshead minnow) LC ₅₀ : 3.7 mg/L, 96-hour, <i>Lepomis macrochirus</i> (bluegill sunfish)
Acute Toxicity to Aquatic Invertebrates	EC ₅₀ : 3.58 mg/L, 48-hour, <i>Daphnia magna</i> (water flea) EC ₅₀ : 0.64 mg/L, 48-hour, <i>Crassostrea virginica</i> (eastern oyster)
Acute Toxicity to Algae/	EbC ₅₀ : 14.9 mg/L, 72-Hour, <i>Pseudokirchneriella subcapitata</i> (green algae), static test, Biomass
Aquatic Plants	EC ₅₀ : 2.35 mg/L, 120-Hour, diatom <i>Navicula</i> sp., Biomass EC ₅₀ : 14.56 mg/L, 14-d, <i>Lemna gibba</i>
Chronic Toxicity to Fish	NOEC: 0.0318 mg/L, 33-d, <i>Pimephales promelas</i> (fathead minnow), flow-through test, survival
Chronic Toxicity to Aquatic Invertebrates	NOEC: 0.0701 mg/L, 21-d, <i>Daphnia magna</i> (water flea), number of offspring
Toxicity to Aboveground Organisms	Material is moderately toxic to birds on an acute basis (LD ₅₀ between 51 and 500 mg/kg). Material is practically non-toxic to birds on a dietary basis (LC ₅₀ > 5000 ppm). Oral LD ₅₀ : 139.8 mg/kg, <i>Colinus virginianus</i> (bobwhite quail), mortality, bodyweight. Dietary LC ₅₀ : > 6243 mg/kg, <i>Anas platyrhynchos</i> (mallard duck), diet
Toxicity to Soil-Dwelling Organisms	LC ₅₀ : 55.6 mg/kg, 14-d, <i>Eisenia fetida</i> (earthworms)

Persistence and Degradability:

Biodegradability	Biodegradation may occur under aerobic conditions (in the presence of oxygen). 10-day Window: Fail
Biodegradation Theoretical Oxygen Demand	4.9% Method: OECD Test Guideline 301D or Equivalent 1.281 mg/mg
Biological Oxygen Demand	0.148 mg/mg
Stability in Water (1/2-life)	2.3 to 4.75 days
Photodegradation	7 to 12 hours (atmospheric 1/2-life)

Bioaccumulative Potential	No data available for this product. For similar material(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition Coefficient: n-octanol / Water (log Kow)	1.82 to 2.1 (measured)
Mobility in Soil	For similar material(s): Potential for mobility in soil is very high (Koc between 0 and 50). Partition coefficient (Koc): 44.7 Measured
Other Adverse Effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected.

13. Disposal Considerations

Disposal Methods	The product label will give general advice regarding disposal of small quantities, and how to cleanse containers.
Special precautions to be taken	DO NOT contaminate water, food or feed by storage or disposal. DO NOT use empty containers to store any other material. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty cylinders must be returned to supplier for refilling with pesticide only. Dispose of contents/container in accordance with local/regional/national/international regulations.
Disposal Methods to Not Use	Do not clean drum with caustic or lye. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

In accordance with NZ5433:2020 Transport of Dangerous Goods on Land; Land Transport Rule: Dangerous Goods 2005, Rule 45001/2005 1 April 2021; Dangerous Goods Regulations of IATA; and IMDG Code criteria.

UN Number	2903
Proper Shipping Name:	Pesticides, liquid, toxic, flammable, n.o.s.(1,3-Dichloropropene)
Transport Hazard Class:	6.1 (Toxic)
Subsidiary Risk:	3 (Flammable Liquid)
Packing Group Number:	II
Environmental Hazards for Transport Purposes:	1,3-Dichloropropene (acute and chronic aquatic toxicity) - Marine Pollutant [LC ₅₀ : 0.87 mg/L, 96-hour, <i>Cyprinodon variegatus</i> (sheepshead minnow)]
Special Precautions for Users:	Packages must be secured against all movement during transport. Keep markings, labels or placards on package until cleaned and purged of residue including bulk and non-bulk packages. For cylinders, ensure valve is closed and safety cap(s) and valve protection are in place prior to transport.
Additional Information:	This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.
Hazchem Code:	3WE
Hazard Identification Number (HIN):	663/63

15. Regulatory Information

NEW ZEALAND REGULATIONS:

Hazardous Substances and New Organisms (HSNO) Act 1996

Approval Code: HSR001639 Liquid containing 1153 g/litre 1,3-dichloropropene
Refer to www.epa.govt.nz / Approved hazardous substances with controls.

For additional controls refer to www.worksafe.govt.nz

Health and Safety at Work (Hazardous Substances) Regulations 2017 (HSW HS Regulations)

Health and Safety at Work (Hazardous Substances-Requirements for Specified Fumigants) Safe Work Instrument 2017

Health and Safety at Work (Hazardous Substances-Requirements for Specified Fumigants) Amendment Safe Work Instrument (No. 2) 2022

Health and Safety at Work Act 2015 (HSW Act)

CERTIFIED HANDLER and TRACKING Controls apply.

Users require Controlled Substance License (CSL)

Exposure Limits: (Regulation 77A)

Tolerable exposure limits (TEL): 1,3-dichloropropene: TEL (air): 0.02 mg/m³ (chronic exposure)

Environmental Exposure Limits: None set at this time

Agricultural Compounds and Veterinary Medicines Act 1997 (ACVM) Act 1997

Registration No.: P005700

Refer to www.foodsafety.govt.nz for Registration Conditions

New Zealand Inventory of Chemicals (NZIoC):

1,3-Dichloropropene (CAS 542-75-6) is listed as 1-Propene, 1,3-dichloro- when used as an industrial chemical.

INTERNATIONAL:

Montreal Protocol on Substances that Deplete the Ozone Layer:

Component not listed.

Stockholm Convention on Persistent Organic Pollutants:

Component not listed.

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade:

Component not listed in Annex III.

16. Other information, including date of preparation or last revision

This SDS prepared in accordance with the Hazardous Substances (Safety Data Sheets) Notice 2017 (EPA Consolidation 30 September 2022) and the UN Purple Book 7th Edition (Globally Harmonized System of Classification and Labeling of Chemicals (GHS)).

Version 1 Date: August 06, 2026

Revision History: 08/06/2026 Initial version

ABBREVIATIONS:

CAS	Chemical Abstracts Service
CHEMTREC	Chemical Transportation Emergency Center
CSL	Controlled Substance License
EbC ₅₀	The concentration of test substance which results in a 50 percent reduction in biomass growth relative to the control within 72 hrs exposure. Regarded as acute endpoint.
EC ₅₀	Half Maximal Effective Concentration - concentration of a material in water, a single dose which is expected to cause a biological effect on 50% of a group of test species.
EPA	New Zealand Environmental Protection Agency
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services, especially firefighters.
HSNO	Hazardous Substances and New Organisms
IMDG	International Maritime Dangerous Goods
LC ₅₀	Lethal Concentration - median dose at which 50% of test animals die from inhalation
LD ₅₀	Lethal Dose - median dose at which 50% test animals die from oral or dermal exposure
NOEC	No Observed Effect Concentration
N.O.S.	not otherwise specified
NTP	National Toxicology Program
OECD	Organisation for Economic Co-operation and Development
ppm	part(s) per million
SDS	Safety Data Sheet
TWA	Time Weighted Average airborne concentration for a worker in an 8-hour day
UN	United Nations

Key Literature References and Sources of Data:

- New Zealand EPA's Chemical Classification and Information Database (CCID)
- National Library of Medicine - PubChem - Hazardous Substance Data Base
- The International Uniform Chemical Information Database (IUCLID) – Organisation for Economic Co-operation and Development (OECD)
- ECHA Information on Chemicals database
- Manufacturer Safety Data Sheet

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