SAFETY DATA SHEET

Elliott Technologies ltd

Fumasol® Soil fumigant

Date of Issue: 14 December 2005

1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

Chemical name of active ingredient(s): **Metam sodium**

Recommended use: **Soil Fumigation**

Supplier:

Elliott Technologies Limited
42 Ormiston Road
Pukekohe
Phone 0800 100 325

Emergency telephone number: **0800 Poison (0800 764 766) 24 Hours**

2. HAZARDS IDENTIFICATION

Hazard Classification:

Toxic: 6.1D, 6.3A, 6.4A, 6.5B, 6.7B, 6.8B, 6.9A,
Ecotoxic: 9.1A, 9.2C, 9.3C

Approved Handler applies
This product needs to be tracked

Required identification Details:

HARMFUL
KEEP OUT OF REACH OF CHILDREN
ECOTOXIC

May be harmful if swallowed, inhaled or absorbed through the skin.
May cause skin and eye irritation.
May cause sensitization from prolonged skin contact.
Repeated oral exposure at high doses is suspected of causing cancer and reproductive damage.
TOXIC – repeated exposure at high doses is suspected of causing damage to the respiratory system.

ECOTOXIC - very toxic to aquatic organisms.
Harmful to the soil environment and to terrestrial vertebrates.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation Information on hazardous ingredients

Common name	**CAS No**	**%**
Metam sodium	137-42-8	51

4. FIRST-AID MEASURES

Description of necessary first aid measures:

Effects and symptoms **First-aid measures**	**Inhalation** of product mist may cause irritation of the nose, throat and respiratory tract. **Ingestion** of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. **Fumasol** is classified as slightly toxic to humans. **Skin** contact with product may cause skin irritation. Repeated/prolonged skin contact may cause hypersensitivity type dermatitis. Skin absorption is unlikely to occur. **Eyes**. Contact with the eyes by may cause irritation or a burning sensation.
Inhalation:	Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain immediate medical attention.
Ingestion:	DO NOT INDUCE VOMITING. Give 1 or 2 glasses of water. If vomiting does occur, repeat fluid administration. If unconscious or convulsing, do not give fluids. Obtain immediate medical attention.
Skin contact:	Immediately flush with large quantities of water for 15 minutes. Remove contaminated clothing under a safety shower. Do not neutralize with chemical agents. Obtain medical attention if irritation occurs.
Eye contact:	Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Do not attempt to neutralize with chemical agents or use oils or ointments. Obtain immediate medical attention. Continue flushing if medical help not immediately available.
Notes to a physician:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

HAZCHEM Code:	3Z
Extinguishing media :	Fine water mist or fog, foam, dry chemicals.
Hazardous thermal (de)composition products:	Heating will cause the release of MITC and hydrogen sulfide, both highly toxic and flammable gases. It is also conceivable that product breakdown from heating could release carbon disulfide and methylamine, which are also toxic and flammable.
Protection of fire-fighters:	Work up wind. Wear full protective clothing and self contained breathing apparatus. Do not breath smoke or gases.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to section 8 for protective clothing.

Environmental precautions: Dike spill area to prevent runoff into sewers, drains or surface waterways (potential toxicity). Recover as much of the solution as possible.

Methods for cleaning up: Confine and absorb small releases on sand, earth or other inert absorbent (clay, sawdust, straw, kitty litter, etc.). Sweep into open drums. Clean area with baking soda, soda ash (sodium carbonate) or common household detergent and a stiff brush and just enough water to make a slurry. Absorb and sweep into same open drum. Rinse area with water, absorb water and add to open drum. Close drum and dispose of material in accordance with regional regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes. Use only in a well ventilated area. Wash thoroughly after handling. Avoid prolonged or repeated breathing of vapors. Avoid prolonged or repeated contact with the skin.

Storage: Store in cool, dry, well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store containers out of direct sunlight at moderate temperatures. Do not store at temperatures below -18ºC as the product will crystallize at low temperatures. Warm or store at higher temperatures and mix to redissolve crystals before use. Refer to Haznote for storage quantities.

Packaging materials: Metal Drums

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Guidelines

Workplace exposure standards:

Not Established

Exposure Standards outside:
The workplace: **TEL:** Not Established
EEL: Not Established

Engineering measures

Exposure control measures: Use adequate exhaust ventilation to prevent inhalation of product.

Personal Protective Equipment

Detail specifications for equipment:

Respiratory system:	Personnel performing direct-contact activities must wear full face mask with SCBA or supplied air system or a cartridge respirator for organic vapors (with prefilter approved for pesticides – MSHA/NIOSH approved Number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval Number prefix TC-14G).
Skin and body:	Nitrile rubber apron should be worn to prevent contact with the liquid. Wash contaminated clothing prior to reuse. Under conditions where above normal levels of MITC may be encountered protective clothing, gloves and boots should be polyethylene as MITC penetrates rubber.
Hands:	Nitrile rubber gloves
Eyes:	Chemical goggles and a full face shield.
General hygiene:	Do not eat, drink or smoke while handling. Wash face, hands and exposed skin after work and before eating or drinking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State, odour & colour:	Amber to green liquid with slightly sulfurous odour.
pH:	9.5 – 11.5
Vapour Pressure:	21 mm Hg @ 77 ^{o}F (25^{o}C)
Vapour Density:	Not determined
Boiling Point:	110 ^{o}C
Freezing/melting point:	Approx. -18 ^{o}C
Solubility:	Miscible with water
Specific gravity or density:	1.209 @20ºC, (typical)
Flashpoint:	>200ºF METHOD USED: Tag CC
Octanol/water partition coefficient:	K_{ow} logP<1 (25^{O}C)
Explosion properties:	Not Explosive
Oxidation properties:	Not an oxidiser

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Conditions to avoid:	Prolonged exposure to air will result in decomposition to form methyl isothiocyanate (MITC) a very toxic and flammable material.
Materials to avoid:	Metam sodium solutions are corrosive to copper, zinc, or aluminum or any of their alloys such as brass, or galvanized materials. These materials of construction should not be used in handling systems or storage containers for this product.
Hazardous decomposition Products:	Heating will cause the release of MITC and hydrogen sulfide, both highly toxic and flammable gases. It is also conceivable that product breakdown from heating could release carbon disulfide and methylamine, which are also toxic and flammable.
Hazardous polymerization:	Will not occur

Specific Data:
Hazardous reactions : None known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity – Oral : Acute Oral LD50 = 812 mg/kg (Rat)
Acute toxicity - Dermal : Acute Dermal LD50 > 2,000 mg/kg (Rabbit)
Acute toxicity – Inhalation: Acute Inhalation LC50 =2.28 mg/litre (Rat)

Skin irritation : May cause skin irritation. Avoid contact with skin

Eye irritation: May cause eye irritation. Avoid contact with eyes.
Sensitization : May cause sensitisation from prolonged skin contact.

Chronic toxicity

Carcinogenicity: Laboratory studies have shown some developmental and carcinogenic effects in laboratory animals. Exposure monitoring studies conducted during agricultural applications of metam sodium have shown that human exposure is extremely low; therefore, any potential risk to humans from metam sodium is considered minimal.

Other information : Repeated oral exposure at high doses is suspected of causing cancer and reproductive damage.
Repeated exposure at high doses is suspected of causing damage to the respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity
E.E.L Not established
T.E.L Not established
Fish LC_{50} (96hr) Guppy 4.2
LC_{50} (96hr) Rainbow Trout 35.2 mg/litre
Daphnia magna Daphnia LC_{50} (48hr) 2.3 mg/litre
Algae Algae E_rC_{50} for *Scenedesmus subspicatus* 0.22mg/litre
Bees Not Toxic to Bees when used as directed.
Persistence/degradability Soil Rapidly decomposes to methyl isothiocyanate.
q.v. DT_{50} 23 minutes to 4 days.
Bioaccumulative potential : Does not bioaccumulate.
Birds Acute Oral LD_{50} 500 mg/kg Bobwhite quail.
Dietary LC_{50} (5day) >5000 mg/litre Japanese Quail and Mallard Duck

13. DISPOSAL CONSIDERATIONS

Methods of disposal : Triple rinse container and add residue to spray tank. Burn if permitted and circumstances, especially wind direction permit, otherwise bury in landfill.

14. TRANSPORT INFORMATION - International transport regulations

UN number: 3266
Class or Division: 8

Sub Class:	9
Packing Group:	II
Marine Pollutant:	Yes
Proper shipping name :	CORROSIVE LIQUID,BASIC,INORGANIC,N.O.S. (Contains 51% metam sodium)
Other Information:	

15. REGULATORY INFORMATION

ACVM Registered Number:	Registered pursuant to ACVM Act 1997, No. P4234
HSNO Approval Code:	HSNO Approval Code HSR000628

16. OTHER INFORMATION

Additional information:

Original Issue Date: 14th December 2005
Revision Date: N/A
Replaces: N/A

Disclaimer

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