



Material Safety Data Sheet

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Issue date: April 2009

ERAPOL EME140 PART A

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: ERAPOL EME140 PART A

Synonym: None

Use: Polyurethane prepolymer

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2. HAZARDS IDENTIFICATION

HAZARDOUS ACCORDING TO EU CRITERIA

Hazard Category: Harmful (Xn), Irritant (Xi)

Hazard Classification: HAZARDOUS SUBSTANCE, NON-DANGEROUS GOOD

RISK PHRASES

R20 Harmful by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R40 Possible risk of irreversible effects.

R42/43 May cause sensitisation by inhalation and skin contact.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

SAFETY PHRASES

S23 Do not breathe gas/fumes/vapour/spray.

S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S38 In case of insufficient ventilation, wear suitable respiratory protection.

S45 In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately and show this container or label.

Poison Schedule: S6 [Aust]

This material is a Scheduled **S6** Poison and must be stored, handled and used according to the appropriate regulations..

Warning Statement:

Avoid breathing vapours. Avoid skin and eye contact. Breathing vapours may produce asthma-like symptoms. Skin contact may cause allergic reaction.

3. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Proportion	CAS Number
DIPHENYLMETHANE DIISOCYANATE [MDI]	30 to 60%	26447-40-5
POLYURETHANE PREPOLYMER (MDI/ESTER)	Greater than 60%	Mixture



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All other ingredients not hazardous according to EU Criteria.

4. FIRST AID MEASURES

Swallowed:

If swallowed, DO NOT induce vomiting. If person is conscious give water to drink. Seek medical attention immediately.

Eye:

If material is splashed into eyes, immediately, flush with plenty of water for 15 minutes, ensuring eyelids are held open. If irritation persists seek medical attention.

Skin:

If material is splashed onto the skin, remove any contaminated clothing and wash skin thoroughly with water and soap. Flush skin with water. Seek medical attention if irritation persists after washing.

Inhaled:

Remove victim to fresh air. Apply resuscitation if victim is not breathing. If trained personnel available administer oxygen if breathing is difficult.

First Aid Facilities:

Eye wash fountain, safety shower and normal washroom facilities.

Advice to Doctor:

Treat symptomatically.

In case of poisoning, contact Poisons Information Centre

In Australia call Tel: 131126

In New Zealand Tel: 034747000

5. FIRE-FIGHTING MEASURES

Fire/Explosion Hazard

If safe to do so, move undamaged containers from fire area.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposes on heating emitting toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

FIRE FIGHTING PROCEDURES: Fire fighters to wear Self-Contained Breathing Apparatus (SCBA) in confined spaces, in oxygen deficient atmospheres or if exposed to products of decomposition. Full protective clothing is also recommended.

EXTINGUISHING MEDIA: Use extinguishing media suitable for surrounding fire situation. Use foam, water spray (fog), CO₂ or dry powder. Use water spray to cool fire-exposed containers and for large fires.

HAZCHEM CODE: None allocated [Aust]

FLAMMABILITY

This product is not flammable.

6. ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE:

Avoid any contact. Barricade area. Evacuate non-emergency personnel from area. Only trained and properly protected personnel should be involved in clean-up operations. Keep upwind of spill. Ventilate area. Use appropriate personal



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protective equipment (refer to Section 8 - Exposure Controls / Personal Protection). Respiratory protection should be worn, including positive pressure self-contained breathing apparatus.

PROTECT THE ENVIRONMENT:

Contain liquid to prevent contamination of soil, surface water or ground water. Prevent from entering, sewers or drains. Should the product enter sewer or drains, it should be pumped into a covered vented container, the cover should be placed loosely on the container, but not made pressure tight. Move container to a well-ventilated area. Emergency services may need to be called to assist in the clean-up operation.

CLEAN-UP:

Supplies of suitable decontaminant should always be kept available. Contain and cover the spillage with decontaminant, wet earth or wet sand and leave to react for at least 30 minutes. Collect material in suitable and properly labelled open-top containers and remove for further decontamination if necessary. DO NOT place in sealed container. Prolonged contact with water results in a chemical reaction, which may result in rupture of the container due to generation of carbon dioxide gas. Remove to a well ventilated area. Clean up floor areas. Wash area well with water. Test atmosphere for vapours to ensure safe working conditions before other personnel are allowed in the area.

Suitable decontaminant solutions:

Formulation 1 - sodium carbonate 5-10%; liquid detergent 0.2-2%; water to make up to 100%.

Formulation 2 - concentrated ammonia solution 3-8%; liquid detergent 0.2-2%; water to make up to 100%.

Note: If ammonia is used, use good ventilation to prevent vapour exposure.

7. HANDLING AND STORAGE

Store in a cool place and out of direct sunlight. Store away from sources of heat or ignition. Store away from oxidising agents. Keep containers closed when not using the product. Store in original packages as approved by manufacturer. Purge with nitrogen and close container when not in use. Do not eat, drink or smoke in the workplace.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards

No exposure standards are available for this product, however, the following exposure standards have been assigned by [NOHSC] to the following components of the product:

DIPHENYLMETHANE DIISOCYANATE [MDI]

(Worksafe Australia)

[TWA]0.02 mg/m³

[STEL]0.07 mg/m³

Notices: Sen

POLYURETHANE PREPOLYMER

No exposure standards have been assigned by the National Occupational Health & Safety Commission (NOHSC)

Engineering Controls

Maintain adequate ventilation at all times. In most circumstances natural ventilation systems are adequate unless the material is heated, reacted or otherwise changed in some type of chemical reaction, then the use of a local exhaust ventilation system is recommended. If exhaust ventilation is not available or inadequate, use approved respirator to Australian Standards.

Personal Protection Equipment

CLOTHING: Wear suitable protective clothing to prevent skin contact.

GLOVES: Wear impervious gloves to prevent skin contact - PVC or natural rubber.

EYES: Wear safety glasses with side shields, chemical goggles or face shield to protect eyes.



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RESPIRATORY PROTECTION: Avoid breathing of vapours/gases. Select and use respirators in accordance with AS/NZS 1715/1716. The use of a respirator for organic vapours with disposable or with replaceable filters is recommended. Filter capacity and respirator type depends on exposure levels and type of contaminant. If entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Milky liquid
Boiling Point Melting Point:	Not determined
Vapour Pressure:	Not determined
Specific Gravity:	1.16 @ 30°C
Flash Point:	Not determined
Flammability Limits:	Not determined
Solubility in Water:	Not determined

Other Properties

None

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions of use.

HAZARDOUS DECOMPOSITION PRODUCTS:

Emits smoke and fumes when heated to decomposition.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

Strong alkalis, acids, oxidizing agents.

CONDITIONS TO AVOID:

Heat, flames, ignition sources and incompatibles.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected, if the product is handled in accordance with this Material Safety Data Sheet and the product label. Symptoms and effects that may arise if the product is mishandled and overexposure occurs are:

ACUTE HEALTH EFFECTS:

Swallowed:

May cause irritation to mouth, throat and stomach with effects including mucous build up, irritation to the tongue and lips and pains in the stomach, which may lead to nausea, vomiting and diarrhoea.

Eye:

Will cause irritation to the eyes, with effects including: tearing, pain, stinging and blurred vision. Depending upon duration of exposure, eye damage may occur.

Skin:

Will cause irritation to the skin, with effects including; Redness, itchiness, and possible dermatitis.

Inhaled:

Harmful if inhaled.



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Will cause irritation to the nose, throat and respiratory system with effects including: Dizziness, headache, coughing, loss of co-ordination and chest pains.

Chronic:

Prolonged or repeated skin contact may lead to dermatitis.

Prolonged contact may cause severe eye irritation and some form of permanent eye damage may occur.

Prolonged or repeated exposure may lead to irreversible damage to health.

Prolonged or repeated exposure or deliberately concentrating and inhaling the vapour(s) may result in lung function incapacity or death.

Prolonged or repeated contact with this substance will cause sensitisation by inhalation.

Prolonged or repeated contact with this substance will cause sensitisation by skin contact.

Toxicological Data:

There is no other toxicological information available for this product.

Toxicological data for MDI

Acute Toxicity Data:

LD50 (oral, rat) > 2000 mg/kg

LD50 (dermal, rabbit) > 2000 mg/kg

LC50 (inhalation, rat, 4hr) = 490 mg/m³ (aerosol). The experimentally produced aerosol has an aerodynamic diameter of <5µm.

Teratogenicity:

Did not cause birth defects in laboratory animals; other foetal effects occurred only at doses toxic to the mother.

Reproductive Toxicity:

No relevant information found.

Carcinogenicity:

Rats have been exposed for two years to an experimentally produced respirable aerosol of polymeric MDI, which resulted in chronic pulmonary irritation at high concentrations. The prolonged irritation led to the formation of tumours in the lungs of a small proportion of the rats exposed to 6 mg/m³. There were no tumours at 1 mg/m³ and no effects at 0.2 mg/m³. In the absence of prolonged high exposure leading to chronic irritation and lung damage, it is highly unlikely that tumours could occur, although these results reinforce the need to observe the recommended safety precautions and occupational exposure limit when working with MDI-based products. Industrial experience in humans has not shown any links between MDI-based products exposure and cancer development.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

There is no information available for this product.

Information for Ingredient(s):

Diphenylmethane diisocyanate [MDI] generally shows low toxicity to a wide range of water and soil based species: bacteria, algae, invertebrates, fish, earthworms, plants and birds.

Algae: EC50, 72 hour (Scenedesmus subspicatus, freshwater) = 1640 mg/L

Invertebrates: EC50, 24 hour (Daphnia magna, freshwater) >= 500 mg/L

Fish: LC0, 96 hour (Brachydanio rerio, freshwater) >= 1000 mg/L

Mobility:

The product is insoluble in water and does not disperse readily. It reacts with water forming polyurea, which is solid, insoluble and stable in the environment to both chemical and biological attack.

Persistence / Degradability:



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16. OTHER INFORMATION

Date of Preparation:

Issue date: 2 April 2009

Supersedes: None

Reasons for Update:

Review in section 2, 3, 6, and 13.

Key Legend Information:

NOHSC - National Occupational Health & Safety Commission {Formerly Worksafe}[Aust]

SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons [Aust]

TWA - Time Weighted Average [Int]

STEL - Short Term Exposure Limit [Int]

AICS - Australian Inventory of Chemical Substances

EPA - Environmental Protection Agency [Int]

NIOSH - National Institute for Occupational Safety and Health [US]

AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices. [Aust/NZ]

AS/NZS 1716 - Respiratory protective devices. [Aust/NZ]

IATA - International Aviation Transport Authority [Int]

ICAO - International Civil Aviation Organization [Int]

IMO - International Maritime Organisation. [Int]

IMDG - International Maritime Dangerous Goods [Int]

United Nations Recommendations for the Transport of Dangerous Goods and Globally Harmonized System for the classification and labelling of Chemicals. [Int]

EU - European Union

[Aust/NZ] = Australian New Zealand

[Int] = International

[US] = United States of America

Removal of the heading of *Poison Schedule [Aust]*, in section 3 and 15 of this Material Safety Data Sheet (MSDS) makes this a valid health and safety document in other international jurisdictions/countries. For full compliance please contact your Federal, State or Local regulators for further information.

Disclaimer

This MSDS summarises our best knowledge of the health and safety hazard information available on the product and the measures to be used to handle and use the product safely. Each user should read this MSDS and consider the information in connection with the way the product is intended to be handled or used.

Principal References:

Information supplied by manufacturer, reference sources including the public domain.

END OF MSDS