

EPIREZ CONTROL JOINT SEALANT [D5-070] HARDENER

Chemwatch Material Safety Data Sheet
Issue Date: 2-May-2006
C317SC

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

EPIREZ CONTROL JOINT SEALANT [D5-070] HARDENER

SYNONYMS

"amine adduct cured epoxy resin composition", "non-sag grade", "amine adduct",
catalyst, hardener, "curing agent"

PROPER SHIPPING NAME

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

PRODUCT USE

Used according to manufacturer's directions. 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. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Hardener component of a two-part joint control sealant.

SUPPLIER

Company: ITW Polymers & Fluids
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100 Hassall Street
Wetherill Park
NSW, 2164
AUS
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QUEENSLAND DISTRIBUTOR

INTERNATIONAL TRADERS Pty Ltd
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Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

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

POISONS SCHEDULE

S5

RISK

Harmful in contact with skin and if swallowed.
Causes burns.
Risk of serious damage to eyes.
May cause SENSITISATION by skin contact.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May cause harm to the unborn child.
Possible risk of impaired fertility.

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Section 2 - HAZARDS IDENTIFICATION

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 Poisons Information Centre.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
isophorone diamine	2855-13-2	30-60
butyl benzyl phthalate	85-68-7	10-30
4-nonylphenol	104-40-5	10-30
polypropylene glycol bis(2-aminopropyl ether)	9046-10-0	<10

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.
- Transport to hospital, or doctor.

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Section 4 - FIRST AID MEASURES

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.

NOTES TO PHYSICIAN

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1 % cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology].

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.

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Section 4 - FIRST AID MEASURES

- 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].

Section 5 - FIRE FIGHTING MEASURES

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.
- Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
- Heating may cause expansion or decomposition leading to violent rupture of

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Section 5 - FIRE FIGHTING MEASURES

containers.

- May emit acrid smoke and corrosive fumes.

Combustion products include carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

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

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.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- 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

- 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:

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Section 6 - ACCIDENTAL RELEASE MEASURES

butyl benzyl phthalate	500 mg/m ³
4-nonylphenol	500 mg/m ³

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

butyl benzyl phthalate	500 mg/m ³
4-nonylphenol	125 mg/m ³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

butyl benzyl phthalate	15 mg/m ³
4-nonylphenol	20 mg/m ³

The threshold concentration below which most people will experience no appreciable risk of health effects:

butyl benzyl phthalate	5 mg/m ³
4-nonylphenol	6 mg/m ³

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.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

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

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 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.

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Section 7 - HANDLING AND STORAGE

- 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.
Check regularly for spills and leaks.

STORAGE INCOMPATIBILITY

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

Avoid cross contamination between the two liquid parts of product (kit). If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur. This excess heat may generate toxic vapour.

Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

Avoid strong bases.

Avoid strong acids.

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.

Protect containers against physical damage.

Check regularly for spills and leaks.

No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

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

Epirez Control Joint Sealant [D5-070] Hardener: No data available for CW:68083

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

butyl benzyl phthalate: No data available for CAS:85-68-7

4-nonylphenol: No data available for CAS: 104-40-5

polypropylene glycol bis(2-aminopropyl ether): No data available for CAS:9046-10-0

None assigned. Refer to individual constituents.

INGREDIENT DATA

For each of the following

ISOPHORONE DIAMINE:

4-NONYLPHENOL:

POLYPROPYLENE GLYCOL BIS(2-AMINOPROPYL ETHER):

No exposure limits set by NOHSC orACGIH.

BUTYL BENZYL PHTHALATE:

No exposure limits set by NOHSC orACGIH.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OES TWA: 5 mg/m³
CEL TWA: 3 mg/m³; STEL: 5 mg/m³
[compare OEL TWA (Sweden): 3 mg/m³; STEL: 5 mg/m³]

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

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

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection.

Supplied-air type respirator may be required in special circumstances.

Correctfit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:
solvent, vapours, degreasing etc.,
evaporating from tank (in still air).
aerosols, fumes from pouring
operations, intermittent container

Air Speed:
0.25-0.5 m/s (50-100 f/min.)
0.5-1 m/s (100-200 f/min.)

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts(released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear viscous liquid with an amine-like odour; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.

Floats on water.

Corrosive.

Acid.

Molecular Weight: Not Available
Melting Range (°C): Not Available

Boiling Range (°C): Not Available
Specific Gravity (water=1): 0.99

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

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

pH (as supplied): Not Available

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): > 100 (PMCC)

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Contact with alkaline material liberates heat.

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.

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.

The vapour when concentrated has pronounced eye irritation effects and this gives some warning of high vapour concentrations. If eye irritation occurs seek to reduce exposure with available control measures, or evacuate area.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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.

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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 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.

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.

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 damaging to the health of the individual.

Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.

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.

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.

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

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Section 11 - TOXICOLOGICAL INFORMATION

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 acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Chronic exposure may inflame the skin or conjunctiva. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. 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. Exposure to alkyl phenolics is associated with reduced sperm count and fertility in males.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC)
Carcinogens: butyl benzyl phthalate Category: Group 3: Not classifiable as to carcinogenicity to humans

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:

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.

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Section 12 - ECOLOGICAL INFORMATION

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]

BUTYL BENZYL PHTHALATE:"

Fish LC50 (96hr.) (mg/l):" 1.7-5.3
"Daphnia magna EC50 (48hr.) (mg/l):" 0.26-0.76
"log Pow (Verschuereen 1983):" 4.78"
Half-life Soil - High (hours):" 168"
Half-life Soil - Low (hours):" 24"
Half-life Air - High (hours):" 60"
Half-life Air - Low (hours):" 6
"Half-life Surface water - High (hours):" 168
"Half-life Surface water - Low (hours):" 24
"Half-life Ground water - High (hours):" 4320
"Half-life Ground water - Low (hours):" 48
"Aqueous biodegradation - Aerobic - High (hours):" 168
"Aqueous biodegradation - Aerobic - Low (hours):" 24
"Aqueous biodegradation - Anaerobic - High (hours):" 4320
"Aqueous biodegradation - Anaerobic - Low (hours):" 672
"Aqueous photolysis half-life - Low (hours):" 876000
"Photooxidation half-life air - High (hours):" 60
"Photooxidation half-life air - Low (hours):" 6

log Kow: 4.78-4.91

Half-life (hr) air: 24-120

Henry's atm m³ /mol: 1.30E-06

BCF: 663

Toxicity Fish: LC50(96)1.7-43mg/L

Toxicity invertebrate: LC50(96)3.7mg/L

Bioaccumulation: little

Anaerobic effects: sig degrad

Effects on algae and plankton: LC50(96)0.4-1 mg/L

Degradation Biological: sig

processes Abiotic: not sig

The phthalate esters are distributed throughout the environment ubiquitously. They are found complexed with fulvic acid components of the humic substances in soil and marine and estuarine waters. Fulvic acid appears to act as a solubiliser for the otherwise insoluble ester and serves to mediate its transport and mobilisation in water or immobilisation in soil. Phthalate esters have been found in open ocean environments, in deep sea jelly fish, Atlantic herring and in mackerel. Phthalic ester plasticisers are clearly recognised as general contaminants of almost every soil and water ecosystem. In general they have low acute toxicity but the weight of evidence supporting their carcinogenicity is substantial. Other subtle chronic effects have also been reported. As little as 4 ug/ml in culture medium is lethal to chick embryo heart cells. This concentration is similar to that reached in human blood stored in vinyl plastic bags for as little as one day. Some phthalates (notably di-ethylhexyl phthalate and dibutyl phthalate) may also be detrimental to the reproduction of the water flea (*Daphnia magna*), zebra fish and guppies. As phthalates are present in drinking water and food, concerns have been raised about their long term effects on humans.

continued...

EPIREZ CONTROL JOINT SEALANT [D5-070] HARDENER

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Section 12 - ECOLOGICAL INFORMATION

4-NONYLPHENOL:

Ecotoxicity:

Fish LC50 (96 h) 0.13 mg/l Atlantic salmon (*Salmo salar*)

Bioconcentration: 2.76 mg/l (16 h) BCF (residue) common bay mussel, blue mussel (*Mytilus edulis*) 5.9 ug/l

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

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

butyl benzyl phthalate (CAS: 85-68-7) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) Carcinogens
OECD Representative List of High Production Volume (HPV) Chemicals

4-nonylphenol (CAS: 104-40-5) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

polypropylene glycol bis(2-aminopropyl ether) (CAS: 9046-10-0) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
Australia Poisons Schedule

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
butyl benzyl phthalate	85-68-7	N;R50/53
4-nonylphenol	104-40-5	Xn;R22 R43 N; R50/53

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Issue Date: 2-May-2006
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EPIREZ CONTROL JOINT SEALANT [D5-070] COMPOUND

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

EPIREZ CONTROL JOINT SEALANT [D5-070] COMPOUND

SYNONYMS

"non sag control joint amine adduct cured epoxy resin sealant nonsag", "epoxide resin"

PROPER SHIPPING NAME

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains butyl benzyl phthalate)

PRODUCT USE

Used according to manufacturer's directions. 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. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Base component of a two-part control joint sealant.

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

Section 2 - HAZARDS IDENTIFICATION

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.

Irritating to eyes and skin.

May cause SENSITISATION by skin contact.

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

May cause harm to the unborn child.

Possible risk of impaired fertility.

continued...

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Section 2 - HAZARDS IDENTIFICATION

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 Poisons Information Centre.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
bisphenol A/ epichlorohydrin resin, liquid(25068-38-6	30-60
C12-14)alkylglycidyl ether	68609-97-2	<10
butyl benzyl phthalate	85-68-7	<10
resin		30-60

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:

- 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

continued...

EPIREZ CONTROL JOINT SEALANT [D5-070] COMPOUND

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Section 4 - FIRST AID MEASURES

resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

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 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 dioxide (CO₂), aldehydes, nitrogen oxides (NO_x), 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

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

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.

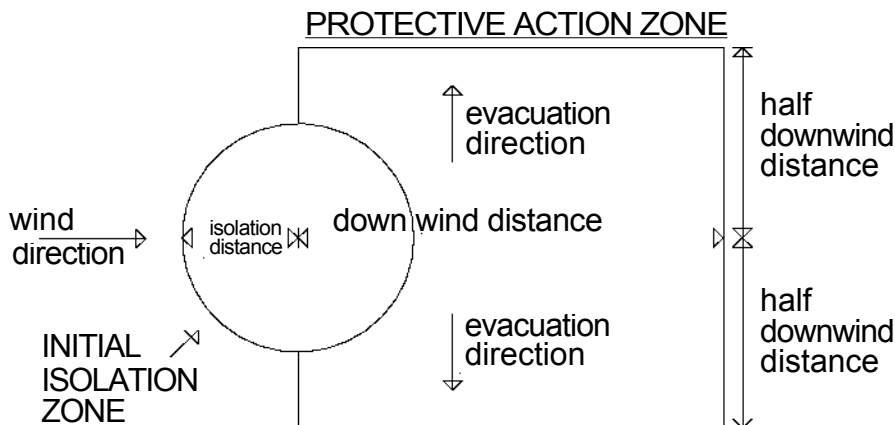
MAJOR SPILLS

Environmental hazard - contain spillage.

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.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance	-
Downwind Protection Distance	10 metres
IERG Number	47

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

continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES

confines the vapour 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 vapour 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 localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

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

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

5 Guide 171 is taken from the US DOT emergency response guide book.

6 IERG information is derived from CAN UTEC -Transport Canada.

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, liquid 500 mg/m³

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

bisphenol A/ epichlorohydrin resin, liquid 50 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

bisphenol A/ epichlorohydrin resin, liquid 30 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

bisphenol A/ epichlorohydrin resin, liquid 10 mg/m³

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

PROCEDURE FOR HANDLING

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

- 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.
- Avoid smoking, naked lights or ignition sources.
- 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.
- 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.

SUITABLE CONTAINER

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

STORAGE INCOMPATIBILITY

Avoid cross contamination between the two liquid parts of product (kit). If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur. This excess heat may generate toxic vapour. Avoid reaction with amines, mercaptans, strong acids and 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

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

Epirez Control Joint Sealant [D5-070] Compound: No data available for CW:68082

bisphenol A/ epichlorohydrin resin, liquid: No data available for CAS:25068-38-6 CAS:25085-99-8(

C12-14)alkylglycidyl ether: No data available for CAS:68609-97-2

butyl benzyl phthalate: No data available for CAS:85-68-7

None assigned. Refer to individual constituents.

continued...

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENT DATA

For each of the following

BISPHENOLA/ EPICHLOROHYDRIN RESIN, LIQUID:(

C12-14)ALKYLGLYCIDYL ETHER:

No exposure limits set by NOHSC orACGIH.

BUTYL BENZYL PHTHALATE:

No exposure limits set by NOHSC orACGIH.

OES TWA: 5 mg/m³

CEL TWA: 3 mg/m³; STEL: 5 mg/m³

[compare OEL TWA (Sweden): 3 mg/m³; STEL: 5 mg/m³]

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

- When handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butatoluene 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.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

ENGINEERING CONTROLS

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection.

Supplied-air type respirator may be required in special circumstances.

Correctfit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some

continued...

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

continued...

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear 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): 1.1

pH (as supplied): Not Available

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): > 100 (PMCC)

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 toxicity of phthalates is not excessive due to slow oral absorption and metabolism. Absorption is affected by fat in the diet. Repeated doses can cause cumulative toxic effects, and symptoms include an enlarged liver which often reverses if exposure is maintained. Carbohydrate metabolism is disrupted, and cholesterol and triglyceride levels in the blood falls. There can also be withering of the testicles. Some phthalates can increase the effects of antibiotics, thiamine (vitamin B1) and sulfonamides.

EYE

This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

continued...

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Section 11 - TOXICOLOGICAL INFORMATION

SKIN

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

This material can cause inflammation of the skin on contact in some persons.

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.

INHALED

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.

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

CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. 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. 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. Exposure to phthalates over years leads to pain, numbness and spasms in the hands and feet. Many people have developed multiple disorders in the nervous system and the balancing system. Levels of sex hormones are reduced in women, leading to missed ovulations and miscarriages. They also reduce sperm counts and fertility in men. They mimic certain sex hormones and can damage the foetus. Phthalates are found in paints, inks and glues.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC)

Carcinogens: butyl benzyl phthalate Category: Group 3: Not classifiable as to carcinogenicity to humans

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant: Not Determined

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

BISPHENOLA/ EPICHLOROHYDRIN RESIN, LIQUID:

Do NOT allow product to come in contact with surface waters or to intertidal

continued...

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Section 12 - ECOLOGICAL INFORMATION

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.

BUTYL BENZYL PHTHALATE:"

Fish LC50 (96hr.) (mg/l):" 1.7-5.3

"Daphnia magna EC50 (48hr.) (mg/l):" 0.26-0.76

"log Pow (Verschueren 1983):" 4.78"

Half-life Soil - High (hours):" 168"

Half-life Soil - Low (hours):" 24"

Half-life Air - High (hours):" 60"

Half-life Air - Low (hours):" 6

"Half-life Surface water - High (hours):" 168

"Half-life Surface water - Low (hours):" 24

"Half-life Ground water - High (hours):" 4320

"Half-life Ground water - Low (hours):" 48

"Aqueous biodegradation - Aerobic - High (hours):" 168

"Aqueous biodegradation - Aerobic - Low (hours):" 24

"Aqueous biodegradation - Anaerobic - High (hours):" 4320

"Aqueous biodegradation - Anaerobic - Low (hours):" 672

"Aqueous photolysis half-life - Low (hours):" 876000

"Photooxidation half-life air - High (hours):" 60

"Photooxidation half-life air - Low (hours):" 6

log Kow: 4.78-4.91

Half-life (hr) air: 24-120

Henry's atm m³ /mol: 1.30E-06

BCF: 663

Toxicity Fish: LC50(96)1.7-43mg/L

Toxicity invertebrate: LC50(96)3.7mg/L

Bioaccumulation: little

Anaerobic effects: sig degrad

Effects on algae and plankton: LC50(96)0.4-1 mg/L

Degradation Biological: sig

processes Abiotic: not sig

The phthalate esters are distributed throughout the environment ubiquitously. They are found complexed with fulvic acid components of the humic substances in soil and marine and estuarine waters. Fulvic acid appears to act as a solubiliser for the otherwise insoluble ester and serves to mediate its transport and mobilisation in water or immobilisation in soil. Phthalate esters have been found in open ocean environments, in deep sea jelly fish, Atlantic herring and in mackerel. Phthalic ester plasticisers are clearly recognised as general contaminants of almost every soil and water ecosystem. In general they have low acute toxicity but the weight of evidence supporting their carcinogenicity is substantial. Other subtle chronic effects have also been reported. As little as 4 ug/ml in culture medium is lethal to chick embryo heart cells. This concentration is similar to that reached in human blood stored in vinyl plastic bags for as little as one day. Some phthalates (notably di-ethylhexyl phthalate and dibutyl phthalate) may also be detrimental to the reproduction of the water flea (*Daphnia magna*), zebra fish and guppies. As phthalates are present in drinking water and food, concerns have been raised about their long term effects on humans.

continued...

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Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill. 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

miscellaneous

HAZCHEM

2X

Land Transport UNDG:

Dangerous Goods Class:	9	Subrisk:	None
UN Number:	3082	Packing Group:	III
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains butyl benzyl phthalate)			

Air Transport IATA:

ICAO/IATA Class:	9	ICAO/IATA Subrisk:	None
UN/ID Number:	3082	Packing Group:	III
ERG Code:	9L		
Shipping Name: Environmentally hazardous substance, liquid, n.o.s. *			

Maritime Transport IMDG:

IMDG Class:	9	IMDG Subrisk:	None
UN Number:	3082	Packing Group:	III
EMS Number:	None	Marine Pollutant:	Not Determined
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.			

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

S5

REGULATIONS

bisphenol A/ epichlorohydrin resin, liquid (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
bisphenol A/ epichlorohydrin resin, liquid (CAS: 25085-99-8) is found on the

continued...

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Section 15 - REGULATORY INFORMATION

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

(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

butyl benzyl phthalate (CAS: 85-68-7) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) Carcinogens
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
butyl benzyl phthalate	85-68-7	N;R50/53

Ingredients with multiple CAS Numbers

Ingredient Name	CAS
bisphenol A/ epichlorohydrin resin, liquid	25068-38-6, 25085-99-8

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