

# Ramset Epcon C8

Ramset (ITW Australia Pty Ltd)

Chemwatch: 4772-42

Version No: 5.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 20/03/2014

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Initial Date: Not Available

L.GHS.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	Ramset Epcon C8
Chemical Name	Not Applicable
Synonyms	Product Code: 055829, 055887
Proper shipping name	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S. (contains benzene-1,3-dimethanamine and bis[(dimethylamino)methyl]phenol)
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	UV/ EB-curing is a drying technology for coatings, inks and adhesives. It uses light of a certain wavelength or high speed electrons to give almost instantaneous dry films. It allows formulators to develop products for a wide variety of applications and substrates without using volatile organic compounds as solvents. It represents therefore a major technological advance compared to other technologies, which may require abatement installations to take care of these compounds, as many of these compounds are able to cause either environmental or health risks if present in a too large concentration. , Chemical fixing.
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### Details of the supplier of the safety data sheet

Registered company name	Ramset (ITW Australia Pty Ltd)
Address	1 Ramset Drive Chirside Park 3116 VIC Australia
Telephone	1300 780 063
Fax	Not Available
Website	www.ramset.com.au
Email	Not Available

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hrs)
Other emergency telephone numbers	1800 039 008 (24 hrs)

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

#### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	
Toxicity	2	
Body Contact	4	
Reactivity	1	
Chronic	2	

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

Poisons Schedule	S5
GHS Classification <sup>[1]</sup>	Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1A, Respiratory Sensitizer Category 1, Skin Sensitizer Category 1, Germ Cell Mutagen Category 2, STOT - SE (Resp. Irr.) Category 3, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

Ramset Epcon C8

GHS label elements	
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SIGNAL WORD	<b>DANGER</b>
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**Hazard statement(s)**

H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317	May cause an allergic skin reaction
H341	Suspected of causing genetic defects
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

**Supplementary statement(s)**

Not Applicable

**CLP classification (additional)**

Not Applicable

**Precautionary statement(s): Prevention**

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P234	Keep only in original container.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

**Precautionary statement(s): Response**

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider
P321	Specific treatment (see advice on this label).
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.

**Precautionary statement(s): Storage**

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

**Precautionary statement(s): Disposal**

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

## Ramset Epcon C8

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
	NotSpec.	cartridge containing both parts dispensed together
	NotSpec.	Part A contains
25068-38-6	25-<50	<a href="#">bisphenol A/ epichlorohydrin resin</a>
Not Available	10-<25	reaction product of a diacrylate and a propanediyl
28064-14-4	10-<25	<a href="#">phenyl glycidyl ether/ formaldehyde copolymer</a>
2425-79-8	2.5-<10	<a href="#">butanediol diglycidyl ether</a>
15625-89-5	2.5-<10	<a href="#">trimethylolpropane triacrylate</a>
	NotSpec.	Part B contains
1477-55-0	10-<25	<a href="#">benzene-1,3-dimethanamine</a>
90-72-2	10-<25	<a href="#">2,4,6-tris(dimethylamino)methylphenol</a>
71074-89-0	1-<2.5	<a href="#">bis(dimethylamino)methylphenol</a>

Part B contains

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ 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.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ 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.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b> (ICSC13719)</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul>

### Indication of any immediate medical attention and special treatment needed

	<p>Treat symptomatically.</p> <p>For acute or short-term repeated exposures to highly alkaline materials:</p> <ul style="list-style-type: none"> <li>▶ Respiratory stress is uncommon but present occasionally because of soft tissue edema.</li> <li>▶ Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.</li> <li>▶ Oxygen is given as indicated.</li> <li>▶ The presence of shock suggests perforation and mandates an intravenous line and fluid administration.</li> <li>▶ Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.</li> </ul> <p>Alkalis continue to cause damage after exposure.</p> <p>INGESTION:</p> <ul style="list-style-type: none"> <li>▶ Milk and water are the preferred diluents</li> </ul> <p>No more than 2 glasses of water should be given to an adult.</p> <ul style="list-style-type: none"> <li>▶ Neutralising agents should never be given since exothermic heat reaction may compound injury.</li> </ul> <p>* Catharsis and emesis are absolutely contra-indicated.</p> <p>* Activated charcoal does not absorb alkali.</p> <p>* Gastric lavage should not be used.</p>
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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 FIREFIGHTING MEASURES

### Extinguishing media

- ▶ Water spray or fog.
- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ Carbon dioxide.

### Special hazards arising from the substrate or mixture

#### Fire Incompatibility

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

### Advice for firefighters

#### 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 course.

#### 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).

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and 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 with the substance, by using protective equipment.
- ▶ Contain and absorb spill with sand, earth, inert material or vermiculite.

#### Major Spills

- ▶ **DO NOT touch the spill material**
- ▶ 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.

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

#### Safe handling

- ▶ Most acrylic monomers have low viscosity therefore pouring, material transfer and processing of these materials do not necessitate heating.
- ▶ Viscous monomers may require heating to facilitate handling. To facilitate product transfer from original containers, product must be heated to no more than 60 deg. C. (140 F.), for not more than 24 hours.

#### Other information

- ▶ Store in original containers.
- ▶ Keep containers securely sealed.
- ▶ Store in a cool, dry, well-ventilated area.
- ▶ Store away from incompatible materials and foodstuff containers.

### Conditions for safe storage, including any incompatibilities

#### Suitable container

For low viscosity materials

- ▶ Drums and jerricans must be of the non-removable head type.
- ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- ▶ Removable head packaging;
- ▶ Cans with friction closures and
- ▶ low pressure tubes and cartridges

may be used.

#### Storage incompatibility

- ▶ Avoid strong acids, bases.
- ▶ Avoid contact with copper, aluminium and their alloys.
- ▶ Avoid reaction with amines, mercaptans, strong acids and oxidising agents
- ▶ Avoid reaction with oxidising agents

Avoid mixing with

peroxides  
amines  
metals

## PACKAGE MATERIAL INCOMPATIBILITIES

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	benzene-1,3-dimethanamine	m-Xylene-a,a'-diamine	Not Available	Not Available	0.1 (mg/m3)	Not Available

## EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
bisphenol A/ epichlorohydrin resin	125 / 50 / 4(ppm)	350 / 150 / 12.5(ppm)	500 / 100(ppm)	500(ppm)
phenyl glycidyl ether/ formaldehyde copolymer	15(ppm)	50(ppm)	350(ppm)	500(ppm)
butanediol diglycidyl ether	30(ppm)	100(ppm)	500(ppm)	500(ppm)
2,4,6-tris[(dimethylamino)methyl]phenol	5(ppm)	15(ppm)	100(ppm)	500(ppm)

Ingredient	Original IDLH	Revised IDLH
Ramset Epcon C8	Not Available	Not Available

## MATERIAL DATA

CEL TWA: 1 mg/m3 [compare WEEL-TWA\* for multifunctional acrylates (MFAs)]


(CEL = Chemwatch Exposure Limit)

Exposure to MFAs has been reported to cause contact dermatitis in humans and serious eye injury in laboratory animals. Exposure to some MFA-resin containing aerosols has also been reported to cause dermatitis. As no assessment of the possible effects of long-term exposure to aerosols was found, a conservative Workplace Environmental Exposure Level (WEEL) was suggested by the American Industrial Hygiene Association (AIHA).

For benzene-1,3-dimethanamine (m-xylene-alpha,alpha'-diamine)

Saturates in air at 219.5 mg/m3 (39.5 ppm) at 25 deg C.

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>						
<b>Personal protection</b>							
<b>Eye and face protection</b>	<p>Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</p> <p>Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.</p> <p>Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. Alternatively a gas mask may replace splash goggles and face shields.</p>						
<b>Skin protection</b>	See Hand protection below						
<b>Hand protection</b>	<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>General warning: Do NOT use latex gloves! Use only recommended gloves - using the wrong gloves may increase the risk:</p> <table border="1"> <tbody> <tr> <td> <p><b>Exposure condition</b> Short time use; (few minutes less than 0.5 hour) Little physical stress</p> </td> <td> <p>Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm) Excellent tactility ("feel"), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers</p> </td> </tr> <tr> <td> <p><b>Exposure condition</b> Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.)</p> </td> <td> <p>Use of medium thick nitrile rubber gloves Nitrile rubber, NRL (latex) free; &lt;0.45 mm Moderate tactility ("feel"), powder-free Disposable Moderate price Gives adequate protection for most acrylates up to 4 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</p> </td> </tr> <tr> <td> <p><b>Exposure condition</b> Long time Cleaning operations</p> </td> <td> <p>Nitrile rubber, NRL (latex) free; &gt;0.56 mm low tactility ("feel"), powder free High price Gives adequate protection for most acrylates in combination with commonly used solvents up</p> </td> </tr> </tbody> </table>	<p><b>Exposure condition</b> Short time use; (few minutes less than 0.5 hour) Little physical stress</p>	<p>Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm) Excellent tactility ("feel"), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers</p>	<p><b>Exposure condition</b> Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.)</p>	<p>Use of medium thick nitrile rubber gloves Nitrile rubber, NRL (latex) free; &lt;0.45 mm Moderate tactility ("feel"), powder-free Disposable Moderate price Gives adequate protection for most acrylates up to 4 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</p>	<p><b>Exposure condition</b> Long time Cleaning operations</p>	<p>Nitrile rubber, NRL (latex) free; &gt;0.56 mm low tactility ("feel"), powder free High price Gives adequate protection for most acrylates in combination with commonly used solvents up</p>
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	to 8 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour Avoid use of ketones and acetates in wash-up solutions.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> </ul>
<b>Thermal hazards</b>	

### Recommended material(s)

#### 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:

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Material	CPI
PE/EVAL/PE	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.

### Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Two parts in separate chambers of a single plastic cartridge and dispensed together. Part A and Part B are both pastes; not miscible with water.		
<b>Physical state</b>	Non Slump Paste	<b>Relative density (Water = 1)</b>	>1
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	>7 (Pt B)	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Applicable	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution(1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
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<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Inhaled</b>	Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.
<b>Ingestion</b>	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. Ingestion of alkaline corrosives may produce immediate pain, and circumoral burns. Mucous membrane corrosive damage is characterised by a white appearance and soapy feel; this may then become brown, oedematous and ulcerated. Profuse salivation with an inability to swallow or speak may also result.
<b>Skin Contact</b>	The material can produce severe chemical burns following direct contact with the skin. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. 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.
<b>Eye</b>	Direct contact with alkaline corrosives may produce pain and burns. Oedema, destruction of the epithelium, corneal opacification and iritis may occur. In less severe cases these symptoms tend to resolve. In severe injuries the full extent of the damage may not be immediately apparent with late complications comprising a persistent oedema, vascularisation and corneal scarring, permanent opacity, staphyloma, cataract, symblepharon and loss of sight.
<b>Chronic</b>	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.

<b>Ramset Epcon C8</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>bisphenol A/ epichlorohydrin resin</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Intraperitoneal (mouse) LD50: 4000 mg/kg	Eye (rabbit): 100 mg - mild
	Intraperitoneal (rat) LD50: 2400 mg/kg	Nil reported
	Oral (mouse) LD50: 15600 mg/kg	
	Oral (rat) LD50: 11400 mg/kg	
	Oral (rat) LD50: 13600 mg/kg	
<b>phenyl glycidyl ether/ formaldehyde copolymer</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (Rat) LD50: 4000 mg/kg *	* [Ciba-Geigy]
	Oral (Rat) LD50: 4000 mg/kg *	Effects transient
		Eyes * (-) (-) Slight irritant
		May cause allergic response
		Skin * (-) (-) Slight irritant
<b>butanediol diglycidyl ether</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 1130 mg/kg	Eye (rabbit):
	Oral (rat) LD50: 1134 mg/kg	Skin
	Not Available	Not Available
<b>trimethylolpropane triacrylate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 5170 mg/kg	Draize = 46/110.0
	Intraperitoneal (Rat) LD50: 55 mg/kg	Draize = 5.0/8.0
	Oral (rat) LD50: 5190 mg/kg	Eye (rabbit): 100 mg Moderate
		Skin (human): 1% Primary Irritant
	Skin (rabbit): 500 mg/24h Moderate	

### Ramset Epcon C8

	Not Available	Not Available
<b>benzene-1,3-dimethanamine</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 2000 mg/kg	Eye (rabbit): 0.05 mg/24h SEVERE
	Inhalation (rat) LC50: 700 ppm/1h	Skin (rabbit): 0.75 mg/24h SEVERE
	Oral (rat) LD50: 930 mg/kg	
	Not Available	Not Available
<b>2,4,6-tris[(dimethylamino)methyl]phenol</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 1280 mg/kg	[Ciba]
	Inhalation (rat) LC50: >0.5 mg/l/1 hr.	[Rohm & Haas, Henkel]*
	Oral (rat) LD50: 1200 mg/kg	Eye (rabbit): 0.05 mg/24h - SEVERE
	Oral (rat) LD50: 2500 mg/kg *	Skin (rabbit): 2 mg/24h - SEVERE
Not Available	Not Available	
<b>bis[(dimethylamino)methyl]phenol</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

\* Value obtained from manufacturer's msds

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

<b>BISPHENOL A/ EPICHLOROHYDRIN RESIN</b>	for RTECS No: SL 6475000: (liquid grade) Equivocal tumourigen by RTECS criteria Somnolence, dyspnea, peritonitis
<b>BUTANEDIOL DIGLYCIDYL ETHER</b>	(rabbit):10 mg/24h - moderate 100 mg - moderate
<b>2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL</b>	<p>While it is difficult to generalise about the full range of potential health effects posed by exposure to the many different amine compounds, characterised by those used in the manufacture of polyurethane and polyisocyanurate foams, it is agreed that overexposure to the majority of these materials may cause adverse health effects.</p> <ul style="list-style-type: none"> <li>▶ Many amine-based compounds can induce histamine liberation, which, in turn, can trigger allergic and other physiological effects, including bronchoconstriction or bronchial asthma and rhinitis.</li> <li>▶ Systemic symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, tachycardia (rapid heartbeat), itching, erythema (reddening of the skin), urticaria (hives), and facial edema (swelling). Systemic effects (those affecting the body) that are related to the pharmacological action of amines are usually transient.</li> </ul>
<b>BIS[(DIMETHYLAMINO)METHYL]PHENOL</b>	<p>No significant acute toxicological data identified in literature search.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic).</p>
<b>Ramset Epcon C8, BISPHENOL A/ EPICHLOROHYDRIN RESIN, PHENYL GLYCIDYL ETHER/ FORMALDEHYDE COPOLYMER, BUTANEDIOL DIGLYCIDYL ETHER, TRIMETHYLOLPROPANE TRIACRYLATE, BENZENE-1,3-DIMETHANAMINE</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>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.</p>

<b>Acute Toxicity</b>	✓	<b>Carcinogenicity</b>	⊘
<b>Skin Irritation/Corrosion</b>	✓	<b>Reproductivity</b>	⊘
<b>Serious Eye Damage/Irritation</b>	⊘	<b>STOT - Single Exposure</b>	✓
<b>Respiratory or Skin sensitisation</b>	✓	<b>STOT - Repeated Exposure</b>	⊘
<b>Mutagenicity</b>	✓	<b>Aspiration Hazard</b>	⊘

**CMR STATUS**

<b>SKIN</b>	benzene-1,3-dimethanamine	Australia Exposure Standards - Skin	Sk
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**SECTION 12 ECOLOGICAL INFORMATION****Toxicity**

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
Ramset Epcon C8	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

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

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

Continued...



wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Not Available	Not Available



**Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

Product / Packaging disposal	Waste treatment methods
	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> Otherwise: <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain 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.</li> <li>▶ Where possible retain label warnings and MSDS and observe all notices pertaining to the product.</li> </ul>

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

	
Marine Pollutant	
HAZCHEM	2X

**Land transport (ADG)**

UN number	3259
Packing group	II
UN proper shipping name	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S. (contains benzene-1,3-dimethanamine and bis[(dimethylamino)methyl]phenol)
Environmental hazard	No relevant data
Transport hazard class(es)	Class 8 Subrisk
Special precautions for user	Special provisions 274 limited quantity 1 kg

**Air transport (ICAO-IATA / DGR)**

UN number	3259
Packing group	II
UN proper shipping name	Amines, solid, corrosive, n.o.s. *; Polyamines, solid, corrosive, n.o.s. * (contains benzene-1,3-dimethanamine and bis[(dimethylamino)methyl]phenol)
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class 8 ICAO / IATA Subrisk ERG Code 8L

Special precautions for user	Special provisions	A3A803
	Cargo Only Packing Instructions	863
	Cargo Only Maximum Qty / Pack	50 kg
	Passenger and Cargo Packing Instructions	859
	Passenger and Cargo Maximum Qty / Pack	15 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y844
	Passenger and Cargo Maximum Qty / Pack	5 kg

## Sea transport (IMDG-Code / GGVSee)

UN number	3259
Packing group	II
UN proper shipping name	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S. (contains benzene-1,3-dimethanamine and bis((dimethylamino)methyl)phenol)
Environmental hazard	No relevant data
Transport hazard class(es)	IMDG Class : 8
	IMDG Subrisk :
Special precautions for user	EMS Number : F-A,S-B
	Special provisions : 274
	Limited Quantities : 1 kg

## SECTION 15 REGULATORY INFORMATION

## Safety, health and environmental regulations / legislation specific for the substance or mixture

bisphenol A/ epichlorohydrin resin(25068-38-6) is found on the following regulatory lists	"Australia Hazardous Substances Information System - Consolidated Lists", "OECD Existing Chemicals Database", "Sigma-AldrichTransport Information", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "Australia High Volume Industrial Chemical List (HVICL)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia National Pollutant Inventory", "WHO Model List of Essential Medicines - Adults"
phenyl glycidyl ether/ formaldehyde copolymer(28064-14-4) is found on the following regulatory lists	"Sigma-AldrichTransport Information", "Australia Inventory of Chemical Substances (AICS)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes", "International Maritime Dangerous Goods Requirements (IMDG Code)"
butanediol diglycidyl ether(2425-79-8) is found on the following regulatory lists	"Australia Hazardous Substances Information System - Consolidated Lists", "Sigma-AldrichTransport Information", "Acros Transport Information", "Australia Inventory of Chemical Substances (AICS)"
trimethylolpropane triacrylate(15625-89-5) is found on the following regulatory lists	"Australia Hazardous Substances Information System - Consolidated Lists", "OECD Existing Chemicals Database", "Sigma-AldrichTransport Information", "Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2"
benzene-1,3-dimethanamine(1477-55-0) is found on the following regulatory lists	"Australia Hazardous Substances Information System - Consolidated Lists", "OECD Existing Chemicals Database", "Australia Exposure Standards", "FisherTransport Information", "Sigma-AldrichTransport Information", "Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals", "Australia High Volume Industrial Chemical List (HVICL)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia National Pollutant Inventory"
2,4,6-tris((dimethylamino)methyl)phenol(90-72-2) is found on the following regulatory lists	"Australia Hazardous Substances Information System - Consolidated Lists", "Sigma-AldrichTransport Information", "Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia National Pollutant Inventory"
bis((dimethylamino)methyl)phenol(71074-89-0) is found on the following regulatory lists	"Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)"

## SECTION 16 OTHER INFORMATION

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### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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