



ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)
Aug-17-2012
B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301
Version No:1
Page 1 of 13

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
ERAPOL EME85A

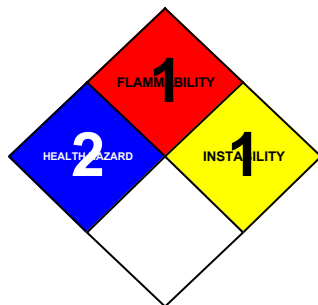
PRODUCT USE
Polyurethane prepolymer

SUPPLIER
Company: Era Polymers Pty Ltd
Address:
25- 27 Green Street, Banksmeadow, NSW 2019, Australia

Telephone: +61 2 9666 3788
Emergency Tel: **1800 039 008 (AUS)**
Emergency Tel: **+80024362255 (INTL)**
Fax: +61 2 9666 4805
Email: erapol@erapol.com.au
Website: ~

Section 2 - HAZARDS IDENTIFICATION

NFPA



GHS Classification

Carcinogen Category 2
Eye Irritation Category 2A
Respiratory Sensitizer Category 1
Skin Corrosion/Irritation Category 2
Skin Sensitizer Category 1
STOT - SE (Resp. Irr.) Category 3

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 2 of 13

Section 2 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by Chemwatch using GHS criteria

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

PRECAUTIONARY STATEMENTS

Prevention

Code	Phrase
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash ... thoroughly after handling.
P271	Use only outdoors or in a well- ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.

Response

Code	Phrase
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362	Take off contaminated clothing and wash before re- use.
P363	Wash contaminated clothing before reuse.

Storage

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 3 of 13

Section 2 - HAZARDS IDENTIFICATION

Code	Phrase
P403+P233	Store in a well- ventilated place. Keep container tightly closed.
P405	Store locked up.
Disposal Code	Phrase
P501	Dispose of contents/container to ...

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
4, 4' - diphenylmethane diisocyanate (MDI)	101-68-8	<10
Polyurethane prepolymer - non hazardous		>60

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

Treat symptomatically.

For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitizer which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 4 of 13

Section 4 - FIRST AID MEASURES

- Pulmonary symptoms include cough, burning, substernal pain and dyspnea.
- Some cross-sensitivity occurs between different isocyanates.
- Noncardiogenic pulmonary edema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- There is no effective therapy for sensitized workers. [Ellenhorn and Barceloux: Medical Toxicology]NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which lead to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity. [Karol Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Combustible.
 - Moderate fire hazard when exposed to heat or flame.
 - When heated to high temperatures decomposes rapidly generating vapor which pressures and may then rupture containers with release of flammable and highly toxic isocyanate vapor.
 - Burns with acrid black smoke and poisonous fumes.
 - Combustion yields traces of highly toxic hydrogen cyanide HCN, plus toxic nitrogen oxides NOx and carbon monoxide.
- May emit corrosive fumes.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapors and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labeled container for waste disposal.

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 5 of 13

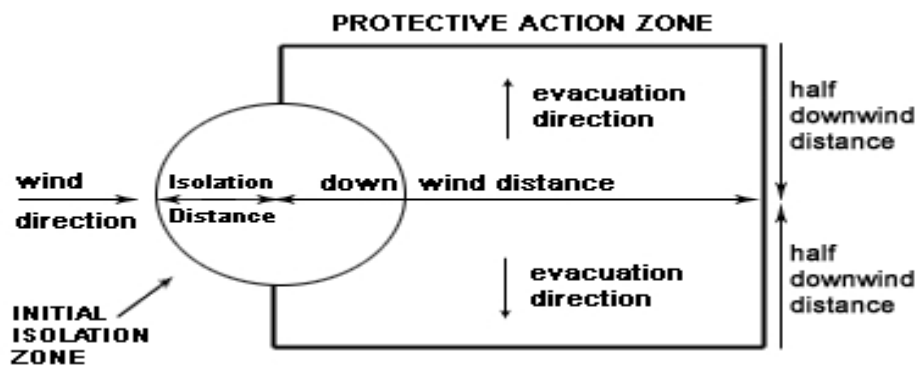
Section 6 - ACCIDENTAL RELEASE MEASURES

MAJOR SPILLS

Moderate hazard.

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labeled containers for recycling.
- Neutralize/decontaminate residue.
- Collect solid residues and seal in labeled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From US Emergency Response Guide 2000
Guide

SMALL SPILLS

Name	Isolation Distance	Downwind Day	Protection Night
	ft (m)	mile (km)	mile (km)

LARGE SPILLS

Name	Isolation Distance	Downwind Day	Protection Night
	ft (m)	mile (km)	mile (km)

From IERG (Canada/Australia)

Isolation Distance	-
Downwind Protection Distance	-
IERG Number	None

FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapor plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapor

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 6 of 13

Section 6 - ACCIDENTAL RELEASE MEASURES

concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localized wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".

LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.

5 Guide is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with moisture.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer
- Check all containers are clearly labeled and free from leaks.

STORAGE INCOMPATIBILITY

None known.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+



X



+



X



X



+

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 7 of 13

Section 7 - HANDLING AND STORAGE

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
US ACGIH Threshold Limit Values (TLV)	4, 4' - diphenylmethane diisocyanate (MDI) (Methylene bisphenyl isocyanate (MDI))	0.005							TLV® Basis: Resp sens

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
4,4'-diphenylmethane diisocyanate (MDI) 2489	75	

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

NOTE: The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

RESPIRATOR

- Supplied air. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 8 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

■ Spraying of material or material in admixture with other components must be carried out in conditions conforming to local state regulations. Local exhaust ventilation with full face air supplied breathing apparatus (hood or helmet type) is normally required. Unprotected personnel must vacate spraying area.

NOTE: Isocyanate vapors will not be adequately absorbed by organic vapor respirators.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.

State	Liquid	Molecular Weight	Not Available
Melting Range (°F)	Not Available	Viscosity	Not Available
Boiling Range (°F)	Not Available	Solubility in water (g/L)	Reacts with water liberating carbon dioxide [Reacts]
Flash Point (°F)	Not Available	pH (1% solution)	Not Available
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not Available
Autoignition Temp (°F)	Not Available	Vapour Pressure (mmHg)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.13
Lower Explosive Limit (%)	Not Available	Relative Vapor Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerization will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

Health hazard summary table:

Acute toxicity	Not applicable
Skin corrosion/irritation	Skin Irrit. 2
Serious eye damage/irritation	Eye Irrit. 2A
Respiratory or skin sensitization	Resp. Sens. 1
	Skin Sens. 1
Germ cell mutagenicity	Not applicable
Carcinogenicity	Carc. 2
Reproductive toxicity	Not applicable
STOT- single exposure	STOT SE 3
STOT- repeated exposure	Not applicable
Aspiration hazard	Not applicable

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 9 of 13

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, unintentional ingestion is not thought to be cause for concern.

EYE

■ This material can cause eye irritation and damage in some persons.

SKIN

■ This material can cause inflammation of the skin on contact in some persons.
■ The material may accentuate any pre-existing dermatitis condition.
■ Skin contact is not thought to have harmful health effects, however the material may still produce health damage following entry through wounds, lesions or abrasions.
■ Open cuts, abraded or irritated skin should not be exposed to this material.
■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
■ The material has NOT been classified as "harmful by inhalation". This is because of the lack of corroborating animal or human evidence. In the absence of such evidence, care should nevertheless be taken to ensure exposure is kept to a minimum and that suitable control measures be used, in an occupational setting to control vapors, fumes and aerosols.

CHRONIC HEALTH EFFECTS

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Inhaling this product is more likely to cause a sensitization reaction in some persons compared to the general population.

Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population.

Isocyanate vapors are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia. Digestive effects include nausea and vomiting. Breathing difficulties may occur unpredictably after a period of tolerance and after skin contact. Allergic inflammation of the skin can occur, with rash, itching, blistering, and swelling of the hands and feet. Sensitive people can react to very low levels and should not be exposed to this material.

TOXICITY AND IRRITATION

4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI):

ERAPOL EME85A:

■ Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 10 of 13

Section 11 - TOXICOLOGICAL INFORMATION

four hours following exposure.

■ Attention should be paid to atopic diathesis, characterized by increased susceptibility to nasal inflammation, asthma and eczema.

■ Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.

■ Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's edema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitization potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitizing substance which is widely distributed can be a more important allergen than one with stronger sensitizing potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

ERAPOL EME85A:

~OTHER

4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI):

TOXICITY

Oral (rat) LDLo:9200 mg/kg

Oral (mouse) LD50:2200 mg/kg Dermal Sensitiser *

Dermal (rabbit) LD50:>6200 mg/kg * Respiratory Sensitiser (g.pig)

*

Oral (Rat) LD50:9200 mg/kg [* = Bayer CCINFO 2133615]

■ The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Isocyanate vapors are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia. Digestive effects include nausea and vomiting. Breathing difficulties may occur unpredictably after a period of tolerance and after skin contact. Allergic inflammation of the skin can occur, with rash, itching, blistering, and swelling of the hands and feet. Sensitive people can react to very low levels and should not be exposed to this material.

Inhalation (human) TClO: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate

IRRITATION

Skin (rabbit):500 mg /24 hours

CARCINOGEN

4, 4' - diphenylmethane diisocyanate (MDI)	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3	Not classifiable as to its carcinogenicity to humans
4, 4' - diphenylmethane diisocyanate (MDI)	US EPA Carcinogens Listing	Carcinogenicity	D	

SKIN

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 11 of 13

Section 11 - TOXICOLOGICAL INFORMATION

4, 4' - diphenylmethane diisocyanate (MDI)	Canada - British Columbia Occupational Exposure Limits - Skin	Notation	Skin; S
4, 4' - diphenylmethane diisocyanate (MDI)	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	2

Section 12 - ECOLOGICAL INFORMATION

4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI):

DO NOT discharge into sewer or waterways.

Fish LC50 (96 h): 95.24-134.37 mg/L

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
4, 4' - diphenylmethane diisocyanate (MDI)	LOW	LOW	LOW	LOW

Section 13 - DISPOSAL CONSIDERATIONS

Puncture containers to prevent re-use and bury at an authorized landfill.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: Burial in a licensed land-fill or Incineration in a licensed apparatus (after admixture with suitable combustible material)
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

Regulations for ingredients

4, 4'-diphenylmethane diisocyanate (MDI) (CAS: 101-68-8, 26447-40-5) is found on the following regulatory lists;

"Canada - Alberta Ambient Air Quality Objectives", "Canada - Alberta Occupational Exposure Limits", "Canada -

continued...

ERAPOL EME85A

Hazard Alert Code: MODERATE

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

ERAPOL CO. 9-47301

Version No:1

Page 12 of 13

Section 15 - REGULATORY INFORMATION

Alberta Substances and processes requiring a code of practice", "Canada - British Columbia Occupational Exposure Limits", "Canada - Northwest Territories Occupational Exposure Limits (English)", "Canada - Nova Scotia Occupational Exposure Limits", "Canada - Ontario Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits", "Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)", "Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits", "Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that meet the human health criteria for categorization (English)", "Canada Environmental Protection Act (CEPA) 1999 - Schedule 1 Toxic Substances List", "Canada Ingredient Disclosure List (SOR/88-64)", "Canada National Pollutant Release Inventory (NPRI)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "FisherTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Air Transport Association (IATA) Dangerous Goods Regulations", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-AldrichTransport Information", "US - Alaska Limits for Air Contaminants", "US - Arizona State List of Hazardous Air Pollutants", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for Which Emissions Must Be Quantified", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - California Toxic Air Contaminant List Category II", "US - Connecticut Hazardous Air Pollutants", "US - Delaware Pollutant Discharge Requirements - Reportable Quantities", "US - Hawaii Air Contaminant Limits", "US - Idaho - Limits for Air Contaminants", "US - Kentucky Listing of Hazardous Air Pollutants", "US - Louisiana Toxic Air Pollutants Supplemental List", "US - Maine Hazardous Air Pollutants List and Reporting Thresholds", "US - Massachusetts Toxics Use Reduction Act (TURA) listed chemicals", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Environmental Hazardous Substances List", "US - New Jersey Right to Know Hazardous Substances (English)", "US - New York List of Hazardous Substances", "US - North Dakota Air Pollutants - Guideline Concentrations", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Oregon Permissible Exposure Limits (Z-2)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Permissible exposure limits of air contaminants", "US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values", "US - Wisconsin Control of Hazardous Pollutants - Emission Thresholds, Standards and Control Requirements (Hazardous Air Contaminants)", "US - Wisconsin Control of Hazardous Pollutants - Substances of Concern for Sources of Incidental Emissions of Hazardous Air Contaminants", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US ACGIH Threshold Limit Values (TLV)", "US CAA (Clean Air Act) - HON Rule - Organic HAPs (Hazardous Air Pollutants)", "US Clean Air Act - Hazardous Air Pollutants", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA Carcinogens Listing", "US EPA High Production Volume Program Chemical List", "US EPA Integrated Risk Information System (IRIS)", "US EPA Master Testing List - Index I Chemicals Listed", "US EPCRA Section 313 Chemical List", "US FDA List of ""Indirect"" Additives Used in Food Contact Substances", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory", "US TSCA Section 8 (a) - Preliminary Assessment Information Rules (PAIR) - Reporting List", "US TSCA Section 8 (d) - Health and Safety Data Reporting"

No data for ERAPOL EME85A (CW: 9-47301)

continued...

ERAPOL EME85A

Erapol Co. GHS Safety Data Sheet (REVIEW)

Aug-17-2012

B614L

Hazard Alert Code: MODERATE

ERAPOL CO. 9-47301

Version No:1

Page 13 of 13

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
4, 4' - diphenylmethane diisocyanate (MDI)	26447- 40- 5	R43

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
4,4'-diphenylmethane diisocyanate (MDI)	101-68-8, 26447-40-5

■ Classification of the preparation and its individual components has drawn on official and authoritative sources using available literature references.

■ For detailed advice on Personal Protective Equipment, refer to the following U.S. Regulations and Standards:

OSHA Standards - 29 CFR:

1910.132 - Personal Protective Equipment - General requirements

1910.133 - Eye and face protection

1910.134 - Respiratory Protection

1910.136 - Occupational foot protection

1910.138 - Hand Protection

Eye and face protection - ANSI Z87.1

Foot protection - ANSI Z41

Respirators must be NIOSH approved.

This document is copyright

Issue Date: Aug-17-2012

Print Date: Apr-18-2013