

# EPIREZ SAFE STEP 550 HARDENER

Chemwatch Material Safety Data Sheet

Issue Date: 11-Jul-2006

C317SC

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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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### PRODUCT NAME

EPIREZ SAFE STEP 550 HARDENER

### SYNONYMS

"Product Code: E992908H"

### PROPER SHIPPING NAME

CORROSIVE LIQUID, N.O.S. (contains isophorone diamine)

### PRODUCT USE

The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Hardener or Part B of a 2 pack. epoxy system. Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. Do not return the mixed material to the original containers. Used according to manufacturer's directions. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing.

### SUPPLIER

Company: ITW Polymers & Fluids  
Address:  
100 Hassall Street  
Wetherill Park  
NSW, 2164  
AUS  
Telephone: +61 2 9757 8800  
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### QUEENSLAND DISTRIBUTOR

*INTERNATIONAL TRADERS* Pty Ltd  
6/286 Evans Rd  
Salisbury - BRISBANE - QLD 4107  
Phone (07) 3272 9051 Fax (07) 3272 9744

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## Section 2 - HAZARDS IDENTIFICATION

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### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

### POISONS SCHEDULE

S5

### RISK

Harmful by inhalation, in contact with skin and if swallowed.  
Causes burns.  
Risk of serious damage to eyes.  
May cause SENSITISATION by skin contact.  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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Section 2 - HAZARDS IDENTIFICATION

## SAFETY

Do not breathe gas/fumes/vapour/spray.

Wear eye/face protection.

Use only in well ventilated areas.

Keep container in a well ventilated place.

Keep container tightly closed.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
benzyl alcohol	100-51-6	30-60
isophorone diamine	2855-13-2	10-30
benzene- 1,3-dimethanamine2,4,6-tris[ (dimethylamino)methyl]phenol	1477-55-0	1-9
	90-72-2	1-5

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- 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.
- Transport to hospital or doctor without delay.

### EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with 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.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.

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Section 4 - FIRST AID MEASURES

- Transport to hospital, or doctor.

## INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Protheses 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.

## NOTES TO PHYSICIAN

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
  - Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
  - Oxygen is given as indicated.
  - The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
  - Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.
- Alkalis continue to cause damage after exposure.

## INGESTION:

- Milk and water are the preferred diluents
- No more than 2 glasses of water should be given to an adult.
- Neutralising agents should never be given since exothermic heat reaction may compound injury.
- \* Catharsis and emesis are absolutely contra-indicated.  
\* Activated charcoal does not absorb alkali.  
\* Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

## SKIN AND EYE:

- Injury should be irrigated for 20-30 minutes.
- Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]. Clinical experience of benzyl alcohol poisoning is generally confined to premature neonates in receipt of preserved intravenous salines.
- Metabolic acidosis, bradycardia, skin breakdown, hypotonia, hepatorenal failure, hypotension and cardiovascular collapse are characteristic.
  - High urine benzoate and hippuric acid as well as elevated serum benzoic acid levels are found.
  - The so-called "gaspig syndrome describes the progressive neurological deterioration of poisoned neonates.

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Section 4 - FIRST AID MEASURES

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- Management is essentially supportive.
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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

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

### FIRE FIGHTING

- 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 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.
- 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.
- Mists containing combustible materials may be explosive.

Combustion products include, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), aldehydes, nitrogen oxides (NO<sub>x</sub>), other pyrolysis products typical of burning organic material.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

May emit corrosive fumes.

### FIRE INCOMPATIBILITY

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

### HAZCHEM

2X

### Personal Protective Equipment

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

### EMERGENCY PROCEDURES

#### MINOR SPILLS

Slippery when spilt.

- Clean up all spills immediately.
- Avoid breathing vapours 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 labelled container for waste disposal.

#### MAJOR SPILLS

Chemical Class: amines, alkyl

For release onto land: recommended sorbents listed in order of priority.

SORBENT TYPE	RANK	APPLICATION	COLLECTION	LIMITATIONS
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#### LAND SPILL - SMALL

cross-linked polymer - particulate	1	shovel	shovel	R, W, SS R,DGC, RT
cross-linked polymer - pillow	1	throw	pitchfork	
sorbent clay	2	shovel	shovel	R, I, P
- particulate wood fiber - pillow	3	throw	pitchfork	R, P, DGC, RT, DGC, RT
treated wood fibre - pillow	3	throw	pitchfork	DGC, RT
foamed glass - pillow	4	throw	pitchfork	R, P, DGC, RT

#### LAND SPILL - MEDIUM

cross-linked polymer	1	blower	skiloader	R, W, SS
-particulate cross-linked polymer - pillow	2	throw	skiloader	R, DGC, RT
sorbent clay	2	blower	skiloader	R, I, P
- particulate polypropylene	3	blower	skiloader	W, SS, DGC
e-particulate expanded	3	blower	skiloader	W, SS, DGC
	4	blower	skiloader	R, I, W, P,

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## Section 6 - ACCIDENTAL RELEASE MEASURES

mineral - particulate				DGC
polypropylene - mat	4	throw	skiploader	DGC, RT

### Legend

DGC: Not effective where ground cover is dense

R; Not reusable

I: Not incinerable

P: Effectiveness reduced when rainy

RT: Not effective where terrain is rugged

SS: Not for use within environmentally sensitive sites

W: Effectiveness reduced when windy

Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;

R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988.

Slippery when spilt.

- Clear area of personnel and move upwind.
- 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.
- Consider evacuation (or protect in place).
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Neutralise/decontaminate residue.
- Collect solid residues and seal in labelled 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.

### EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

benzyl alcohol 200 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

benzyl alcohol 100 ppm

other than mild, transient adverse effects

without perceiving a clearly defined odour is:

benzyl alcohol 12.5 ppm

The threshold concentration below which most people

will experience no appreciable risk of health effects:

benzyl alcohol 4 ppm

American Industrial Hygiene Association (AIHA)

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Section 6 - ACCIDENTAL RELEASE MEASURES

Ingredients considered according to the following cutoffs

Very Toxic (T+)	$\geq 0.1\%$	Toxic (T)	$\geq 3.0\%$
R50	$\geq 0.25\%$	Corrosive (C)	$\geq 5.0\%$
R51	$\geq 2.5\%$		
else	$\geq 10\%$		

where percentage is percentage of ingredient found in the mixture

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

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## Section 7 - HANDLING AND STORAGE

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### PROCEDURE FOR HANDLING

Contains low boiling substance:

Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.

- Check for bulging containers.
  - Vent periodically
  - Always release caps or seals slowly to ensure slow dissipation of vapours.
- DO NOT allow clothing wet with material to stay in contact with skin.  
DO NOT USE brass or copper containers / stirrers.
- 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

DO NOT use aluminium or galvanised containers.

- Lined metal can, Lined metal pail/ can
- Plastic pail
- Polyliner drum
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

### STORAGE INCOMPATIBILITY

Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

Avoid strong acids.

Avoid contact with copper, aluminium and their alloys.

Avoid reaction with oxidising agents.

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Section 7 - HANDLING AND STORAGE

## STORAGE REQUIREMENTS

- Store in original containers.
  - Keep containers securely sealed.
  - Store in a cool, dry, well-ventilated area.
  - Store away from incompatible materials and foodstuff containers.
  - Protect containers against physical damage and check regularly for leaks.
  - Observe manufacturer's storing and handling recommendations.
- DO NOT store near acids, or oxidising agents.  
No smoking, naked lights, heat or ignition sources.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup> ppm	STEL	STEL Peak mg/m <sup>3</sup> ppm	Peak mg/m <sup>3</sup>
Australia Exposure Standards	benzene- 1,3-dimethanamine					0.1

The following materials had no OELs on our record under the following CAS or Chemwatch (CW) numbers

Epirez Safe Step 550 Hardener: No data available for CW:5141-54

benzyl alcohol: No data available for CAS: 100-51-6

isophorone diamine: No data available for CAS:2855-13-2

2,4,6-tris[(dimethylamino)methyl]phenol: No data available for CAS:90-72-2

### INGREDIENT DATA

#### BENZYL ALCOHOL:

No exposure limits set by NOHSC or ACGIH.

OEL STEL (Russia): 5 mg/m<sup>3</sup> Skin

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

Odour Threshold: 5.5 ppm

#### ISOPHORONE DIAMINE:

No exposure limits set by NOHSC or ACGIH.

#### BENZENE-1,3-DIMETHANAMINE:

Saturates in air at 219.5 mg/m<sup>3</sup> (39.5 ppm) at 25 deg C.

m-xylene-alpha,alpha'-diamine is a gastrointestinal irritant and skin sensitiser in humans. Its actions are similar to p-phenylenediamine and the recommendation for a TLV-C is derived by analogy. Exposure at or below this value is thought to protect workers against the risk of skin irritation, percutaneous absorption and systemic injury. It should be noted however that individuals might be hypersusceptible or otherwise unusually responsive to the certain chemicals and this value may not be adequate to provide effective protection against adverse health effects. The skin notation is currently undergoing review.

The TLV value is listed only in mg/m<sup>3</sup> although it is anticipated that at

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

this concentration the compound should exist largely as vapour.

### 2,4,6-TRIS[(DI METHYLAMINO)METHYL]PHENOL:

No exposure limits set by NOHSC or ACGIH.

CEL TWA: 5 ppm, 54 mg/m<sup>3</sup> SKIN [Rohm & Haas]

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

## PERSONAL PROTECTION

### EYE

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- 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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

### HANDS/FEET

Suitability and durability of glove type is dependent on usage. Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity,

are important in the selection of gloves.

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

NOTE: 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.

### OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

## ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Light yellow to amber liquid with an amine odour; does not mix with water.

### PHYSICAL PROPERTIES

Does not mix with water.

Floats on water.

Corrosive.

Alkaline.

Molecular Weight: Not Available

Melting Range (°C): Not Available

Solubility in water (g/L): Immiscible

pH (1 % solution): Not Available

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (°C): Not Available

State: LIQUID

Boiling Range (°C): Not Available

Specific Gravity (water=1): <1

pH (as supplied): Not Available

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): >65

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Viscosity: Not Available

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

### CONDITIONS CONTRIBUTING TO INSTABILITY

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

## 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.

The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Amines without benzene rings when swallowed are absorbed throughout the gut.

Corrosive action may cause damage throughout the gastrointestinal tract. They are removed through the liver, kidney and intestinal mucosa by enzyme breakdown.

Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucus.

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## Section 11 - TOXICOLOGICAL INFORMATION

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, boardlike abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.

### EYE

The material can produce chemical burns to the eye following direct contact.

Vapours or mists may be extremely irritating.

If applied to the eyes, this material causes severe eye damage.

Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in "halos" around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Direct eye contact with liquid volatile amines may produce eye damage, permanent for the lighter species.

### SKIN

Skin contact with the material may be harmful; systemic effects may result following absorption.

The material can produce chemical burns following direct contact with the skin.

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.

There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Cutaneous reactions include erythema, intolerable itching and severe facial swelling. Blistering, with weeping of serous fluid, and crusting and scaling may also occur. Individuals exhibiting "amine dermatitis" may experience a dramatic reaction upon re-exposure to minute quantities. Highly sensitive persons may even react to cured resins containing trace amounts of unreacted amine hardener. Minute quantities of air-borne amine may precipitate intense dermatological symptoms in sensitive individuals. Prolonged or repeated exposure may produce tissue necrosis.

Volatile amine vapours produce irritation and inflammation of the skin. Direct contact can cause burns. They may be absorbed through the skin and cause similar effects to swallowing, leading to death. The skin may exhibit whiteness, redness and wheals.

### INHALED

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

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Section 11 - TOXICOLOGICAL INFORMATION

## CHRONIC HEALTH EFFECTS

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucous production. Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. The material may accumulate in the human body and progressively cause tissue damage. Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. Sensitised persons should not be allowed to work in situations where exposure may occur. Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

## TOXICITY AND IRRITATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

### TOXICITY IRRITATION.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. 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 sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising 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 cause 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.

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## Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant: Not Determined

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

**BENZYL ALCOHOL:**

DO NOT discharge into sewer or waterways.

log Kow: 1.1

Koc: <5

Henry's atm m<sup>3</sup>/mol: 3.91 E-07

BOD 5 if unstated: 1.55-1.6, 33-62%

COD: 96%

ThOD: 2.519

BCF: 4

Toxicity Fish: LC50(96)10-460mg/L

Toxicity invertebrate: cell mult. inhib. 350mg/L

Bioaccumulation: not sig

Anaerobic effects: sig degrad

Effects on algae and plankton: inhib degrad. of glucose

Degradation Biological: sig

processes Abiotic: RxnOH\*, no photochem

**ISOPHORONE DIAMINE:**

Prevent, by any means available, spillage from entering drains or water courses.

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.

DO NOT discharge into sewer or waterways.

LC50 (24h) Daphnae: 42 mg/L.

LD50 (48h) Leuciscus idus: 185 mg/L.

NOEC (21 day) Daphnia magna: 3 mg/L \*

EC10 (16hr) Pseudomonas putida: 1120 mg/L \*

Persistence/Biodegradability: 42% (DOC, OECD 303A) \*

8.0% (DOC, Die away test -9/69/EEC) \*

\* [Morton]

**BENZENE-1,3-DIMETHANAMINE:**

Toxic to fish

**2,4,6-TRIS[(DI METHYLAMINO)METHYL]PHENOL:**

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Fish toxicity:

Rainbow trout (salmo gairdneri) TL50: 222 (174-283) mg/l/24hr

Rainbow trout (salmo gairdneri) TL50: 180-240 mg/l/96hr

Rainbow trout (salmo gairdneri) No effect level: 180 mg/l

Mud crab TL50: 750-1000 mg/l/24hr

Mud crab TL50: 750-1000 mg/l/96hr

continued...

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Section 12 - ECOLOGICAL INFORMATION

Mud crab TL50: No effect level: 750 mg/l  
Carp TL50: 249 (204-305) mg/l/24hr  
Carp TL50: 175 (131-235) mg/l/96hr  
Carp No effect level: 140 mg/l  
Grass shrimp TL50: 750-1000 mg/l/24

[Air Products & Chemicals]

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible.
  - Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
  - Treat and neutralise at an approved treatment plant.
  - Treatment should involve: Neutralisation with suitable dilute acid followed by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material).
  - Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
- If container can not be cleaned sufficiently well to ensure none of the original product remains 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.

## Section 14 - TRANSPORTATION INFORMATION

### Labels Required

corrosive

### HAZCHEM

2X

### Land Transport UNDG:

Dangerous Goods Class:	8	Subrisk:	None
UN Number:	1760	Packing Group:	III
Shipping Name: CORROSIVE LIQUID, N.O.S. (contains isophorone diamine)			

### Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1760	Packing Group:	III
ERG Code:	8L		
Shipping Name: Corrosive liquid, n.o.s. *			

### Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1760	Packing Group:	III
EMS Number:	None	Marine Pollutant:	Not Determined
Shipping Name: CORROSIVE LIQUID, N.O.S.			

continued...

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## Section 15 - REGULATORY INFORMATION

---

### POISONS SCHEDULE

S5

### REGULATIONS

benzyl alcohol (CAS: 100-51-6) is found on the following regulatory lists;  
Australia Inventory of Chemical Substances (AICS)  
International Council of Chemical Associations (ICCA) - High Production Volume List  
OECD Representative List of High Production Volume (HPV) Chemicals

isophorone diamine (CAS: 2855-13-2) is found on the following regulatory lists;  
Australia Inventory of Chemical Substances (AICS)  
Australia Poisons Schedule  
International Council of Chemical Associations (ICCA) - High Production Volume List  
OECD Representative List of High Production Volume (HPV) Chemicals

benzene- 1,3-dimethanamine (CAS: 1477-55-0) is found on the following regulatory lists;  
Australia Inventory of Chemical Substances (AICS)  
International Council of Chemical Associations (ICCA) - High Production Volume List  
OECD Representative List of High Production Volume (HPV) Chemicals

2,4,6-tris[(dimethylamino)methyl]phenol (CAS: 90-72-2) is found on the following regulatory lists;  
Australia Inventory of Chemical Substances (AICS)  
International Council of Chemical Associations (ICCA) - High Production Volume List  
OECD Representative List of High Production Volume (HPV) Chemicals

---

## Section 16 - OTHER INFORMATION

---

### Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
benzene- 1,3-dimethanamine	1477-55-0	Xn;R22 R43

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Issue Date: 11-Jul-2006

Print Date: 13-Jul-2006

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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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### PRODUCT NAME

EPIREZ SAFE STEP 550 COMPOUND

### SYNONYMS

"Product Code: E992908C"

### PRODUCT USE

Base or Part A of a 2 pack. epoxy system. Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. Do not return the mixed material to the original containers. Used according to manufacturer's directions. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing.

### SUPPLIER

Company: ITW Polymers & Fluids  
Address:  
100 Hassall Street  
Wetherill Park  
NSW, 2164  
AUS  
Telephone: +61 2 9757 8800  
Emergency Tel: +61 2 9757 8800  
Fax: 1800 803 596

### QUEENSLAND DISTRIBUTOR

*INTERNATIONAL TRADERS* Pty Ltd  
6/286 Evans Rd  
Salisbury - BRISBANE - QLD 4107  
Phone (07) 3272 9051 Fax (07) 3272 9744

---

## Section 2 - HAZARDS IDENTIFICATION

---

### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

### POISONS SCHEDULE

S5

### RISK

Harmful by inhalation, in contact with skin and if swallowed.  
Irritating to eyes and skin.  
May cause SENSITISATION by skin contact.  
Toxic to aquatic organisms.  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### SAFETY

Keep container in a well ventilated place.  
Avoid exposure - obtain special instructions before use.  
Keep container tightly closed.  
Take off immediately all contaminated clothing.  
In case of contact with eyes, rinse with plenty of water and contact Doctor or

continued...

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## Section 2 - HAZARDS IDENTIFICATION

Poisons Information Centre.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
bisphenol A/ epichlorohydrin resin	25068-38-6	5-15
fillers		20-40
graded sand	14808-60-7.	10-20
aluminium powder coated	7429-90-5	10-30
bisphenol F/ epichlorohydrin copolymer	9003-36-5	<5
(C12-14)alkylglycidyl ether	68609-97-2	<5
solvents		1-9
additives		1-9

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- 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.

### 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.

continued...

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Section 4 - FIRST AID MEASURES

## NOTES TO PHYSICIAN

Treat symptomatically.

- Manifestation of aluminium toxicity include hypercalcaemia, anaemia, Vitamin D refractory osteodystrophy and a progressive encephalopathy (mixed dysarthria-apraxia of speech, asterixis, tremulousness, myoclonus, dementia, focal seizures). Bone pain, pathological fractures and proximal myopathy can occur.
  - Symptoms usually develop insidiously over months to years (in chronic renal failure patients) unless dietary aluminium loads are excessive.
  - Serum aluminium levels above 60 ug/ml indicate increased absorption. Potential toxicity occurs above 100 ug/ml and clinical symptoms are present when levels exceed 200 ug/ml.
  - Deferoxamine has been used to treat dialysis encephalopathy and osteomalacia. CaNa2EDTA is less effective in chelating aluminium. [Ellenhorn and Barceloux: Medical Toxicology].
- for poisons (where specific treatment regime is absent):

-----  
**BASIC TREATMENT**

- 
- Establish a patent airway with suction where necessary.
  - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
  - Administer oxygen by non-rebreather mask at 10 to 15 l/min.
  - Monitor and treat, where necessary, for pulmonary oedema .
  - Monitor and treat, where necessary, for shock.
  - Anticipate seizures .
  - DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

-----  
**ADVANCED TREATMENT**

- 
- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
  - Positive-pressure ventilation using a bag-valve mask might be of use.
  - Monitor and treat, where necessary, for arrhythmias.
  - Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
  - Drug therapy should be considered for pulmonary oedema.
  - Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
  - Treat seizures with diazepam.
  - Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994.

---

## Section 5 - FIRE FIGHTING MEASURES

---

### EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

continued...

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Section 5 - FIRE FIGHTING MEASURES

---

- Water spray or fog - Large fires only.

## FIRE FIGHTING

- 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.
- 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.

## FIRE/EXPLOSION HAZARD

- 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.
- Mists containing combustible materials may be explosive.

Combustion products include, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), aldehydes, other pyrolysis products typical of burning organic material.

## FIRE INCOMPATIBILITY

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

## HAZCHEM

None

## Personal Protective Equipment

Breathing apparatus.  
Gas tight chemical resistant suit.  
Limit exposure duration to 1 BA set 30 mins.

---

## Section 6 - ACCIDENTAL RELEASE MEASURES

---

## EMERGENCY PROCEDURES

### MINOR SPILLS

Environmental hazard - contain spillage.

- Clean up all spills immediately.
- Avoid breathing vapours 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 labelled container for waste disposal.

### MAJOR SPILLS

Environmental hazard - contain spillage.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.

continued...

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## Section 6 - ACCIDENTAL RELEASE MEASURES

- 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 labelled containers for recycling.
- Neutralise/decontaminate residue.
- Collect solid residues and seal in labelled 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.

### EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

bisphenol A/ epichlorohydrin resin	500 mg/m <sup>3</sup>
graded sand	50 mg/m <sup>3</sup>
aluminium powder coated	250 mg/m <sup>3</sup>

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

bisphenol A/ epichlorohydrin resin	50 mg/m <sup>3</sup>
graded sand	0.25 mg/m <sup>3</sup>
aluminium powder coated	50 mg/m <sup>3</sup>

other than mild, transient adverse effects

without perceiving a clearly defined odour is:

bisphenol A/ epichlorohydrin resin	30 mg/m <sup>3</sup>
graded sand	0.15 mg/m <sup>3</sup>
aluminium powder coated	30 mg/m <sup>3</sup>

The threshold concentration below which most people

will experience no appreciable risk of health effects:

bisphenol A/ epichlorohydrin resin	10 mg/m <sup>3</sup>
graded sand	0.15 mg/m <sup>3</sup>
aluminium powder coated	15 mg/m <sup>3</sup>

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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

continued...

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## Section 7 - HANDLING AND STORAGE

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### PROCEDURE FOR HANDLING

DO NOT allow clothing wet with material to stay in contact with skin.

### SUITABLE CONTAINER

- Check that containers are clearly labelled.
- Packaging as recommended by manufacturer.

### STORAGE INCOMPATIBILITY

Reacts slowly with water.  
CAUTION contamination with moisture will liberate explosive hydrogen gas, causing pressure build up in sealed containers.  
Avoid reaction with oxidising agents.

### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

---

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m3 ppm	STEL mg/m3 ppm	STEL Peak mg/m3 ppm	Peak mg/m3
Australia Exposure Standards	graded sand		0.1			
Australia Exposure Standards	aluminium powder coated		5			
Australia Exposure Standards	aluminium powder coated		5			
Australia Exposure Standards	aluminium powder coated		10			

The following materials had no OELs on our record under the following CAS or Chemwatch (CW) numbers  
Epirez Safe Step 550 Compound: No data available for CW:5141-53  
bisphenol A/ epichlorohydrin resin: No data available for CAS:25068-38-6  
bisphenol F/ epichlorohydrin copolymer: No data available for CAS:9003-36-5  
(C12-14)alkylglycidyl ether: No data available for CAS:68609-97-2

### EMERGENCY EXPOSURE LIMITS

Material	Original IDLH Value (ppm)	Original IDLH Value (mg/m3)	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
graded sand	N.E.	N.E.	50	

continued...

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### INGREDIENT DATA

BISPHENOLA/ EPICHLOROHYDRIN RESIN:

GRADED SAND:

NOTE: This product contains negligible amount of respirable dust.

ALUMINIUM POWDER COATED:

aluminium, metal dust

ES TWA: 10 mg/m<sup>3</sup>

TLV TWA: 10 mg/m<sup>3</sup>

For each of the following

BISPHENOL F/ EPICHLOROHYDRIN COPOLYMER:(

C12-14)ALKYLGLYCIDYL ETHER:

No exposure limits set by NOHSC orACGIH.

### PERSONAL PROTECTION

#### EYE

- 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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### HANDS/FEET

Suitability and durability of glove type is dependent on usage. Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and

• dexterity,

are important in the selection of gloves.

- When handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butadiene rubber), boots and aprons.

- DO NOT use cotton or leather (which absorb and concentrate the resin), polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin)

- DO NOT use barrier creams containing emulsified fats and oils as these may absorb the resin; silicone-based barrier creams should be reviewed prior to use.

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

NOTE: 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.

#### OTHER

- Overalls.
- Eyewash unit.

continued...

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

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## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

---

### APPEARANCE

Whitish viscous liquid with a characteristic odour; does not mix with water.

### PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

Molecular Weight: Not Available

Melting Range (°C): Not Available

Solubility in water (g/L): Immiscible

pH (1 % solution): Not Available

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (°C): Not Available

State: Liquid

Boiling Range (°C): Not Available

Specific Gravity (water=1): >1

pH (as supplied): Not Available

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): >65

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Viscosity: Not Available

---

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

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### CONDITIONS CONTRIBUTING TO INSTABILITY

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

---

## 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

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

continued...

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## Section 11 - TOXICOLOGICAL INFORMATION

### SKIN

Skin contact with the material may be harmful; systemic effects may result following absorption.

The material may accentuate any pre-existing dermatitis condition.

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.

The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

### INHALED

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

### CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Based on experience with similar materials, there is a possibility that exposure to the material may reduce fertility in humans at levels which do not cause other toxic effects. Bisphenol A may have effects similar to female sex hormones and when administered to pregnant women, may damage the foetus. It may also damage male reproductive organs and sperm. Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. Sensitised persons should not be allowed to work in situations where exposure may occur.

### TOXICITY AND IRRITATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

#### TOXICITY IRRITATION.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. 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 sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising 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.

### CARCINOGEN

IARC: International Agency for Research on Cancer (IARC)

Carcinogens: graded sand Category: Group 1: Carcinogenic to humans

continued...

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## Section 12 - ECOLOGICAL INFORMATION

---

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.

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

### BISPHENOLA/ EPICHLOROHYDRIN RESIN:

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.

### BISPHENOL F/ EPICHLOROHYDRIN COPOLYMER:

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.

DO NOT discharge into sewer or waterways.

---

## Section 13 - DISPOSAL CONSIDERATIONS

---

If container can not be cleaned sufficiently well to ensure none of the original product remains 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.

---

## Section 14 - TRANSPORTATION INFORMATION

---

### HAZCHEM

None

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

---

## Section 15 - REGULATORY INFORMATION

---

### POISONS SCHEDULE

S5

### REGULATIONS

bisphenol A/ epichlorohydrin resin (CAS: 25068-38-6) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)

Australia Poisons Schedule

OECD Representative List of High Production Volume (HPV) Chemicals

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## Section 15 - REGULATORY INFORMATION

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graded sand (CAS: 14808-60-7) is found on the following regulatory lists;  
Australia - New South Wales Hazardous Substances Prohibited for Specific Uses  
Australia - New South Wales Hazardous Substances Requiring Health Surveillance  
Australia - South Australia Hazardous Substances Requiring Health Surveillance  
Australia - Tasmania Hazardous Substances Prohibited for Specified Uses  
Australia - Tasmania Hazardous Substances Requiring Health Surveillance  
Australia - Western Australia Hazardous Substances Requiring Health Surveillance  
Australia Hazardous Substances Requiring Health Surveillance  
Australia High Volume Industrial Chemical List (HVICL)  
Australia Inventory of Chemical Substances (AICS)  
Australia Occupational Health and Safety (Commonwealth Employment) (National Standards) Regulations 1994 - Hazardous Substances Requiring Health Surveillance  
International Agency for Research on Cancer (IARC) Carcinogens  
OECD Representative List of High Production Volume (HPV) Chemicals

aluminium powder coated (CAS: 7429-90-5) is found on the following regulatory lists;

Australia High Volume Industrial Chemical List (HVICL)  
Australia Inventory of Chemical Substances (AICS)  
OECD Representative List of High Production Volume (HPV) Chemicals

bisphenol F/ epichlorohydrin copolymer (CAS: 9003-36-5) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)  
Australia Poisons Schedule

(C12-14)alkylglycidyl ether (CAS: 68609-97-2) is found on the following regulatory lists;

Australia Inventory of Chemical Substances (AICS)  
Australia Poisons Schedule  
OECD Representative List of High Production Volume (HPV) Chemicals

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## Section 16 - OTHER INFORMATION

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