



ERAPOL HC75A - PART B

Era Polymers Pty Ltd

Chemwatch: 9-42389

Version No: 1.3

Safety Data Sheet according to WHS and ADG requirements

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SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	ERAPOL HC75A - PART B
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains diethyltoluenediamine)
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Polyol curative
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Details of the supplier of the safety data sheet

Registered company name	Era Polymers Pty Ltd
Address	25-27 Green Street 2019 NSW Australia
Telephone	+61 (0)2 9666 3788
Fax	+61 (0)2 9666 4805
Website	www.erapol.com.au
Email	erapol@erapol.com.au

Emergency telephone number

Association / Organisation	CHEMWATCH
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

Poisons Schedule	S5
GHS Classification ^[1]	Eye Irrit. 2, STOT - RE Category 2, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Regulamento 1272/2008 - Annex VI

Label elements

GHS label elements	 
SIGNAL WORD	WARNING

Hazard statement(s)

H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s) Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
68479-98-1	10-30	(diethyltoluenediamine)
Not Available	>60	Non hazardous polyol blend

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ 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.

Inhalation	<ul style="list-style-type: none"> ▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▸ If swallowed do NOT induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	<ul style="list-style-type: none"> ▸ Foam. ▸ Dry chemical powder. ▸ BCF (where regulations permit). ▸ Carbon dioxide. ▸ Water spray or fog - Large fires only.
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Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course. ▸ Use water delivered as a fine spray to control fire and cool adjacent area. ▸ Avoid spraying water onto liquid pools.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. ▸ On combustion, may emit toxic fumes of carbon monoxide (CO). ▸ May emit acrid smoke.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment. ▸ Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	<p>Environmental hazard - contain spillage. Moderate hazard.</p> <ul style="list-style-type: none"> ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves.
<p>Personal Protective Equipment advice is contained in Section 8 of the MSDS.</p>	

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▸ Overheating of ethoxylates/ alkoxyates in air should be avoided. When some ethoxylates are heated vigorously in the presence of air or oxygen, at temperatures exceeding 160 C, they may undergo exothermic oxidative degeneration resulting in self-heating and autoignition. ▸ Nitrogen blanketing will minimise the potential for ethoxylate oxidation. Prolonged storage in the presence of air
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	<ul style="list-style-type: none"> ▸ or oxygen may cause product degradation. Oxidation is not expected when stored under a nitrogen atmosphere.
Other information	<p>Ethoxylates/ alkoxyates react slowly with air or oxygen. Storage under heated conditions in the presence of air or oxygen increases reaction rate. For example, after storing at 95 F/ 35 C for 30 days in the presence of air, there is measurable oxidation of the ethoxylate. Lower temperatures will allow for longer storage time and higher temperatures will shorten the storage time if stored under an air or oxygen atmosphere.</p> <ul style="list-style-type: none"> ▸ Store in original containers.

Conditions for safe storage, including any incompatibilities

Suitable container	<p>For ethoxylates suitable containers include carbon steel coated with baked phenolic. Any moisture may cause rusting of carbon steel.</p> <p>If product is moisture free, uncoated carbon steel tanks may be used.</p> <ul style="list-style-type: none"> ▸ Metal can or drum ▸ Packaging as recommended by manufacturer.
Storage incompatibility	<ul style="list-style-type: none"> ▸ Many arylamines (aromatic amines such as aniline, N-ethylaniline, o-toluidine, xylydine etc. and their mixtures) are hypergolic (ignite spontaneously) with red fuming nitric acid. When the amines are dissolved in triethylamine, ignition occurs at -60 deg. C. or less. ▸ Various metal oxides and their salts may promote ignition of amine-red fuming nitric acid systems. Soluble materials such as copper(I) oxide, ammonium metavanadate are effective; insoluble materials such as copper(II) oxide, iron(II) oxide, potassium dichromate are also effective.

PACKAGE MATERIAL INCOMPATIBILITIES

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA


Not Available

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
ERAPOL HC75A - PART B	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
ERAPOL HC75A - PART B	Not Available	Not Available

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▸ Safety glasses with side shields. ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below
Hand protection	<ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C. apron. ▸ Barrier cream. ▸ Skin cleansing cream.
Thermal hazards	

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the

computer-generated

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Material	CPI
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* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE

Respiratory protection

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Dark coloured		
Physical state	Liquid	Relative density (Water = 1)	1.01
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Not Available	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available		

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▸ Presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure.</p>
Ingestion	<p>Accidental ingestion of the material may be damaging to the health of the individual. Nonionic surfactants may produce localised irritation of the oral or gastrointestinal mucosa and induce vomiting and mild diarrhoea.</p> <p>Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucous. If death does not occur within 24 hours there may be an improvement in the patients condition for 2-4 days only to be followed by the sudden onset of abdominal pain, board-like abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.</p>
Skin Contact	<p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p>
Eye	<p>Some nonionic surfactants may produce a localised anaesthetic effect on the cornea; this may effectively eliminate the warning discomfort produced by other substances and lead to corneal injury. Irritant effects range from minimal to severe dependent on the nature of the surfactant, its concentration and the duration of contact. Pain and corneal damage represent the most severe manifestation of irritation.</p> <p>Vapours of volatile amines cause eye irritation with lachrymation, conjunctivitis and minor transient corneal oedema which results in "halos" around lights (glauropsia, "blue haze", or "blue-grey haze"). Vision may become misty and halos may appear several hours after workers are exposed to the substance</p>
Chronic	<p>Harmful: danger of serious damage to health by prolonged exposure if swallowed.</p> <p>Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.</p> <p>Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population.</p>

ERAPOL HC75A - PART B	TOXICITY	IRRITATION
	Not Available	Not Available
(diethyltoluenediamine)	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >700 mg/kg	[Manufacturer]
	Inhalation (rats) LD50: >2.45 mg/l	Eye (rabbit): moderate-SEVERE

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	Oral (rat) LD50: 470-540 mg/kg	Skin (rabbit): slight
	Not Available	Not Available

ERAPOL HC75A - PART B	No significant acute toxicological data identified in literature search. p-Phenylenediamines are oxidised by the liver microsomal enzymes (S9). Pure p-phenylenediamine is non-mutagenic in but becomes mutagenic after it is oxidized. Azo dyes containing phenylenediamine are mutagenic in certain assay most likely due to the formation of oxidized p-phenylenediamine. Modification of the moieties that can be metabolized to p-phenylenediamine by sulfonation, carboxylation or copper complexation eliminated the mutagenic responses.
(DIETHYLTOLUENEDIAMINE)	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. p-Phenylenediamines are oxidised by the liver microsomal enzymes (S9). Pure p-phenylenediamine is non-mutagenic in but becomes mutagenic after it is oxidized. Azo dyes containing phenylenediamine are mutagenic in certain assay most likely due to the formation of oxidized p-phenylenediamine.

Acute Toxicity	Not Applicable	Carcinogenicity	Not Applicable
Skin Irritation/Corrosion	Not Applicable	Reproductivity	Not Applicable
Serious Eye Damage/Irritation	Eye Irrit. 2	STOT - Single Exposure	Not Applicable
Respiratory or Skin sensitisation	Not Applicable	STOT - Repeated Exposure	STOT - RE Category 2
Mutagenicity	Not Applicable	Aspiration Hazard	Not Applicable

CMR STATUS

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For surfactants:

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

Bioaccumulative potential

Ingredient	Bioaccumulation
Not Available	Not Available

Mobility in soil

Ingredient	Mobility
Not Available	Not Available



SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: <ul style="list-style-type: none"> ▸ Reduction
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	*3Z

Land transport (ADG)

UN number	3082
Packing group	III
UN proper shipping name (contains diethyltoluenediamine)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Environmental hazard	No relevant data
Transport hazard class(es)	Class : 9 Subrisk :
Special precautions for user	Special provisions : 179 274 331 335 AU01 limited quantity : 5 L

Air transport (ICAO-IATA / DGR)

UN number	3082
Packing group	III
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. * (contains diethyltoluenediamine)
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class : 9 ICAO / IATA Subrisk : ERG Code : 9L
Special precautions for user	Special provisions : A97A158 Cargo Only Packing Instructions : 964 Cargo Only Maximum Qty / Pack : 450 L Passenger and Cargo Packing Instructions : 964 Passenger and Cargo Maximum Qty / Pack : 450 L Passenger and Cargo Limited Quantity Packing Instructions : Y964 Passenger and Cargo Maximum Qty / Pack : 30 kg G

Sea transport (IMDG-Code / GGVSee)

UN number	3082
Packing group	III
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains diethyltoluenediamine)
Environmental hazard	No relevant data
Transport hazard class(es)	IMDG Class : 9 IMDG Subrisk :
Special precautions for user	EMS Number : F-A,S-F Special provisions : 274 335 Limited Quantities : 5 L

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

(diethyltoluenediamine)
(68479-98-1) is found on the
following regulatory lists

"Australia Hazardous Substances Information System - Consolidated Lists", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia National Pollutant Inventory"

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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