Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
EPIREZ FLEXIBLE NON-SAG EPOXY SEALANT [D50-70NS] HARDENER

SYNONYMS
"Product Code: E1 15082H"

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

PRODUCT USE
Hardener or Part B of a 2 pack. epoxy sealant. 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.

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

continued...

SAFETY

Avoid exposure - obtain special instructions before use.
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	>60
4-nonylphenol	104-40-5	<5
butyl benzyl phthalate	85-68-7	<5
fillers, unregulated		10-30

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.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.

continued...

- 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

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].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

continued...

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 (CO2), nitrogen oxides (NOx), 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 set30 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.

continued...

- 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.

Chemical Class: amines, alkyl

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

SORBENT TYPE	RANK	APPLICATION	COLLECTION	LIMITATIONS
LAND SPILL - SMALL				
cross-linked polymer - particulate	1	shovel throw	shovel pitchfork	R, W, SS R,DGC, RT
cross-linked polymer - pillow	1	shovel	shovel	R, I, P
sorbent clay - particulate	2			
wood fiber - pillow	3	throw	pitchfork	R, P, 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 -particulate	1	blower	skiploader	R, W, SS
cross-linked polymer - pillow	2	throw blower	skiploader	R, DGC, RT R, I, P
sorbent clay - particulate	3	blower	skiploader	W, SS, DGC
polypropylene- particulate	3			
expanded mineral - particulate	4	blower	skiploader	R, I, W, P, DGC

continued...

polypropylen e - 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.

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

Section 7 - HANDLING AND STORAGE

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

Glass container.
DO NOT use aluminium or galvanised containers.
- Lined metal can, Lined metal pail/ can
- Plastic pail
- Polyliner drum
- Packing as recommended by manufacturer.

continued...

- 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 bases. Avoid strong acids. Avoid contact with copper, aluminium and their alloys.
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.

DO NOT store near acids, or oxidising agents.
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 Flexible Non-Sag Epoxy Sealant [D50-70NS] Hardener: No data available for CW:5139-87
isophorone diamine: No data available for CAS:2855-13-2
4-nonylphenol: No data available for CAS: 104-40-5
butyl benzyl phthalate: No data available for CAS:85-68-7

INGREDIENT DATA

For each of the following
ISOPHORONE DIAMINE:
4-NONYLPHENOL:
No exposure limits set by NOHSC orACGIH.

BUTYL BENZYL PHTHALATE:
No exposure limits set by NOHSC orACGIH.
OES TWA: 5 mg/m^3
CEL TWA: 3 mg/m^3; STEL: 5 mg/m^3
[compare OEL TWA (Sweden): 3 mg/m^3; STEL: 5 mg/m^3]

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 lensor restrictions on use, should be created for each workplace or task. Thisshould include a review of lens absorption and adsorption for the class of

continued...

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 a:
- 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 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

Off-white non-slump paste with a characteristic odour; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.
Sinks in water.
Corrosive.
Alkaline.

Molecular Weight: Not Available	Boiling Range (°C): Not Available
Melting Range (°C): Not Available	Specific Gravity (water=1): >1
Solubility in water (g/L): Immiscible	pH (as supplied): Not Available
pH (1 % solution): Not Available	Vapour Pressure (kPa): Not Available

continued...

Volatile Component (%vol): Not Available
Evaporation Rate: Not Available
Relative Vapour Density (air=1): Not Available
Flash Point (°C): Not Available
Lower Explosive Limit (%): Not Available
Upper Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
Decomposition Temp (°C): Not Available
State: LIQUID
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 mucous. If death does not occur within 24 hours there may be an improvement in the patients condition for 2-4 days only to be followed by the sudden onset of abdominal pain, boardlike abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.
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

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.
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

continued...

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.
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

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

continued...

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 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. 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. 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

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

The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.

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.

continued...

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 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:

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]

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

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

continued...

"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 m^3 /mol: 1.30E-06
BCF: 663
Toxicity Fish: LC50(96)1.7-43mg/L
Toxicity invertebrate: LC50(96)3.7mg/L
Bioacculmulation: 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 di2-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.

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.

continued...

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.

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

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

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

continued...

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

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

Issue Date: 27-Apr-2006
Print Date: 13-Jul-2006

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

EPIREZ FLEXIBLE NON-SAG EPOXY SEALANT [D50-70NS] COMPOUND

SYNONYMS

"Product Code: E1 15082C"

PRODUCT USE

Base or Part A of a 2 pack. epoxy sealant. 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.

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 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.

SAFETY

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

continued...

Poisons Information Centre.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
bisphenol A/ epichlorohydrin resin	25068-38 -6	10-30
(C12-14)alkylglycidyl ether	68609-97 -2	1-5
polyurethane prepolymer resin	63439-95 -2	30-60
butyl benzyl phthalate	85-68-7	1-5
fillers, unregulated		10-30

Section 4 - FIRST AID MEASURES

SWALLOWED

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.
- Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
- INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS.

Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
NOTE: Wear a protective glove when inducing vomiting by mechanical means.

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.

continued...

• 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 sub-chronic and chronic exposures to isocyanates:
• This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
• Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
• Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
• Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
• Some cross-sensitivity occurs between different isocyanates.
• Noncardiogenic pulmonary edema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
• Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
• Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
• Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
• There is no effective therapy for sensitised workers.
[Ellenhorn and Barceloux; Medical Toxicology]
NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.[Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992].
for poisons (where specific treatment regime is absent):

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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.

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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.

continued...

- 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.
- Water spray or fog - Large fires only.

FIRE FIGHTING

- 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 courses.
- Use water delivered as a fine spray to control fire and cool adjacent 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

Combustion products include, carbon monoxide (CO), carbon dioxide (CO2), isocyanates, and minor amounts of, hydrogen cyanide, aldehydes, nitrogen oxides(NOx), other pyrolysis products typical of burning organic material.
May emit clouds of acrid smoke.
May emit poisonous fumes.
Flooding quantities of water only.

- Combustible.
- Moderate fire hazard when exposed to heat or flame.
- When heated to high temperatures decomposes rapidly generating vapour which pressures and may then rupture containers with release of flammable and highly toxic isocyanate vapour.
- Burns with acrid black smoke and poisonous fumes.
- Combustion yields traces of highly toxic hydrogen cyanide HCN, plus toxic nitrogen oxides NOx and carbon monoxide.
- Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Presents additional hazard when fire fighting in a confined space.
- Cooling with flooding quantities of water reduces this risk.

FIRE INCOMPATIBILITY

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

continued...

HAZCHEM

None

Personal Protective Equipment

Breathing apparatus.
Gas tight chemical resistant suit.
Limit exposure duration to 1 BA set30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety goggles.
- Trowel up/scrape up.
- Place spilled material in clean, dry, sealed container.
- Flush spill area with water.

MAJOR SPILLS

Treat isocyanate spills with sufficient amounts of isocyanate decontaminant preparation. Typically, such a preparation may consist of: sawdust: 20 parts by weight Kieselguhr 40 parts by weight plus a mixture of {ammonia (s.g. 0.880) 8% v/v non-ionic surfactant 2% v/v water 90% v/v}. Let stand for 24 hours.

- 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.
- 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^3
butyl benzyl phthalate	500 mg/m^3

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^3
butyl benzyl phthalate	500 mg/m^3

continued...

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

bisphenol A/ epichlorohydrin resin	30 mg/m³
butyl benzyl phthalate	15 mg/m³

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

bisphenol A/ epichlorohydrin resin	10 mg/m³
butyl benzyl phthalate	5 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.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

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

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

Store below 38 deg. C.
- Store in original containers.

continued...

- 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 Flexible Non-Sag Epoxy Sealant [D50-70NS] Compound: No data available for CW:5139-86
bisphenol A/ epichlorohydrin resin: No data available for CAS:25068-38-6
(C12-14)alkylglycidyl ether: No data available for CAS:68609-97-2
polyurethane prepolymer resin: No data available for CAS:63439-95-2 CAS:127289-54-7 CAS:70644-77-8 CAS: 141910-67-0
butyl benzyl phthalate: No data available for CAS:85-68-7

INGREDIENT DATA

BISPHENOLA/ EPICHLOROHYDRIN RESIN:

(C12-14)ALKYLGLYCIDYL ETHER:
No exposure limits set by NOHSC orACGIH.

POLYURETHANE PREPOLYMER RESIN:
Some jurisdictions require that health surveillance be conducted on occupationally exposed workers. This should emphasise:
·demography, occupational and medical history and health advice
·completion of a standardised respiratory questionnaire
·physical examination of the respiratory system and skin
·standardised respiratory function tests such as FEV1, FVC and FEV1/FVC.

BUTYL BENZYL PHTHALATE:
No exposure limits set by NOHSC orACGIH.
OES TWA: 5 mg/m^3
CEL TWA: 3 mg/m^3; STEL: 5 mg/m^3
[compare OEL TWA (Sweden): 3 mg/m^3; STEL: 5 mg/m^3]

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 lensor restrictions on use, should be created for each workplace or task. Thisshould 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 removedin a clean environment only after workers have washed hands thoroughly. [CDC

continued...

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. Correct fit 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:	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.)

continued...

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 theair 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

Off white non-slump paste with a characteristic odour; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.
Sinks in water.

Molecular Weight: Not Available	Boiling Range (°C): Not Available
Melting Range (°C): Not Available	Specific Gravity (water=1): >1
Solubility in water (g/L): Immiscible	pH (as supplied): Not Applicable
pH (1 % solution): Not Applicable	Vapour Pressure (kPa): Not Available
Volatile Component (%vol): Not Available	Evaporation Rate: Not Available
Relative Vapour Density (air=1): Not Available	Flash Point (°C): Not Available
Lower Explosive Limit (%): Not Available	Upper Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available	Decomposition Temp (°C): Not Available
State: Non Slump Paste	Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

continued...

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 can cause eye irritation and damage in some persons.
The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated.

SKIN

Skin contact with the material may damage the health of the individual; 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

The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting.
Pulmonary sensitisation may produce asthmatic reactions ranging from minor breathing difficulties to severe allergic attacks; this may occur following a single acute exposure or may develop without warning for several hours after exposure. Sensitized people can react to very low doses, and should not be allowed to work in situations allowing exposure to this material. Continued exposure of sensitised persons may lead to possible long term respiratory impairment.
Inhalation hazard is increased at higher temperatures.

continued...

CHRONIC HEALTH EFFECTS

Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. [CCTRADE-Bayer, APMF]. 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. 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. Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

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

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:

continued...

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.

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 m^3 /mol: 1.30E-06
BCF: 663
Toxicity Fish: LC50(96)1.7-43mg/L
Toxicity invertebrate: LC50(96)3.7mg/L
Bioacculmulation: 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 di2-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...

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

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

(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

polyurethane prepolymer resin (CAS No:63439-95-2):
No regulations applicable

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

No data available for polyurethane prepolymer resin as CAS: 63439-95-2, CAS: 127289-54-7, CAS: 70644-77-8, CAS: 141910-67-0, CAS: 144637-69-4.

continued...

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
polyurethane prepolymer resin	63439-95-2,127289-54-7, 70644-77-8,141910-67-0, 144637-69-4

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