

**ERAPOL SDR32/25A PART B****ERAPOL SDR32/25A PART B**

Era Polymers Pty Ltd

Chemwatch: 9-39075

Version No: 1.2

Safety Data Sheet according to WHS and ADG requirements

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S.GHS.AUS.EN

**SECTION 1 Identification of the substance / mixture and of the company / undertaking****Product Identifier**

<b>Product name:</b>	ERAPOL SDR32/25A PART B
<b>Chemical Name:</b>	Not Applicable
<b>Proper shipping name:</b>	
<b>Chemical formula:</b>	Not Applicable
<b>Other means of identification:</b>	Not Available
<b>CAS number:</b>	Not Applicable

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

<b>Relevant identified uses:</b>	Use according to manufacturer's directions. Polyurethane curative
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**Details of the supplier of the safety data sheet**

<b>Registered company name:</b>	Era Polymers Pty Ltd
<b>Address:</b>	25-27 Green Street 2019 NSW Australia
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<b>Website:</b>	www.erapol.com.au
<b>Email:</b>	erapol@erapol.com.au

**Emergency telephone number**

<b>Association / Organisation:</b>	CHEMWATCH
<b>Emergency telephone numbers:</b>	Not Available
<b>Other emergency telephone numbers:</b>	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. NON-DANGEROUS GOODS.** According to the Model WHS Regulations and the ADG Code.**Poisons Schedule:** S5**GHS Classification<sup>[1]</sup>:**

Acute Toxicity (Oral) Category 4

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI**Label elements****GHS label elements****Signal word:** WARNING**Hazard statement(s):**

H302 Harmful if swallowed

## ERAPOL SDR32/25A PART B

### Precautionary statement(s): Prevention

P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

### Precautionary statement(s): Response

P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P330	Rinse mouth.

### 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
13674-84-5	30-60	<a href="#">tris(2-chloroisopropyl)phosphate</a>
Not Available	>60	All other substances non hazardous

## SECTION 4 First aid measures

### Description of first aid measures

#### Eye Contact:

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.
- 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:

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### Inhalation:

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

#### Ingestion:

- **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.

**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**

- **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

**NOTE:** Wear a protective glove when inducing vomiting by mechanical means.

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

All persons handling organic phosphorus ester materials regularly should undergo regular medical examination with special stress on the central nervous systems. Whilst atropine or pyridine-2-aldoxime methiodide (PAM) are beneficial antidotes for acute phosphate ester poisonings, they are of little value in reversing acute or chronic neurological damage due to phosphites and some types of aryl phosphate.

## SECTION 5 Firefighting measures

### Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

### Special hazards arising from the substrate or mixture

#### Fire Incompatibility:

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

### Advice for firefighters

#### Fire Fighting:

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- 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:

Combustion products include: carbon dioxide (CO<sub>2</sub>) hydrogen chloride phosphorus oxides (PO<sub>x</sub>)

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### Minor Spills:

- Remove all ignition sources.
- 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:

Moderate hazard.

- Clear area of personnel and move upwind.
- Alert Fire Brigade 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.

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

## SECTION 7 Handling and storage

### Precautions for safe handling

#### Safe handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- **DO NOT**

#### Other information

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

### Conditions for safe storage, including any incompatibilities

#### Suitable container:

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

#### Storage incompatibility:

- A number of phosphate and thiophosphate esters are of limited thermal stability and undergo highly exothermic self-accelerating decomposition reactions which may be catalysed by impurities.
- The potential hazards can be reduced by appropriate thermal control measures.

BREThERICK L.: Handbook of Reactive Chemical Hazards

Thermal decomposition of organophosphate esters, in the presence of trimethylolpropane or its homologues (common components of synthetic lubricants), may produce bicyclic phosphates and phosphites. These may occur be produced in as little as 5 minutes at 650 deg C. These bicyclic compounds are a class of materials with neurotoxic properties which produce convulsive seizures in test animals.

#### 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 SDR32/25A PART B	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
ERAPOL SDR32/25A PART B	Not Available	Not Available

### Exposure controls

#### Appropriate engineering controls

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.

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The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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.

### Personal protection



### Eye and face protection:

- 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:

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and

### Body protection:

See Other protection below

### Other protection:

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

### Thermal hazards:

### Recommended material(s):

PVC chemical resistant type.

### Respiratory protection:

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### Appearance

Clear

Physical state	Liquid	Relative density (Water = 1)	1.10
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)	Immiscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available		

## SECTION 10 Stability and reactivity

### Reactivity:

See section 7

### Chemical stability:

- 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

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### SECTION 11 Toxicological information

#### Information on toxicological effects

##### Inhaled:

The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Inhalation hazard is increased at higher temperatures.

Chlorinated phosphate esters are distinguished from their non-halogenated congeners by possessing anaesthetic-like and muscle-relaxant properties. Even at high doses, however, they do not appear to produce pathological side-effects.

##### Ingestion:

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.

##### Skin Contact:

The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.

##### Eye:

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

##### Chronic:

Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

The material contains a substantial proportion of a polymer considered to be of low concern (PLC). The trend towards production of lower molecular weight polymers (thus reducing the required level of solvent use and creating a more "environmentally-friendly" material) has brought with it the need to define PLCs as those

- having molecular weights of between 1000 and 10000 and containing less than 10% of the molecules with molecular weight below 500 and less than 25% of the molecules with a molecular weight below 1000. These may contain unlimited low concern functional groups or moderate concern reactive functional groups with a combined functional group equivalent weight (FGEW, a concept developed by the US EPA describing whether the reactive functional group is sufficiently diluted by polymeric material) of a 1000 or more (provided no high concern groups are present) or high concern reactive functional groups with a FGEW of 5000 or more (FGEW includes moderate concern groups if present).

TOXICITY	IRRITATION
<b>ERAPOL SDR32/25A PART B</b>	
Oral (Human) LC50: mg/kg	Not Available
<b>tris(2-chloroisopropyl)phosphate</b>	
Dermal (rabbit) LD50: >5000 mg/kg*	*[Akzo Nobel]
Inhalation (rat) LC50: >4.6 mg/kl/4H*	Eye (rabbit): non-irritating*
Intravenous (Mouse) LD50: 56 mg/kg	Skin (rabbit): mild (24 h):
Oral (Rat) LD50: 1500 mg/kg	
Not Available	Not Available

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No significant acute toxicological data identified in literature search.

For non-polymeric chlorinated trisphosphates (typically tris(chloroethyl)phosphate (TCEP), tris(chloropropyl)phosphate (TCPP) and tris(dichloropropyl)phosphate (TDCPP)

Chlorinated trisphosphates do not necessarily have similar chemical, physical, toxicological or environmental properties.

Blooming has been identified as a source of potential exposure (human and environmental) to trisphosphate plasticisers/ flame retardants. Blooming is defined as the migration (or more appropriately, diffusion) of an ingredient in rubber or plastic to the outer surface after curing.

#### TRIS(2-CHLOROISOPROPYL)PHOSPHATE

For tris(2-chloro-1-methylethyl)phosphate (TCPP)

The flame retardant product supplied in the EU, marketed as TCPP, is actually a reaction mixture containing four isomers. The individual isomers in this reaction mixture are not separated or marketed. The individual components are never produced as such. These data are true for TCPP produced by all EU manufacturers.

<b>Acute Toxicity:</b>	Acute Toxicity (Oral) Category 4	<b>Carcinogenicity:</b>	Not Applicable
<b>Skin Irritation/Corrosion:</b>	Not Applicable	<b>Reproductivity:</b>	Not Applicable
<b>Serious Eye Damage/Irritation:</b>	Not Applicable	<b>STOT - Single Exposure:</b>	Not Applicable
<b>Respiratory or Skin sensitisation:</b>	Not Applicable	<b>STOT - Repeated Exposure:</b>	Not Applicable
<b>Mutagenicity:</b>	Not Applicable	<b>Aspiration Hazard:</b>	Not Applicable

#### CMR STATUS

### SECTION 12 Ecological information

#### Toxicity

For non-polymeric chlorinated trisphosphates (typically tris(chloroethyl)phosphates (TCEP), tris(chloropropyl)phosphates (TCPP) and tris(dichloropropyl)phosphates (TDCPP)

Chlorinated trisphosphates are clear liquids or low-melting solids, with little or no odour. They:

- are denser than water, the density increases with the number of chlorines in the molecule
- have low vapour pressure (typically >1 Pa at ambient temperatures and as a consequence have high boiling
- points (>200 C); they are considered to exhibit some volatility (the literature sometimes describes "appreciable" volatility but this is a description relative to other fire retardants)

#### Persistence and degradability

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

#### Bioaccumulative potential

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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:

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

#### Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

## SECTION 14 Transport information

### Labels Required:

Marine Pollutant: NO

### HAZCHEM:

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

## SECTION 15 Regulatory information

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

tris(2-chloroisopropyl)phosphate(13674-84-5) is found on the following regulatory lists

"OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "OSPAR National List of Candidates for Substitution – United Kingdom", "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](http://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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