

ENZONE™

Date of Issue: 14th December 2005

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

Chemical name of active ingredient(s): Sodium tetrathiocarbonate
Recommended use: Soil Fumigant
Supplier: Elliott Technologies Limited
45 Kitchener Road
Pukekohe
Phone 0800 100 325
Emergency telephone number: 0800 Poison (0800 764 766) 24 Hours

2. HAZARDS IDENTIFICATION

Hazard Classification: Toxic - 6.1D, 6.4A, 6.6B, 6.8A, 6.9B,
Corrosive - 8.2C
Ecotoxic - 9.1C

Required identification Details: HARMFUL
TOXIC

May be harmful if swallowed, inhaled or absorbed through the skin.

May cause eye irritation.

Repeated oral exposure at high doses is suspected of causing mutations in human cells and reproductive damage.

Repeated exposure at high does is suspected of causing damage to the respiratory system.

Harmful to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Common name	CAS No	%
Sodium tetrathiocarbonate	7345-64-9	40.2
Carbon disulfide	75-15-0	
Inert ingredients		68

4. FIRST-AID MEASURES

Description of necessary first aid measures:

Effects and symptoms

First-aid measures

Causes severe burns and eye irritation. Harmful if swallowed or inhaled. Effects of overexposure may include irritation of the nose and throat, irritation of digestive tract, nausea, vomiting, dizziness and pulmonary edema.

Inhalation:

Remove victim to fresh air. Apply artificial respiration if necessary.

Ingestion:	Call the National Poison Centre 0800 poison (0800 764 766). Have a person sip a glass of water if able to swallow. Do not induce vomiting.
Skin contact:	Take off contaminated clothing. Rinse skin immediately for 15-20 minutes. If skin surface damaged, apply a clean dressing and seek medical attention. If skin not damaged, wash with soap and water. If irritation persists see a doctor.
Eye contact:	May cause eye irritation. If concentrate is splashed in the eyes, flush with running water for at least 15 minutes. Get medical attention if irritation persists.
Notes to a physician:	This product will decompose rapidly in the stomach and release hydrogen sulphide and carbon disulphide. This material should be rapidly removed from the stomach by emesis or gastric lavage. Signs of systemic toxicity (headache, dizziness, nausea and vomiting) if present, may be due to hydrogen sulphide and carbon disulphide and should be managed accordingly.

5. FIRE-FIGHTING MEASURES

HAZCHEM Code:	2XE
Extinguishing media :	Foam
Hazardous thermal (de)composition products:	Flash point 100°C. Liquid will not burn, but vapor may ignite. Contact with acids produce flammable vapors. Vapors are heavier than air and can accumulate in low areas. Closed containers exposed to extreme heat can rupture due to pressure buildup.
Protection of fire-fighters:	Wear full protective clothing and self contained breathing apparatus. Do not breath smoke or gases.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with skin and eyes. Do not inhale spray. Wear long sleeved shirt, long pants ,waterproof gloves and safety goggles or face shield. Do not eat, drink or smoke when using. Wash hands and face before meals and after work.
Environmental precautions:	Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.
Methods for cleaning up:	In the case of spillage, contain and absorb spilled material with absorbent material such as sand clay or cat litter. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination

solution, in accordance with the requirements of Local Authorities

7. HANDLING AND STORAGE

Handling:	When mixing or applying, avoid contact with skin and eyes. Wear protective clothing, gloves and goggles. Do not eat or drink while using. Wash hands and face before meals and after work. Wash protective clothing after work.
Storage:	Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from feed, seeds and foodstuffs. Keep out of reach of children.
Packaging materials:	Fluorinated HDPE Plastic

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

Workplace exposure standards: Carbon disulfide
10 ppm TWA-Skin

**Exposure Standards outside:
The workplace:** No exposure standards have been set for this product or the active ingredients.

Engineering measures

Exposure control measures: Ensure ventilation is adequate, generally natural ventilation is adequate.

Personal Protective Equipment

Detail specifications for equipment:

Respiratory system: Do not inhale spray mist.

Skin and body: When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length and PVC gloves and goggles.

Hands: Elbow-length and PVC gloves

Eyes: Wear chemical goggles.

General hygiene: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Colour:	Deep amber
Odour:	Sulphide odour of rotten eggs.
pH:	12
Vapour Pressure:	N/A
Boiling Point:	107°C
Freezing/melting point:	N/A

Solubility:	Soluble
Specific gravity or density:	1.265
Information for flammable material including:	N/A
Octanol/water partition coefficient:	Not available
Explosion properties:	Not an explosive
Oxidation properties:	Not an oxidizer

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions. Do not store below 12°C.
Conditions to avoid:	Avoid all possible sources of ignition.
Materials to avoid:	Avoid contact with acids and oxidizing agents.
Hazardous decomposition Products:	Carbon disulfide is a normal decomposition product. Contact with acid will cause the immediate release of hydrogen sulfide and carbon disulfide. If involved in a fire, oxides of carbon and sulfur may be generated.
Hazardous polymerization:	Will not occur
Specific Data:	
Hazardous reactions :	None known

11. TOXICOLOGICAL INFORMATION

Acute toxicity – Oral : LD₅₀	631mg/kg (Rat)
Acute toxicity - Dermal : LD₅₀	>2,000 mg/kg (Rabbit)
Acute toxicity – Inhalation: LC₅₀	4.04 mg/litre, 4 hr (Rat)
Skin irritation :	Severe skin irritant.
Eye irritation:	May cause eye irritation.
Sensitization :	Not a known sensitizer.
Chronic:	No data available. Other Comments: Carbon disulfide and hydrogen sulfide can occur as decomposition products when this material is acidified. Exposure to high levels of carbon disulfide may result in a syndrome of mental disturbances, extreme agitation, and seizures. Long-term overexposure may cause damage to peripheral nerves. Symptoms of toxicity may include muscle weakness, pain and cramps in the muscles, and tremors. Hydrogen sulfide is a poisonous gas with the smell of rotten eggs. The smell disappears rapidly because of olfactory fatigue. Therefore, odor may not be a reliable indicator of exposure. Effects of overexposure include nausea, vomiting, diarrhea, abdominal pain, irritation of the nose, throat, and respiratory tract, signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination, and fatigue), irregular

heartbeats (arrhythmias), pulmonary edema, muscle weakness, convulsions, respiratory failure, and death. Pre-existing medical conditions aggravated by exposure may include skin disorders and respiratory (asthma-like) disorders.

Carcinogenicity: Not applicable
Other information :

12. ECOLOGICAL INFORMATION

Ecotoxicity None available
Bees None available
Earthworms None available
Soil None available
Bioaccumulative potential : None available
Birds None available

13. DISPOSAL CONSIDERATIONS

Methods of disposal : Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, follow the recommendations in NZS 8409.

CONTAINER DISPOSAL: Triple rinse container and add residue to spray tank. Burn if permitted and circumstances, especially wind direction allow, otherwise bury in landfill.

14. TRANSPORT INFORMATION -International transport regulations

UN number: 1760
Class or Division: 8
Classification Code: Dangerous Good.
Packing Group: IMDG Pack. Group III
Marine Pollutant: Yes
Proper shipping name : Corrosive Liquid, N.O.S.
(Contains Sodium Tetrathiocarbonate)

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): Dangerous Good.

15. REGULATORY INFORMATION

ACVM Registered Number: P4522
HSNO Approval Code: HSR000813

16. OTHER INFORMATION

Additional information:

Original Issue Date: 14th December 2005

Revision Date: N/A

Replaces: N/A

Disclaimer EXCLUSION OF LIABILITY: PLEASE READ

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