Erapol SDR32A

Hazard Alert Code: MODERATE

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Erapol SDR32A

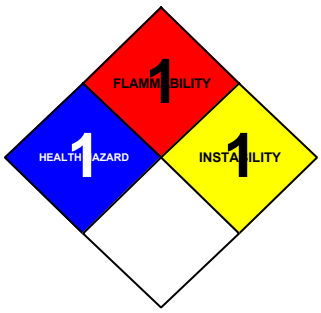
PRODUCT USE
Polyurethane Prepolymer

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

Section 2 - HAZARDS IDENTIFICATION

NFPA



GHS Classification
Acute Toxicity Category 4
Acute Toxicity Category 4
Carcinogen Category 2
Respiratory Sensitizer Category 1

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EMERGENCY OVERVIEW

HAZARD
DANGER

Determined by Chemwatch using GHS criteria

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351	Suspected of causing cancer.

PRECAUTIONARY STATEMENTS

Prevention

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.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well- ventilated area.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.

Response

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304+P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P304+P341	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Storage

P405	Store locked up.

Disposal

P501	Dispose of contents/container to ...

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
tris(2- chloroisopropyl)phosphate	13674-84-5*	>25
toluene diisocyanate	26471-62-5	<1
Other ingredients determined not to be hazardous	Mixture*	>60

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Section 4 - FIRST AID MEASURES

SWALLOWED
• IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
• Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
• For advice, contact a Poisons Information Center or a doctor.
• Urgent hospital treatment is likely to be needed.
• If conscious, give water to drink.
• 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.
• 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.

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 or hair contact occurs:
• 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.
• Other measures are usually unnecessary.

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.
• 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.

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• 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].

The material is a known pulmonary sensitizer. Annual medical surveillance should be conducted including pulmonary history, examination of the heart and lungs, 14 x 17 inch (35 x 47 cm) x-ray and pulmonary function testing (FCV, FEV1).

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

• Non combustible.
• Not considered to be a significant fire risk, however containers may burn.
May emit poisonous 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.

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.

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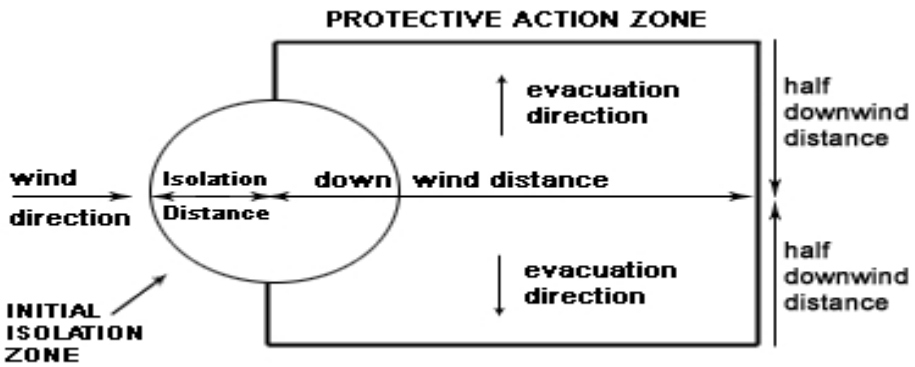
- Neutralize/decontaminate residue.
- Collect solid residues and seal in labeled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From US Emergency Response Guide 2000
Guide

SMALL SPILLS

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

LARGE SPILLS

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

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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.

ACUTE EXPOSURE GUIDELINE LEVELS (AEGL) (in ppm)

toluene diisocyanate					
AEGL Type	10 min	30 min	60 min	4 hr	8 hr
1	0.020	0.020	0.020	0.010	CAS_CHECK~
2	0.24	0.17	0.083	0.021	CAS_CHECK~
3	0.65	0.65	0.51	0.32	CAS_CHECK~
1	0.020	0.020	0.020	0.010	CAS_CHECK~
2	0.24	0.17	0.083	0.021	CAS_CHECK~
3	0.65	0.65	0.51	0.32	CAS_CHECK~

AEGL 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
AEGL 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
AEGL 3: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

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.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- 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

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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 preventions
X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - Nova Scotia Occupational Exposure Limits	toluene diisocyanate (Toluene diisocyanate - Mixed isomers)	0.005		0.02					TLV Basis: respiratory sensitization; asthma; eye irritation
Canada - Alberta Occupational Exposure Limits	toluene diisocyanate (Toluene- 2, 4 or 2, 6diisocyanate (or as mixture) (TDI))	0.005	0.04			0.02	0.1		
Canada - British Columbia Occupational Exposure Limits	toluene diisocyanate (Toluene- 2, 4-diisocyanate (2, 4- TDI))	0.005				0.01			2B; S

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Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
US ACGIH Threshold Limit Values (TLV)	toluene diisocyanate (Toluene- 2, 4-diisocyanate [2, 4- TDI])	0.005		0.02					TLV Basis: respiratory sensitization; asthma; eye irritation
US - Vermont Permissible Exposure Limits Table Z- 1- A Transitional Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocyanate (TDI))	(C)0.02	(C)0.14						
US - Vermont Permissible Exposure Limits Table Z- 1- A Final Rule Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocyanate (TDI))	0.005	0.04	0.02	0.15				
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocynate (TDI))	0.005	0.04	0.02	0.15				
US - California Permissible Exposure Limits for Chemical Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocyanate; TDI)	0.005	0.04	0.02	0.15	0.02			
US - Idaho - Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocyanate (TDI))					0.02	0.14		
US - Hawaii Air Contaminant Limits	toluene diisocyanate (Toluene di-isocyanate (TDI))	0.005	0.04	0.02	0.15				
US - Alaska Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4-diisocyanate (TDI))	0.005	0.04	0.02	0.15				

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Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	toluene diisocyanate (Toluene- 2, 4- or 2, 6- diisocyanate (TDI))	0.005		0.02					SEN
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	toluene diisocyanate (Toluene- 2, 4- diisocyanate (TDI))	0.02	0.14	-	-				
US - Washington Permissible exposure limits of air contaminants	toluene diisocyanate (TDI (Toluene- 2, 4- diisocyanate))	0.005		0.02					
US - Michigan Exposure Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4- diisocyanate(TDI))	0.005	0.04	0.02	0.15				
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	toluene diisocyanate (Toluene- 2, 4- diisocyanate (TDI))					0.02	0.14		
US OSHA Permissible Exposure Levels (PELs) - Table Z1	toluene diisocyanate (Toluene- 2, 4- diisocyanate (TDI))					0.02	0.14		
Canada - Prince Edward Island Occupational Exposure Limits	toluene diisocyanate (Toluene- 2, 4- diisocyanate [2, 4- TDI])	0.005		0.02					TLV Basis: respiratory sensitization; asthma; eye irritation

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Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - Northwest Territories Occupational Exposure Limits (English)	toluene diisocyanate (Toluene- 2, 4-diisocyanate)					0.02	0.14		
Canada - Alberta Occupational Exposure Limits	toluene diisocyanate (Toluene- 2, 4 or 2, 6diisocyanate (or as mixture) (TDI))	0.005				0.02	0.1		
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	toluene diisocyanate (Toluene diisocyanate (TDI) (isomers mixture))	0.005	0.036	0.02	0.14				
Canada - Ontario Occupational Exposure Limits	toluene diisocyanate (Toluene diisocyanate (TDI) / Diisocyanate de toluène (TDI))	0.005				0.02			
US - Oregon Permissible Exposure Limits (Z- 2)	toluene diisocyanate (Toluene diisocyanate (TDI))	0.005	0.035			0.140	0.02		

The following materials had no OELs on our records
• tris(2- chloroisopropyl)phosphate: CAS:13674- 84- 5
• Other ingredients determined not to be hazardous: CAS:Mixture

MATERIAL DATA
ERAPOL SDR32A:
TOLUENE DIISOCYANATE:

TRIS(2-CHLOROISOPROPYL)PHOSPHATE:
Not available

OTHER INGREDIENTS DETERMINED NOT TO BE HAZARDOUS:
Not available

PERSONAL PROTECTION

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EYE
• Safety glasses with side shields
• Chemical goggles.
• Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET
■ Wear chemical protective gloves, eg. PVC.
Wear safety footwear or safety gumboots, eg. Rubber.

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.

ENGINEERING CONTROLS
■ Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator. Correct fit is essential to obtain adequate protection an approved self contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Light/Clear/Yellow/Brown Colour

PHYSICAL PROPERTIES
Liquid.

State	Liquid	Molecular Weight	Not Available
Melting Range (°F)	Not Available	Viscosity	Not Available
Boiling Range (°F)	>572	Solubility in water (g/L)	Reacts with water liberating carbon dioxide [Reacts]
Flash Point (°F)	>392	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)	1.20

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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

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ 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.

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

SKIN
■ Skin contact is not thought to produce harmful health effects (as classified using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
■ 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 is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified using animal models). Nevertheless, adverse 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.

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.

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TOXICITY AND IRRITATION

OTHER INGREDIENTS DETERMINED NOT TO BE HAZARDOUS:
TRIS(2-CHLOROISOPROPYL)PHOSPHATE:
■ None assigned. Refer to individual constituents.

TOLUENE DIISOCYANATE:
ERAPOL SDR32A:
■ 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 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.

ERAPOL SDR32A:
~OTHER

TOLUENE DIISOCYANATE:

■ 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.
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
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.

CARCINOGEN

Toluene diisocyanates	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B

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Toluene- 2, 4-diisocyanate [2, 4-TDI]	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A4
toluene diisocyanate	US - Rhode Island Hazardous Substance List	IARC	
TOLUENE DIISOCYANATE (MIXED ISOMERS)	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
TOLUENE- 2, 4-DIISOCYANATE	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65- MC
TOLUENE DIISOCYANATE (MIXED ISOMERS)	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
TOLUENE- 2, 4-DIISOCYANATE	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65- MC
2, 4- Toluene diisocyanate	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	2B
Toluene- 2, 4-diisocyanate [2, 4-TDI]	US NIOSH Recommended Exposure Limits (RELs) - Carcinogens	Carcinogen	Ca
toluene diisocyanate	US - Maine Chemicals of High Concern List	Carcinogen	A4
toluene diisocyanate	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; NTP 11th ROC
toluene diisocyanate	US - Maine Chemicals of High Concern List	Carcinogen	

Section 12 - ECOLOGICAL INFORMATION

TOLUENE DIISOCYANATE:
TRIS(2-CHLOROISOPROPYL)PHOSPHATE:
■ DO NOT discharge into sewer or waterways.

TRIS(2-CHLOROISOPROPYL)PHOSPHATE:

TOLUENE DIISOCYANATE:
■ Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Water pollution class (WGK): 2 - impairment of water quality

OTHER INGREDIENTS DETERMINED NOT TO BE HAZARDOUS:

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility

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tris(2-chloroisopropyl)phosphate	HIGH	No Data Available	LOW	MED
toluene diisocyanate	LOW	LOW	LOW	MED
Other ingredients determined not to be hazardous	No Data Available	No Data Available		

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

tris(2-chloroisopropyl)phosphate (CAS: 13674-84-5) is found on the following regulatory lists;
"International Chemical Secretariat (ChemSec) REACH SIN* List (*Substitute It Now!) 1.1","US EPA High Production Volume Program Chemical List","US EPA Master Testing List - Index I Chemicals Listed","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory","US TSCA Section 8 (d) - Health and Safety Data Reporting"

toluene diisocyanate (CAS: 26471-62-5,584-84-9,91-08-7) is found on the following regulatory lists;
"Canada - Nova Scotia Occupational Exposure Limits","Canada - Saskatchewan Industrial Hazardous Substances", "Canada Ingredient Disclosure List (SOR/88-64)","Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)","International Council of Chemical Associations (ICCA) - High Production Volume List","US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens", "US - Pennsylvania - Hazardous Substance List","US - Vermont Hazardous Constituents","US - Vermont Hazardous wastes which are Discarded Commercial Chemical Products or Off-Specification Batches of Commercial Chemical Products or Spill Residues of Either","US - Washington Dangerous waste constituents list","US - Washington Discarded Chemical Products List - ""U"" Chemical Products","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 High Production Volume Program Chemical List","US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act",

continued...

"US National Toxicology Program (NTP) 11th Report Part B. Reasonably Anticipated to be a Human Carcinogen", "US RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261","US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Wastes","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory","US TSCA Section 8 (d) - Health and Safety Data Reporting","USA: Chemical Facility Anti-Terrorism Standards - List Appendix A - 6CFR 27"

No data for Erapol SDR32A (CW: 9-31579)
No data for Other ingredients determined not to be hazardous (CAS: , Mixture)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
tris(2- chloroisopropyl)phosphate	13674- 84- 5	Mut3; R68 Rep3; R63 Xn; R22 Xi; R38

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
toluene diisocyanate	26471-62-5, 584-84-9, 91-08-7

■ 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.

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