

Safety S2 Keep out of reach of children.
Phrase (s) S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Monoethylene glycol	107-21-1	>60 %
	Components determined to be non hazardous	Proprietary	1-9 %
	Denatonium benzoate	3734-33-6	<1 %

4. FIRST AID MEASURES

Inhalation If irritation, headache, nausea, or drowsiness occurs remove to fresh air. Loosen clothing and allow patient to assume most comfortable position and keep warm until fully recovered. If breathing is laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a face mask. If breathing is stopped apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. Seek medical attention immediately.

Ingestion Get medical attention immediately. If swallowed rinse mouth with water. Give two glasses (500ml) of water. Do not give anything by mouth to an unconscious or convulsing person. If vomiting occurs give further water. Ethylene or Diethylene Glycol poisoning may initially produce behaviour changes, drowsiness, vomiting, diarrhoea, thirst and convulsions. Renal damage or failure with metabolic acidosis are late signs of poisoning. Immediate treatment may reduce toxic effects, supplemented, if necessary with haemodialysis. Intravenous Ethanol in Sodium Bicarbonate solution is a recognised antidote. For advice contact a Poisons Information Centre (Phone Australia 13 1126; New Zealand 0800 764 766) or a doctor (at once).

Skin Wash affected areas thoroughly with plenty of soap and water. Immediately remove all contaminated clothing and footwear. If irritation develops or persists seek medical attention.

Eye Irrigate eyes with copious quantities of water for at

least 15 minutes whilst holding eyelids open. Seek medical attention if eye irritation persists.

Advice to Doctor Treat symptomatically. Early diagnosis and treatments of ingestion is important. Ensure emesis is satisfactory. Test and correct for metabolic acidosis and hypocalcaemia. Apply rapid and sustained diuresis when possible with the use of hypertonic mannitol. Evaluate renal status and begin haemodialysis if indicated.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media For large fires use water fog, fine water spray or foam. Do not use water jets.
For small fires use foam, dry chemical, carbon dioxide or water spray.

Hazards from Combustion Products The product is a combustible liquid. On burning will emit toxic fumes including those of carbon monoxide and carbon dioxide.

Special Protective

Equipment for fire fighters Fire fighters should wear full protective clothing including a self contained breathing apparatus.

Specific Methods Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. Avoid reaction with strong oxidisers, strong alkalis and strong acids.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Land Spill:
Slippery when spilt. Shut off source of leaks taking normal safety precautions. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and the inhalation of vapours. Eliminate sources of ignition in the surrounding area. Warn occupants of downwind areas. Contain spilled liquid with sand, soil, inert material or vermiculite if possible. Place spilled material in clean, dry sealable, labelled containers for disposal. Wash area down with detergent and excess water to remove residual material.
Releases of small quantities are unlikely to affect adversely the functioning of water treatment plants, but the product should not enter wastewater streams without pre-treatment. To prevent contamination of drinking water supplies and poisoning of children, aquatic life, farm and domestic animals and wildlife, ethylene glycol based products should not be discarded onto the ground, into surface waters or into stormwater sewers.

7. HANDLING AND STORAGE

Precautions for Safe Handling Avoid eye and repeated or prolonged skin contact. Avoid inhalation of vapour, mists or aerosols. Use with adequate ventilation. Always wash hands thoroughly after handling. Wash contaminated clothing and other protective equipment before storage or re-use. Do not dispose of material in sewers or waterways.

Conditions for Safe Storage Keep all containers tightly closed when not in use. Store containers in a cool place out of direct sunlight. Store away from incompatible materials such as strong acids and strong oxidising agents and foodstuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards Exposure Standards:
No value has been assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

Exposure Limit:
In the absence of occupational exposure standards for this product, it is recommended that the following be adopted.
Ethylene Glycol (vapour): 60 mg/m³ TWA; 120 mg/m³ STEL
As published by the National Occupational Health and Safety Commission (Worksafe Australia)

Engineering Controls Ensure ventilation is adequate to maintain air concentrations below Exposure Standard. If material is used in elevated temperatures or as an aerosol, use with local exhaust ventilation or while wearing respirator. Vapour heavier than air - prevent concentration in hollow slumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

Respiratory Protection If inhalation risk exists wear a half face-piece filter respirator suitable for organic vapours/particulates meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Eye Protection Always use safety glasses or a face shield when handling this product.

Body Protection Wear overalls, safety shoes and impervious gloves. Available information suggests that gloves from neoprene, PVC, or natural rubber should be suitable for intermittent contact. However, due to variations in glove constructions and local conditions, final assessment should be made by the user.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Orange Liquid.
Odour	Mild odour
Melting Point	Not Applicable
Boiling Point	Not Determined
Solubility in Water	Complete
pH Value	8.4 for diluted product at 33% vol.
Vapour Pressure	Not determined
Vapour Density (Air=1)	Not determined
Viscosity	8 cSt at 40.0°C
Pour Point	Not Determined
Flash Point	115 min (PMCC)
Auto-Ignition Temperature	Not Applicable
Flammable Limits - Lower	Not Applicable
Flammable Limits - Upper	Not Applicable
Other Information	Relative Density at degrees C: 1.113 at 20.0°C Percent VOC: Nil.

10. STABILITY AND REACTIVITY

Stability and Reactivity	Products Evolved When Subjected to Heat or Combustion: Product does not decompose at ambient temperatures. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion of thermal or oxidative degradation.
Chemical Stability	Stable under normal conditions of use.
Conditions to Avoid	Excessive heat will lead to accelerated oxidative degradation.
Incompatible	Avoid contact with strong oxidising agents.

Materials

11. TOXICOLOGICAL INFORMATION

Toxicology Information

No LD50 data available for the final product. The toxicological information is based on data from a similar component or preparation.

Monoethylene Glycol:

Acute Health Effects:

Swallowed: Harmful if swallowed. Swallowing may cause initial symptoms similar to alcohol intoxication; progressing to vomit, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. The mean lethal dose for a human is about 100 mL (3-4 ounces).

Eye: Splashed may cause irritation and excess tear secretion and redness, eye damage.

Skin: Contact with skin may result in irritation. Will have a degreasing action on the skin.

Repeated or prolonged skin contact may lead to irritant contact dermatitis. Can be absorbed through the skin but not readily absorbed in toxic amounts.

Inhaled: At room temperature, the substance has such a low vapour pressure inhalation of the vapour is unlikely. High vapour concentration caused by heating the substance in a confined and poorly ventilated area may cause central nervous system depression and progress to stupor and finally coma.

Chronic Health Effects:

This product may aggravate existing medical conditions. Individuals with medical conditions involving the following should take appropriate precautions when handling this product. Person with pre-existing skin disorders, eye problems, or impaired liver, kidney, or respiratory function may be more susceptible to the effects of exposure. Always wear appropriate protective equipment, as recommended by your industrial hygienist or safety personnel, when exposure to this product can occur.

Acute Lethal Effects (LD50 LC50):

Oral: LD50: 4700 mg/kg (rat).

LD50: 5500 mg/kg (dog).

LD50: 1650 mg/kg (cat).

Believed to be 1.4 ml/kg (human).

Inhalation: TCLO: 10000 mg/m³ (human).

Dermal: LD50: 9530 mg/kg (rabbit).

Irritation Index, Estimation of Irritation:

Skin: Mild irritant (rabbit, Draize). Irritation Index believed to be 0.5 - 1.00/8.0.

Eyes: Mild irritant (rabbit, Draize). Irritation Index believed to be 15.00 - 25.00/110

Sensitisation: Not determined.

Repeated Dose Toxicity:

High doses of ethylene glycol in rat and mice have resulted in reproductive and developmental toxicity following exposure by the oral and inhalation (respirable aerosol) routes. These particular data sets are not considered relevant to normal industrial use but do emphasise the need for care in handling. Data from animal and human studies to date do not provide evidence that exposure to ethylene glycol has mutagenic or carcinogenic effects.

12. ECOLOGICAL INFORMATION

Ecological Information

Ecological testing on this product has not been conducted. The information is based on information for representative substances.

The potential to bioaccumulate has not been determined, however the majority of the components in this product would be expected to be inherently readily biodegradable.

Monoethylene Glycol:

Persistence and Degradability:

The substance is expected to be readily biodegradable according to the AS 4351 Part 2 test method.

Bioaccumulation:

Not determined.

Aquatic Toxicity and Other Data Relating to Ecotoxicity:

Aquatic species: LC50 (96h): > 100 ml/L

Non hazardous to aquatic organisms.

Mobility:

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations

Empty containers should be forwarded to an approved agent for recycling. Avoid unauthorised discharge to sewer. Material suitable for disposal for incineration or landfill through an approved agent.

14. TRANSPORT INFORMATION

Transport Information

Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Regulatory Information

Classified as a C1 Combustible Liquid for the purpose of storage and handling, in accordance with the

requirements of AS1940. Refer to State Regulations for storage and transport requirements. Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code for transport by Road and Rail. This material is a S5 Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

Abbreviations:

TWA: Time Weighted Average, the highest allowable exposure concentration in an eight hour day for a five day working week.

STEL: Short Term Exposure Limit, the maximum allowable exposure concentration at any time.

Poisons Schedule S5
Symbol Xn Harmful
Hazard Category Harmful

16. OTHER INFORMATION

Contact Person/Point Chiron Chemicals Consulting & Services P/L Ph: +61 3 9818 8000

User Codes	<u>User Title Label</u>	<u>User Code</u>
	Approval Number	4979
	Part Number	92145527
	Part Number	92147598
	Part Number	95710438

User Information THE PRINTED FORM OF THIS MSDS IS CONSIDERED AN 'UNCONTROLLED' DOCUMENT ONE WEEK FROM THE PRINT DATE.

Other Information READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

This MSDS has been transcribed into Infosafe NOHSC format from an original issued by the manufacturer on the date shown. Any disclaimer by the manufacturer may not be included in the transcription.

End of MSDS

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Print Date: 27/07/2010

BS: 1.9.46