

AC100 PRO PART B

Chemwatch Material Safety Data Sheet
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

AC100 PRO PART B

SYNONYMS

PROPER SHIPPING NAME

ORGANIC PEROXIDE TYPE E, SOLID

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

Australia

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

Risk of explosion by shock, friction, fire or other sources of ignition.

Contact with combustible material may cause fire.

Irritating to eyes.

May cause SENSITISATION by skin contact.

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

May cause harm to the unborn child.

Possible risk of impaired fertility.

SAFETY

Keep away from combustible material.

Avoid exposure - obtain special instructions before use.

Do not empty into drains.

Take off immediately all contaminated clothing.

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

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label

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Section 2 - HAZARDS IDENTIFICATION

if possible).

Use appropriate container to avoid environment contamination.

Avoid release to the environment. Refer to special instructions/Safety data sheets.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
dibenzoyl peroxide	94-36-0	20-40
butyl benzyl phthalate	85-68-7	5-40
dicyclohexyl phthalate	84-61-7	5-40
silica amorphous	7631-86-9	1-10
bisphenol A/ epichlorohydrin resin	25068-38-6	0-1
phenol/ formaldehyde/ epichlorohydrin copolymer	9003-36-5	0-1

Section 4 - FIRST AID MEASURES

SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

If this product comes in contact with the eyes:

- Immediately hold the eyelids apart and flush the eye with 2% sodium carbonate solution or 5% sodium ascorbate solution then wash continuously for at least 15 minutes 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.
- Transport to hospital (or doctor) without further delay.
- Removal of contact lenses should only be undertaken by trained 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.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Toxic myocarditis may follow ingestion of oxidizing agents such as peroxides.

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Section 4 - FIRST AID MEASURES

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.
 - DO NOT attempt neutralisation as exothermic reaction may occur.
 - Skin burns should be covered with dry, sterile bandages, following decontamination.
-

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
 - Positive-pressure ventilation using a bag-valve mask might be of use.
 - Monitor and treat, where necessary, for arrhythmias.
 - Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
 - Drug therapy should be considered for pulmonary oedema.
 - Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
 - Treat seizures with diazepam.
 - Proparacaine hydrochloride should be used to assist eye irrigation.
- BRONSTEIN, A.C. and CURRANCE, P.L.
EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

FOR SMALL FIRE:

- Water spray, foam, CO2 or dry chemical.
- DO NOT use water jets.

FOR LARGE FIRE:

- Flood fire area with water from a distance.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- Fight fire from a safe distance, with adequate cover.
- Extinguishers should be used only by trained personnel.
- Use water delivered as a fine spray to control fire and cool adjacent area.

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Section 5 - FIRE FIGHTING MEASURES

- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- If fire gets out of control withdraw personnel and warn against entry.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Will not burn but increases intensity of fire.
- May explode from friction, shock, heat or containment.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- Heat affected containers remain hazardous.
- Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.
- May emit irritating, poisonous or corrosive fumes.
- Combustion/decomposition may produce acrid/toxic fumes of carbon monoxide (CO).

Organic peroxides provide internal oxygen for combustion, so burn intensely - simple smothering actions are not effective against established fires. Combustion products include, carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

Avoid storage with reducing agents.
Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.

HAZCHEM

None

Personal Protective Equipment

PERSONAL PROTECTION EQUIPMENT

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

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Slippery when spilt.
- Clean up all spills immediately.
 - No smoking, naked lights, ignition sources.
 - Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.
 - Avoid breathing dust or vapours and all contact with skin and eyes.
 - Control personal contact by using protective equipment.
 - Contain and absorb spill with dry sand, earth, inert material or vermiculite.
 - DO NOT use sawdust as fire may result.
 - Scoop up solid residues and seal in labelled drums for disposal.
 - Neutralise/decontaminate area.

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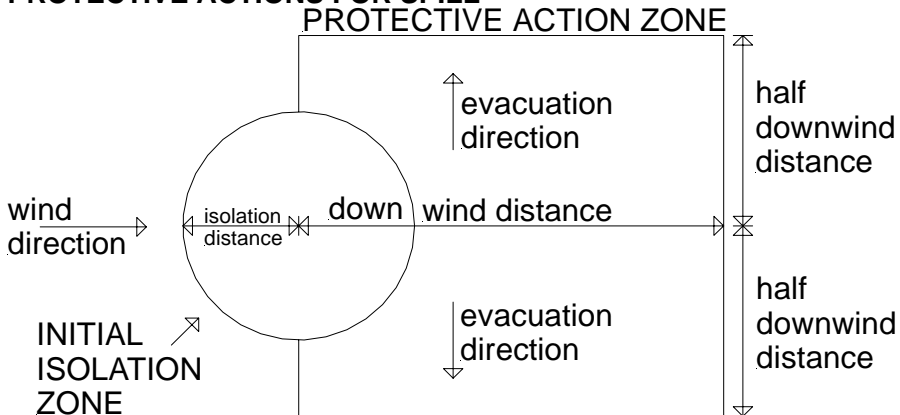
Section 6 - ACCIDENTAL RELEASE MEASURES

MAJOR SPILLS

Slippery when spilt.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- 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).
- No smoking, flames or ignition sources.
- Increase ventilation.
- Contain spill with sand, earth or other clean, inert materials.
- NEVER use organic absorbents such as sawdust, paper, cloth; as fire may result.
- Avoid any contamination by organic matter.
- Use spark-free and explosion-proof equipment.
- Collect any recoverable product into labelled containers for possible recycling.
- DO NOT mix fresh with recovered material.
- Collect residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- Decontaminate equipment and launder all protective clothing before storage and re-use.
- If contamination of drains or waterways occurs advise emergency services.

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	250 metres
IERG Number	32

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

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Section 6 - ACCIDENTAL RELEASE MEASURES

- health effects.
- 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.
 - 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.
 - Guide 145 is taken from the US DOT emergency response guide book.
 - 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:

dibenzoyl peroxide	500 mg/m ³
butyl benzyl phthalate	500 mg/m ³
silica amorphous	500 mg/m ³

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

dibenzoyl peroxide	15 mg/m ³
butyl benzyl phthalate	500 mg/m ³
silica amorphous	50 mg/m ³

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

dibenzoyl peroxide	5 mg/m ³
butyl benzyl phthalate	15 mg/m ³
silica amorphous	30 mg/m ³

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

dibenzoyl peroxide	5 mg/m ³
butyl benzyl phthalate	5 mg/m ³
silica amorphous	6 mg/m ³

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 personal contact and inhalation of dust, mist or vapours.
- Provide adequate ventilation.
- Always wear protective equipment and wash off any spillage from clothing.
- Keep material away from light, heat, flammables or combustibles.
- Keep cool, dry and away from incompatible materials.

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Section 7 - HANDLING AND STORAGE

- Avoid physical damage to containers.
- DO NOT repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use.
- Contamination can lead to decomposition leading to possible intense heat and fire.
- When handling NEVER smoke, eat or drink.
- Always wash hands with soap and water after handling.
- Use only good occupational work practice.
- Observe manufacturer's storing and handling directions.

Mix only as much as is required.

DO NOT return the mixed material to original containers.

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

SUITABLE CONTAINER

- DO NOT repack. Use containers supplied by manufacturer only. Some plastics may be incompatible with this material, check with manufacturer for storage suitability.
- Check that containers are clearly labelled. 2-part tube.

STORAGE INCOMPATIBILITY

Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.

Avoid storage with reducing agents.

- Organic peroxides as a class are highly reactive.
- They are thermally unstable and prone to undergoing exothermic self-accelerating decomposition.
- Organic peroxides may decompose explosively, burn rapidly, be impact and/or friction sensitive and react dangerously with many other substances.

STORAGE REQUIREMENTS

- Store in original containers in an isolated approved flammable materials storage area.
- Keep containers securely sealed as supplied.
- WARNING: Gradual decomposition during storage in sealed containers may lead to a large pressure build-up and subsequent explosion.
- No smoking, naked lights, heat or ignition sources.
- Store in a cool, dry, well ventilated area.
- Store under cover and away from sunlight.
- Store below safe storage (control) temperature. Always store below 35 deg.C.
- Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.
- Store away from incompatible materials.
- Store away from foodstuff containers
- DO NOT stack on wooden floors or wooden pallets.
- Protect containers against physical damage.
- Check regularly for spills and leaks.
- Observe manufacturer's storage and handling recommendations.
- Keep locked up.
- Restrictions may apply on quantities and to other materials permitted in the same location.

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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	Benzoyl peroxide		5				
Australian Exposure Standards	Silica - Amorphous, Fume (thermally generated) (respirable dust) (g)		2				
Australian Exposure Standards	Silica - Amorphous, Fumed silica (respirable dust)		2				

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

No data available for dicyclohexyl phthalate as (CAS: 84-61-7)

No data available for bisphenol A/ epichlorohydrin resin as (CAS: 25068-38-6)

No data available for phenol/ formaldehyde/ epichlorohydrin copolymer as (CAS: 9003-36-5)

ODOUR SAFETY FACTOR (OSF)

OSF=0.54 (phenol/ formaldehyde/ epichlorohydrin copolymer)

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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :3.75 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%).

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
butyl benzyl phthalate	1.8750	40.0
dicyclohexyl phthalate	1.8750	40.0

INGREDIENT DATA

DIBENZOYL PEROXIDE:

The recommendation for the TLV-TWA is based on the absence of subjective symptoms of irritation of the nose and throat in humans exposed to 5.25 mg/m³. Whether this is sufficiently low to prevent cumulative effects in man is not known.

BUTYL BENZYL PHTHALATE:

No exposure limits set by NOHSC or ACGIH.

OES TWA: 5 mg/m³

CEL TWA: 3 mg/m³; STEL: 5 mg/m³

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

DICYCLOHEXYL PHTHALATE:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

OES TWA: 5 mg/m³

SILICA AMORPHOUS:

IDLH Level: 3000 mg/m³

BISPHENOL A/ EPICHLOROHYDRIN RESIN:

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³.

PHENOL/ FORMALDEHYDE/ EPICHLOROHYDRIN COPOLYMER:

No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION

EYE

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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS/FEET

- When handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butadiene rubber), boots and aprons.
 - DO NOT use cotton or leather (which absorb and concentrate the resin), polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin).
 - DO NOT use barrier creams containing emulsified fats and oils as these may absorb the resin; silicone-based barrier creams should be reviewed prior to use.
- 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: butyl benzyl phthalate

Protective Material CPI *

NITRILE	A
---------	---

* 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

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	A-AUS P	-
1000	50	-	A-AUS P
5000	50	Airline *	-
5000	100	-	A-2 P
10000	100	-	A-3 P
	100+		Airline**

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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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

ENGINEERING CONTROLS

Local exhaust ventilation usually required. If risk of overexposure exists, wear 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: solvent, vapours, degreasing etc., evaporating from tank (in still air). 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)	Air Speed: 0.25-0.5 m/s (50-100 f/min.) 0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

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

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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 a characteristic odour; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.

Sinks in water.

Molecular Weight: Not Applicable

Melting Range (°C): Not Available

Solubility in water (g/L): Immiscible

pH (1% solution): Not Applicable

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): Not Applicable

Specific Gravity (water=1): ~1.12

pH (as supplied): Not Applicable

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (°C): Not Available

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): >60 approx.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable under normal handling conditions.
- Prolonged exposure to heat.
- Hazardous polymerisation will not occur.

BREITHERICK: Handbook of Reactive Chemical Hazards, 4th Edition.

Avoid strong acids, oxidisers, reducing agents, metals, metal oxides, transition metals and their compounds, amines and combustibles, especially those which are finely divided

DO NOT use brass or copper containers or stirrers.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

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

Ingestion of organic peroxides may produce nausea, vomiting, abdominal pain, intoxication, cyanosis and severe central nervous system depression. Toxic myocarditis may also occur.

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Section 11 - TOXICOLOGICAL INFORMATION

EYE

Eye contact with organic peroxides may produce superficial opacity, redness, swelling of the membranes, and burns on prolonged contact.

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

All organic peroxides are irritating to the skin and if allowed to remain on the skin, may produce inflammation; some are allergenic.

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

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED

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

Inhalation of organic peroxide dusts or mists may produce irritation of the entire respiratory tract and induce asthma-like effects. Generalised over-exposure may produce tearing, salivation, lethargy, decreased respiration rate, difficulties in breathing, headache, weakness, tremor, even pulmonary oedema with intoxication similar to that produced by alcohol.

CHRONIC HEALTH EFFECTS

Chronic exposure to certain peroxides produces allergic dermatitis (with redness and scaling of the skin) and asthmatic wheezing. 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. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

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

DIBENZOYL PEROXIDE:

TOXICITY

Oral (rat) LD50: 7710 mg/kg

Inhalation (human) TClO: 12 mg/m³

(@ 50%)

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

Eye (rabbit): 500 mg/24h - Mild

Skin effects (MAK): very weak

BUTYL BENZYL PHTHALATE:

TOXICITY

Oral (rat) LD50: 2330 mg/kg

Oral (rat) LD50: 20400 mg/kg* **

IRRITATION

Nil Reported

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Section 11 - TOXICOLOGICAL INFORMATION

Dermal (rabbit) LD50: >10,000 mg/kg* [MONSANTO]**

Dermal (mammal) LD50: 13,100 mg/kg** [BASF]*

Reproductive effector in rats.

Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

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.

DICYCLOHEXYL PHTHALATE:

TOXICITY

IRRITATION

Oral (rat) LD50: 30000 mg/kg

Nil Reported

SILICA AMORPHOUS:

TOXICITY

IRRITATION

Oral (rat) LD50: 3160 mg/kg

Skin (rabbit): non-irritating *

Dermal (rabbit) LD50: >5000 mg/kg *

Eye (rabbit): non-irritating *

Inhalation (rat) LC50: >0.139 mg/l/14h *

* [Grace]

Reports indicate high/prolonged exposures to amorphous silicas induced lung fibrosis in experimental animals; in some experiments these effects were reversible. [PATTYS]

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.

BISPHENOL A/ EPICHLOROHYDRIN RESIN:

TOXICITY

IRRITATION

Oral (rat) LD50: 13600 mg/kg

Nil Reported

for RTECS No: SL 6475000:

(liquid grade)

Oral (rat) LD50: 11400 mg/kg

Eye (rabbit): 100 mg - mild

Intraperitoneal (rat) LD50: 2400 mg/kg

Oral (mouse) LD50: 15600 mg/kg

Intraperitoneal (mouse) LD50: 4000 mg/kg

Equivocal tumourigen by RTECS criteria

Somnolence, dyspnea, peritonitis

PHENOL/ FORMALDEHYDE/ EPICHLOROHYDRIN COPOLYMER:

TOXICITY

IRRITATION

Oral (rat) LD50: >5000 mg/kg

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms.

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.

May cause long-term adverse effects in the aquatic environment.

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

continued...

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Section 12 - ECOLOGICAL INFORMATION

DIBENZOYL PEROXIDE:

Half-life Soil - High (hours): 48
Half-life Soil - Low (hours): 4
Half-life Air - High (hours): 510
Half-life Air - Low (hours): 51
Half-life Surface water - High (hours): 168
Half-life Surface water - Low (hours): 24
Half-life Ground water - High (hours): 336
Half-life Ground water - Low (hours): 48
Aqueous biodegradation - Aerobic - High (hours): 168
Aqueous biodegradation - Aerobic - Low (hours): 24
Aqueous biodegradation - Anaerobic - High (hours): 672
Aqueous biodegradation - Anaerobic - Low (hours): 96
Photolysis maximum light absorption - High (nano-m): 275
Photolysis maximum light absorption - Low (nano-m): 235
Photooxidation half-life air - High (hours): 510
Photooxidation half-life air - Low (hours): 51

BUTYL BENZYL PHTHALATE:

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

log Kow : 4.78-4.91
Half-life (hr) air : 24-120
Henry's atm m³ /mol: 1.30E-06
BCF : 663
Toxicity Fish: LC50(96)1.7-43mg/L
Toxicity invertebrate: LC50(96)3.7mg/L
Bioaccumulation : little
Anaerobic effects : sig degrad
Effects on algae and plankton: LC50(96)0.4-1mg/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

continued...

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Section 12 - ECOLOGICAL INFORMATION

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.

log Kow : 4.78-4.91

Half-life (hr) air : 24-120

Henry's atm m3 /mol: 1.30E-06

BCF : 663

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

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Bioaccumulation : little

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

SILICA AMORPHOUS:

Aquatic toxicity (*Daphnia magna*) 24h EC50: >1000 mg/l

Fish toxicity (*Brachydanio rerio*) 96h LC50: >10,000 mg/l

[Grace]

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible. Special hazards may exist - specialist advice may be required.
- Consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Decontaminate empty containers.
- Observe all label safeguards until containers are cleaned and destroyed.
- Puncture containers to prevent reuse and bury at an authorised land fill.

continued...

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Section 14 - TRANSPORTATION INFORMATION



Shipping Name:
ORGANIC PEROXIDE TYPE E, SOLID
Dangerous Goods Class: 5.2
Subrisk: None
UN/NA Number: 3108
Packing Group: None
Labels Required: organic peroxide
Additional Shipping Information:
International Transport Regulations:
IMO Dangerous Goods class: 5.2
IMO Packing group: None
IATA Dangerous goods class: 5.2
Cargo Instructions: 513
Cargo Max: 25 KG
Passenger Instructions: 510
Passenger Max: 10 KG
Special Provisions: A20, None

HAZCHEM

None

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

S5

REGULATIONS

dibenzoyl peroxide (CAS: 94-36-0) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)
Australian Poisons Schedule

butyl benzyl phthalate (CAS: 85-68-7) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

dicyclohexyl phthalate (CAS: 84-61-7) is found on the following regulatory lists:
Australian Inventory of Chemical Substances (AICS)

silica amorphous (CAS: 7631-86-9) is found on the following regulatory lists:
Australia High Volume Industrial Chemical List (HVICL)
Australian Inventory of Chemical Substances (AICS)
silica amorphous (CAS: 112945-52-5) is found on the following regulatory lists:

continued...

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Section 15 - REGULATORY INFORMATION

Australia High Volume Industrial Chemical List (HVICL)
Australian Inventory of Chemical Substances (AICS)

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

Australian Inventory of Chemical Substances (AICS)
Australian Poisons Schedule

phenol/ formaldehyde/ epichlorohydrin copolymer (CAS: 9003-36-5) is found on the following regulatory lists:

Australian Inventory of Chemical Substances (AICS)
Australian Poisons Schedule

Section 16 - OTHER INFORMATION

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