

POWER-FAST PRO PART B

Chemwatch Material Safety Data Sheet
Issue Date: Fri 15-Jul-2005

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

POWER-FAST PRO PART B

SYNONYMS

PROPER SHIPPING NAME

AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID,
CORROSIVE, N.O.S.
(contains diethylenetriamine)

PRODUCT USE

Compound mortar. Part B of a 2-part epoxy system.

SUPPLIER

Company: Powers Fasteners Australasia Pty Ltd

Address:

Factory 3, 205 Abbots Road

Dandenong South

VIC, 3175

AUS

Telephone: +61 3 8787 5888

Telephone: 1800 677 872 (freecall)

Fax: +61 3 8787 5899

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.

Causes burns.

Risk of serious damage to eyes.

May cause SENSITISATION by skin contact.

Harmful to aquatic organisms.

SAFETY

Keep locked up.

Keep container in a well ventilated place.

Avoid exposure - obtain special instructions before use.

To clean the floor and all objects contaminated by this material, use water and detergent.

Take off immediately all contaminated clothing.

In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
diethylenetriamine	111-40-0	10-24
phenol	108-95-2	1-4

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.
- 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:

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Section 4 - FIRST AID MEASURES

- 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.

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.

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Section 5 - FIRE FIGHTING MEASURES

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), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.
May emit corrosive fumes.
May emit poisonous 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

PERSONAL PROTECTION 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/ aerosols/ or dusts and avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- 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.

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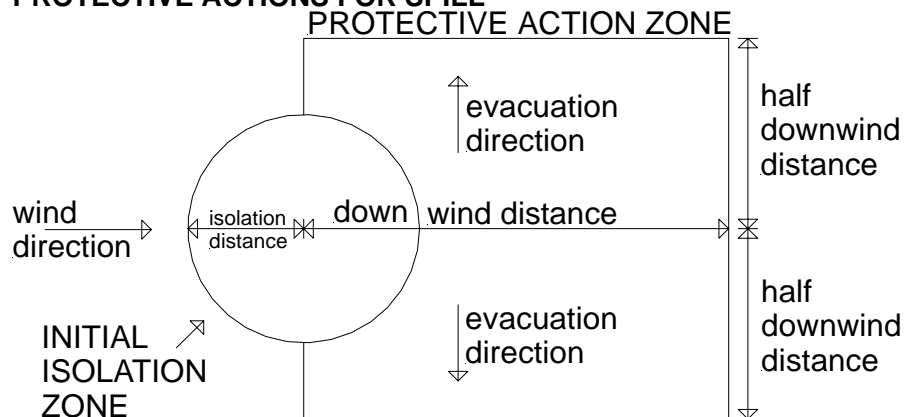
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Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (ppm)	Revised IDLH Value (mg/m ³)
Phenol	250	

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	250 metres
IERG Number	36

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the 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 154 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - 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:

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Section 6 - ACCIDENTAL RELEASE MEASURES

diethylenetriamine 100 ppm

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

diethylenetriamine 2 ppm

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

diethylenetriamine 1 ppm

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

diethylenetriamine 1 ppm

American Industrial Hygiene Association (AIHA)

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.
- 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

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

STORAGE INCOMPATIBILITY

Avoid strong acids.
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.

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Section 7 - HANDLING AND STORAGE

- Observe manufacturer's storing and handling recommendations.
DO NOT store near acids, or oxidising agents.
No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³
Australian Exposure Standards	Diethylene triamine	1	4.2				
Australian Exposure Standards	Phenol	1	4				

ODOUR SAFETY FACTOR (OSF)

OSF=25 (PHENOL)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities
B	26-550	As "A" for 50-90% of persons being distracted
C	1-26	As "A" for less than 50% of persons being distracted
D	0.18-1	10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As "D" for less than 10% of persons aware of being tested

INGREDIENT DATA

DIETHYLENETRIAMINE:

Not available. Refer to individual constituents.

PHENOL:

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Odour Threshold Value: 0.060 ppm (detection)

IDLH Level: 250 ppm

NOTE: Detector tubes for phenol, measuring in excess of 1 ppm, are commercially available.

Systemic absorption by all routes may induce convulsions with damage to the lungs and central nervous system.

Exposure at or below the recommended TLV-TWA is thought to protect the worker from respiratory, cardiovascular, hepatic, renal and neurological toxicity. Workers or volunteers exposed at or below 5.2 ppm have experienced no ill-effects. Because phenol as a vapour, liquid or solid can penetrate the skin causing systemic effects, a skin notation is considered necessary. Although ACGIH has not recommended a STEL it is felt that ACGIH excursion limits (15 ppm limited to a total duration of 30 minutes with brief excursions limited to no more than 25 ppm) and NIOSH Ceiling values are sufficiently similar so as to provide the same margin of safety.

PERSONAL PROTECTION

EYE

- Chemical goggles.
- Full face shield.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

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.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection: diethylenetriamine, phenol

Protective Material CPI *

BUTYL	A
VITON	A
NEOPRENE	A
PVC	C

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	AK-AUS P	-
1000	50	-	AK-AUS P
5000	50	Airline *	-
5000	100	-	AK-2 P
10000	100	-	AK-3 P
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

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. 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	2.5-10 m/s (500-2000 f/min.)

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

(released at high initial velocity into zone of very high rapid air motion)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only.
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 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.

Refer also to protective measures for the other component used with the product. Read both MSDS before using; store and attach MSDS together.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Black paste with an amine-type odour; slightly soluble in water.

PHYSICAL PROPERTIES

Corrosive.

Alkaline.

Molecular Weight: Not Applicable

Melting Range (°C): Not Available

Solubility in water (g/L): Partly Miscible

pH (1% solution): ~10 (20%)

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (°C): Not Available

State: Non Slump Paste

Boiling Range (°C): >200

Specific Gravity (water=1): 1.41

pH (as supplied): Not Applicable

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): 111

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.

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Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

- Product is considered stable.
 - Hazardous polymerisation will not occur.
-

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments.

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

Aliphatic and alicyclic amines are generally well absorbed from the gut.

Corrosive action may cause tissue damage throughout the gastrointestinal tract.

Detoxification is thought to occur in the liver, kidney and intestinal mucosa with the enzymes, monoamine oxidase and diamine oxidase (histaminase) having a significant role.

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, board-like 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.

Vapours of volatile amines cause eye irritation with lachrymation, conjunctivitis and minor transient corneal oedema which results in "halos" around lights (glauropsia). This effect disappears spontaneously within a few hours of the end of exposure, and does not produce physiological after-effects. Although no detriment to the eye occurs as such, glauropsia predisposes an affected individual to physical accidents and reduces the ability to undertake skilled tasks such as driving a vehicle.

Direct local contact with the liquid may produce eye damage which may be permanent in the case of the lower molecular weight species.

SKIN

The material can produce chemical burns following direct contact with the skin. Volatile amine vapours produce primary skin irritation and dermatitis. Direct local contact, with the lower molecular weight liquids, may produce skin burns. Percutaneous absorption of simple aliphatic amines is known to produce lethal effects often the same as that for oral administration. Cutaneous sensitisation has been recorded chiefly due to ethyleneamines. Histamine release following exposure to many aliphatic amines may result in "triple response" (white vasoconstriction, red flare and wheal) in human skin.

Toxic effects may result from skin absorption.

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

INHALED

Not normally a hazard due to non-volatile nature of product.

Inhalation hazard is increased at higher temperatures.

Inhalation of amine vapours may cause irritation of the mucous membranes of the

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Section 11 - TOXICOLOGICAL INFORMATION

nose and throat and lung irritation with respiratory distress and cough. Single exposures to near lethal concentrations and repeated exposures to sublethal concentrations produces tracheitis, bronchitis, pneumonitis and pulmonary oedema. Aliphatic and alicyclic amines are generally well absorbed from the respiratory tract. Systemic effects include headache, nausea, faintness and anxiety. These effects are thought to be transient and are probably related to the pharmacodynamic action of the amines. Histamine release by aliphatic amines may produce bronchoconstriction and wheezing.

CHRONIC HEALTH EFFECTS

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. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Sensitisation may result in allergic dermatitis responses including rash, itching, hives or swelling of extremities. Sensitisation may give severe responses to very low levels of exposure, in situations where exposure may occur. Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

DIETHYLENETRIAMINE:

TOXICITY

Oral (rat) LD50: 1080 mg/kg

Dermal (rabbit) LD50: 1090 mg/kg

SEVERE

IRRITATION

Skin (rabbit): 500 mg open Moderate

Skin (rabbit): 10 mg/24h - SEVE

PHENOL:

TOXICITY

Oral (rat) LD50: 317 mg/kg

Oral (human) LDLo: 140 mg/kg

Inhalation (rat) LC50: 316 mg/m³

Dermal (rabbit) LD50: 850 mg/kg

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

IRRITATION

Skin(rabbit): 500 mg/24hr - SEVERE

Skin(rabbit): 500 mg open -SEVERE

Eye(rabbit): 5 mg - SEVERE

Eye(rabbit): 100 mg rinse - Mild

Section 12 - ECOLOGICAL INFORMATION

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

Harmful to aquatic organisms.

DO NOT discharge into sewer or waterways.

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Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

DIETHYLENETRIAMINE:

log Kow (Prager 1995): -1.27

Harmful to aquatic organisms.

Ecotoxicity:

LC50: 17 mg/l (Daphnia magna)*

LC50: 332 mg/l (Pimephales promelas)*

LC50: 710 mg/l (Artemia salina)*

*[ITW Ramset / Red Head]

log Kow : -2.27

The material will leach into ground water and is not expected to be biodegradable. No significant degree of bioaccumulation is anticipated. A large spill could be toxic to biomass in a treatment plant or could be toxic to fish.

Evaporated material is expected to photodegrade following reaction with hydroxy radicals; the half-life in air is thought to be less than a day.

Harmful to aquatic organisms.

PHENOL:

Hazardous Air Pollutant: Yes

Fish LC50 (96hr.) (mg/l): 0.001-56

Daphnia magna EC50 (48hr.) (mg/l): 56

Algae IC50 (72hr.) (mg/l): 4.6-7.5

BCF<100: 7.6

log Kow (Prager 1995): 1.46

log Kow (Sangster 1997): 1.5

log Pow (Verschueren 1983): 1.46

BOD5: 1.68

COD: 2.33

ThOD: 2.26

Half-life Soil - High (hours): 240

Half-life Soil - Low (hours): 24

Half-life Air - High (hours): 22.8

Half-life Air - Low (hours): 2.28

Half-life Surface water - High (hours): 56.5

Half-life Surface water - Low (hours): 5.3

Half-life Ground water - High (hours): 168

Half-life Ground water - Low (hours): 12

Aqueous biodegradation - Aerobic - High (hours): 84

Aqueous biodegradation - Aerobic - Low (hours): 6

Aqueous biodegradation - Anaerobic - High (hours): 672

Aqueous biodegradation - Anaerobic - Low (hours): 192

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Section 12 - ECOLOGICAL INFORMATION

Aqueous biodegradation - Removal secondary treatment - High (hours): 99.90%
Aqueous biodegradation - Removal secondary treatment - Low (hours): 90%
Aqueous photolysis half-life - High (hours): 173
Aqueous photolysis half-life - Low (hours): 46
Photolysis maximum light absorption - High (nano-m): 269
Aqueous photolysis half-life - High (hours): 173
Aqueous photolysis half-life - Low (hours): 46
Photooxidation half-life water - High (hours): 3840
Photooxidation half-life water - Low (hours): 77
Photooxidation half-life air - High (hours): 22.8
Photooxidation half-life air - Low (hours): 2.28

The material is classified as an ecotoxin* because the Fish LC50 (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment)

Appendix 8, Table 1

Compiler's Guide for the Preparation of International Chemical Safety Cards:
1993 Commission of the European Communities.

log Kow : 1.46-1.5

Koc : 39-148

Half-life (hr) air : 0.25-16

Half-life (hr) H2O surface water : 19-100

Henry's atm m3 /mol: 3.97E-07

BOD 5 if unstated: 1.68

COD : 2.28-2.37

ThOD : 2.26-2.40

BCF : 1.9-277

Nitrif. inhib. : 50% inhib at 9mg/L

The material is classified as an ecotoxin* because the Fish LC50 (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment)

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ThOD : 2.26-2.40

BCF : 1.9-277

Nitrif. inhib. : 50% inhib at 9mg/L

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

continued...

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Section 14 - TRANSPORTATION INFORMATION



Shipping Name:
AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE,
N.O.S.
Dangerous Goods Class: 8
Subrisk: None
UN/NA Number: 3259
Packing Group: III
Labels Required: corrosive
Additional Shipping Information:
International Transport Regulations:
IMO Dangerous Goods class: 3259
IMO Packing group: I
IATA Dangerous goods class: 8
Cargo Instructions: 823
Cargo Max: 100 KG
Passenger Instructions: 822
Passenger Max: 25 KG
Special Provisions: None, 274

HAZCHEM

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Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

S5

REGULATIONS

diethylenetriamine (CAS: 111-40-0) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)
Australian Poisons Schedule

phenol (CAS: 108-95-2) is found on the following regulatory lists:
Australia High Volume Industrial Chemical List (HVICL)
Australian Inventory of Chemical Substances (AICS)
Australian Poisons Schedule

Section 16 - OTHER INFORMATION

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Section 16 - OTHER INFORMATION

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