

# RESENE EPOX-O-BOND FILLER HARDENER

Resene Paints Ltd

Chemwatch Hazard Alert Code: 3

Version No: 1.3  
Safety Data Sheet according to HSNO Regulations

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L.GHS.NZL.EN

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

### Product Identifier

Product name	RESENE EPOX-O-BOND FILLER HARDENER
Synonyms	Not Available
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Other means of identification	Not Available

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

Relevant identified uses	8794
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### Details of the supplier of the safety data sheet

Registered company name	Resene Paints Ltd
Address	32-50 Vogel Street Naenae 5011 Wellington New Zealand
Telephone	+64 4 577 0500
Fax	+64 4 577 3327
Website	www.resene.co.nz
Email	advice@resene.co.nz

### Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)
Emergency telephone numbers	0800 764 766
Other emergency telephone numbers	Not Available

## CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01


## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

Classification <sup>[1]</sup>	Serious Eye Damage Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Sensitizer Category 1, Respiratory Sensitizer Category 1, Reproductive Toxicity Category 2, Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3, Flammable Liquid Category 4, Skin Corrosion/Irritation Category 1C
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.1D (dermal), 6.5B (contact), 9.1C, 8.2C, 3.1D, 6.1D (oral), 8.3A, 9.1D, 6.8B, 6.5A (respiratory)

### Label elements

GHS label elements	
SIGNAL WORD	DANGER

### Hazard statement(s)

Continued...

## RESENE EPOX-O-BOND FILLER HARDENER

H318	Causes serious eye damage
H302	Harmful if swallowed
H312	Harmful in contact with skin
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361	Suspected of damaging fertility or the unborn child
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects
H227	Combustible liquid
H314	Causes severe skin burns and eye damage

## Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
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## Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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## Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
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## Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

See section below for composition of Mixtures

The specific chemical identity and/ or exact percentage of composition has been withheld as a trade secret

## Mixtures

CAS No	%[weight]	Name
1760-24-3	1-10	<u>N-[3-(trimethoxysilyl)propyl]ethylenediamine</u>
74956-86-8	<1	<u>N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine</u>
68845-16-9	<1	<u>N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine</u>
78-78-4	<1	<u>isopentane</u>
100-51-6	1-10	<u>benzyl alcohol</u>
80-05-7	1-10	<u>bisphenol A</u>
621-56-7	1-10	<u>3-(diethylamino)-1,2-propanediol</u>
1477-55-0	1-10	<u>benzene-1,3-dimethanamine</u>
107-15-3	<1	<u>ethylenediamine</u>

## SECTION 4 FIRST AID MEASURES

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

## 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 for at least 15 minutes.</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.</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>▶ Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<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> </ul>

Continued...

## RESENE EPOX-O-BOND FILLER HARDENER

- ▶ Transport to hospital or doctor without delay.

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

Treat symptomatically.

For acute or short-term repeated exposures to highly alkaline materials:

- ▶ Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- ▶ Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- ▶ Oxygen is given as indicated.
- ▶ The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- ▶ Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- ▶ Milk and water are the preferred diluents
- No more than 2 glasses of water should be given to an adult.
- ▶ Neutralising agents should never be given since exothermic heat reaction may compound injury.

\* Catharsis and emesis are absolutely contra-indicated.

\* Activated charcoal does not absorb alkali.

\* Gastric lavage should not be used.

Supportive care involves the following:

- ▶ Withhold oral feedings initially.
- ▶ If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- ▶ Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- ▶ Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- ▶ Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

For acute and short term repeated exposures to methanol:

- ▶ Toxicity results from accumulation of formaldehyde/formic acid.
- ▶ Clinical signs are usually limited to CNS, eyes and GI tract Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.
- ▶ Stabilise obtunded patients by giving naloxone, glucose and thiamine.
- ▶ Decontaminate with ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.
- ▶ Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 meq/L).
- ▶ Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.
- ▶ Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8-Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

### BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant - observed following exposure to other materials.

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

- ▶ Foam.

### Special hazards arising from the substrate or mixture

- |                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

### Advice for firefighters

- |                      |   |
|----------------------|---|
| <b>Fire Fighting</b> | ▶ Alert Fire Brigade and tell them location and nature of hazard. |
|----------------------|---|

- |                              |  |
|------------------------------|--|
| <b>Fire/Explosion Hazard</b> | Combustible. Combustion products include; carbon monoxide (CO) carbon dioxide (CO <sub>2</sub> ) silicon dioxide (SiO <sub>2</sub> ) other pyrolysis products typical of burning organic material. May emit corrosive fumes. |
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## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

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|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> </ul> |
| <b>Major Spills</b> | ▶ Clear area of personnel and move upwind.   |

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

- |                      |   |
|----------------------|---|
| <b>Safe handling</b> | ▶ Avoid all personal contact, including inhalation. |
|----------------------|---|

## RESENE EPOX-O-BOND FILLER HARDENER

## Other information

- ▶ Store in original containers.
- ▶ **DO NOT store near acids, or oxidising agents**
- ▶ No smoking, naked lights, heat or ignition sources.

## Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	As supplied by Manufacturer
<b>Storage incompatibility</b>	<p>Benzyl alcohol:</p> <ul style="list-style-type: none"> <li>▶ may froth in contact with water</li> <li>▶ slowly oxidises in air, oxygen forming benzaldehyde</li> <li>▶ is incompatible with mineral acids, caustics, aliphatic amines, isocyanates</li> <li>▶ reacts violently with strong oxidisers, and explosively with sulfuric acid at elevated temperatures</li> <li>▶ corrodes aluminium at high temperatures</li> <li>▶ is incompatible with aluminum, iron, steel</li> <li>▶ attacks some nonfluorinated plastics; may attack, extract and dissolve polypropylene</li> </ul> <p>Benzyl alcohol contaminated with 1.4% hydrogen bromide and 1.2% of dissolved iron(II) polymerises exothermically above 100 deg.</p> <ul style="list-style-type: none"> <li>▶ Contact with water liberates highly flammable gases</li> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> <li>▶ Avoid contact with copper, aluminium and their alloys.</li> <li>▶ Avoid reaction with oxidising agents</li> </ul>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	benzene-1,3-dimethanamine	m-Xylene a,a'-diamine	Not Available	Not Available	0.1 mg/m3	Skin absorption
New Zealand Workplace Exposure Standards (WES)	ethylenediamine	Ethylenediamine	25 mg/m3 / 10 ppm	Not Available	Not Available	Skin absorption; Sensitiser

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
N-[3-(trimethoxysilyl)propyl]ethylenediamine	Trimethoxysilylpropyl ethylenediamine, N-(3-	23 mg/m3	250 mg/m3	1500 mg/m3
isopentane	Isopentane; (Ethylidimethylmethane; 2-Methylbutane)	600 ppm	610 ppm	4400 ppm
benzyl alcohol	Benzyl alcohol	30 ppm	49 ppm	49 ppm
bisphenol A	Bisphenol A; (4,4'-Isopropylidenediphenol)	5 mg/m3	5 mg/m3	240 mg/m3
ethylenediamine	Ethylenediamine, 1,2-	9.7 ppm	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
N-[3-(trimethoxysilyl)propyl]ethylenediamine	Not Available	Not Available
N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine	Not Available	Not Available
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	Not Available	Not Available
isopentane	Not Available	Not Available
benzyl alcohol	Not Available	Not Available
bisphenol A	Not Available	Not Available
3-(diethylamino)-1,2-propanediol	Not Available	Not Available
benzene-1,3-dimethanamine	Not Available	Not Available
ethylenediamine	2,000 ppm	1,000 ppm

## MATERIAL DATA

For talc (a form of magnesium silicate):

Most health problems associated with occupational exposure to talcs appear to evolve mostly from the nonplatform content of the talc being mined or milled (being the asbestos-like amphiboles, serpentines (asbestiformes) and other minerals in the form of acicular, prismatic and fibrous crystals including, possibly, asbestos).

For amorphous crystalline silica (precipitated silicic acid):

Amorphous crystalline silica shows little potential for producing adverse effects on the lung and exposure standards should reflect a particulate of low intrinsic toxicity.

For methanol:

Odour Threshold Value: 4.2-5960 ppm (detection), 53.0-8940 ppm (recognition)

NOTE: Detector tubes for methanol, measuring in excess of 50 ppm, are commercially available.

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.


for ethylenediamine:

Based on a dietary study with rats in which no adverse effects were observed at 23 mg/kg/day free base and the no observed effects in rats exposed by inhalation at 59 ppm, the recommended TLV-TWA is thought to provide sufficient margin of safety.

## Exposure controls

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
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## RESENE EPOX-O-BOND FILLER HARDENER

<b>Personal protection</b>	
<b>Eye and face protection</b>	▶ Chemical goggles.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	▶ Wear chemical protective gloves, e.g. PVC. <b>NOTE:</b> ▶ The material may produce skin sensitisation in predisposed individuals.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	▶ Overalls.
<b>Thermal hazards</b>	Not Available

## 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:

RESENE EPOX-O-BOND FILLER HARDENER

Material	CPI
BUTYL	A
BUTYL/NEOPRENE	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/NEOPRENE	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

**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 KAX-P Filter of sufficient capacity.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	KAX P1 Air-line*	-	KAX PAPR-P1
up to 50 x ES	Air-line**	KAX P2	KAX PAPR-P2
up to 100 x ES	-	KAX P3	-
		Air-line*	-
100+ x ES	-	Air-line**	KAX PAPR-P3

\* - Negative pressure demand \*\* - Continuous flow

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>	Green paste		
<b>Physical state</b>	Non Slump Paste	<b>Relative density (Water = 1)</b>	0.95
<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>	Not Available	<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>	>95	<b>Molecular weight (g/mol)</b>	Not Available

Continued...

## RESENE EPOX-O-BOND FILLER HARDENER

Flash point (°C)	70	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	7
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	9

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► Unstable in the presence of incompatible materials.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

Inhaled	<p>The material is not thought to produce adverse health effects following inhalation (as classified by EC Directives using animal models). In clinical observation of workers, at a producer of benzene-1,3-dimethanamine (m-xylene-alpha,alpha'-diamine), the compound produced gastrointestinal irritation which was attributed to its caustic nature.</p> <p>Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae.</p> <p>Inhalation of benzyl alcohol may affect respiration (paralysis of the respiratory center, respiratory depression, gasping respirations), cardiovascular system (hypotension)</p>
Ingestion	<p>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.</p> <p>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>Ingestion of large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting, diarrhea.</p>
Skin Contact	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>The material can produce chemical burns following direct contact with the skin.</p> <p>Undiluted benzene-1,3-dimethanamine (m-xylene-alpha,alpha'-diamine) is corrosive to guinea pig skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.</p>
Eye	<p>The material can produce chemical burns to the eye following direct contact.</p> <p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p>
Chronic	<p>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.</p> <p>Practical evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a substantial number of individuals at a greater frequency than would be expected from the response of a normal population.</p> <p>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.</p> <p>On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Allergic reactions to benzoic acid have been reported.</p> <p>Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision.</p> <p>Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis.</p> <p>Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.</p> <p>Overexposure to respirable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function.</p>

RESENE EPOX-O-BOND FILLER HARDENER	TOXICITY	IRRITATION
	Not Available	Not Available
N-[3-(trimethoxysilyl)propyl]ethylenediamine	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 16000 mg/kgE <sup>[2]</sup>	Eye (rabbit): 15 mg SEVERE
	Oral (rat) LD50: 7460 mg/kgd <sup>[2]</sup>	Skin (rabbit): 500 mg mild
N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine	TOXICITY	IRRITATION
	Not Available	Not Available

## RESENE EPOX-O-BOND FILLER HARDENER

N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: 18000 mg/kg <sup>d[2]</sup>	Not Available
isopentane	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 280 mg/L/4h <sup>[2]</sup>	Not Available
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	
benzyl alcohol	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: 1000000 ppm/90M <sup>[2]</sup>	Eye (rabbit): 0.75 mg open SEVERE
	Inhalation (rat) LC50: >4.178 mg/L/4h <sup>[2]</sup>	Skin (man): 16 mg/48h-mild
	Oral (rat) LD50: 1560 mg/kg <sup>[2]</sup>	Skin (rabbit):10 mg/24h open-mild
bisphenol A	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 3600 mg/kg <sup>[2]</sup>	Eye (rabbit): 0.25 mg/24h-SEVERE
	Oral (rat) LD50: 1200 mg/kg <sup>[2]</sup>	Skin (rabbit): 250 mg open - mild
		Skin (rabbit): 500 mg/24h - mild
3-(diethylamino)-1,2-propanediol	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
benzene-1,3-dimethanamine	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >3100 mg/kg <sup>[1]</sup>	Eye (rabbit): 0.05 mg/24h SEVERE
	Inhalation (rat) LC50: 700 ppm/1h <sup>[2]</sup>	Skin (rabbit): 0.75 mg/24h SEVERE
	Oral (rat) LD50: 987 mg/kg <sup>[1]</sup>	
ethylenediamine	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: ca.1000 mg/kg <sup>[1]</sup>	Eye (rabbit):0.67 mg SEVERE
	Inhalation (mouse) LC50: 0.3 mg/L/4h <sup>[2]</sup>	Eye (rabbit):0.75mg/24h SEVERE
	Oral (rat) LD50: 500 mg/kg <sup>[2]</sup>	Skin(rabbit):10 mg/24h open SEVERE
		Skin(rabbit):450 mg open moderate

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

RESENE EPOX-O-BOND FILLER HARDENER	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type.</p> <p>Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis.</p> <p>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved.</p> <p>No significant acute toxicological data identified in literature search.</p> <p>The chemical structure of hydroxylated diphenylalkanes or bisphenols consists of two phenolic rings joined together through a bridging carbon.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases.</p>
N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type.</p> <p>Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis.</p> <p>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved.</p> <p>For N-[3-(trimethoxysilyl)propyl]ethylenediamine (AEAPTMS) and its analogues:  <b>Acute toxicity:</b> In rabbits, AEAPTMS is moderately irritating to the skin and severely irritating to the eyes.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation.  The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis</p>

## RESENE EPOX-O-BOND FILLER HARDENER

	<p>(nonallergic).</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases.</p>
<b>N,N-BIS[3-(TRIMETHOXSILYL)PROPYL]ETHYLENEDIAMINE</b>	<p>No significant acute toxicological data identified in literature search. The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. For alkoxysilanes: Low molecular weight alkoxysilanes (including alkyl orthosilicates) are a known concern for lung toxicity, due to inhalation of vapours or aerosols causing irreversible lung damage at low doses.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. For N-[3-(trimethoxysilyl)propyl]ethylenediamine (AEAPTMS) and its analogues: <b>Acute toxicity:</b> In rabbits, AEAPTMS is moderately irritating to the skin and severely irritating to the eyes.</p>
<b>N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]ETHYLENEDIAMINE</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. For alkoxysilanes: Low molecular weight alkoxysilanes (including alkyl orthosilicates) are a known concern for lung toxicity, due to inhalation of vapours or aerosols causing irreversible lung damage at low doses.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. For N-[3-(trimethoxysilyl)propyl]ethylenediamine (AEAPTMS) and its analogues: <b>Acute toxicity:</b> In rabbits, AEAPTMS is moderately irritating to the skin and severely irritating to the eyes. for Silquest Y-9400 (70-100% organofunctional silane) * OSi Specialites Inc.</p>
<b>BENZYL ALCOHOL</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). For benzyl alkyl alcohols: Unlike benzylic alcohols, the beta-hydroxyl group of the members of this cluster is unlikely to undergo phase II metabolic activation. For benzoates: <b>Acute toxicity:</b> Benzyl alcohol, benzoic acid and its sodium and potassium salt can be considered as a single category regarding human health, as they are all rapidly metabolised and excreted via a common pathway within 24 hrs.</p>
<b>BISPHENOL A</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. No significant acute toxicological data identified in literature search. The chemical structure of hydroxylated diphenylalkanes or bisphenols consists of two phenolic rings joined together through a bridging carbon. For bisphenol A (BPA) Following oral administration absorption of BPA is rapid and extensive while dermal absorption is limited. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).</p>
<b>3-(DIETHYLAMINO)-1,2-PROPANEDIOL</b>	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. No significant acute toxicological data identified in literature search.</p>
<b>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>Asthma-like symptoms may continue for months or even years after exposure to the material ceases.</p> <p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. For benzene-1,3-dimethanamine (m-xylene-alpha.alpha'-diamine) The toxicity via oral administration and inhalation was tissue damage in the digestive and respiratory organs, respectively, which are the first contact sites.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic).</p>
<b>ETHYLENEDIAMINE</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases.</p>



## RESENE EPOX-O-BOND FILLER HARDENER

Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type.

Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis.

Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved.

Acute toxicity of ethylenediamine (LD50, rat, oral range from 637 mg/kg to 1850 mg/kg; LC50, rat, inhalation >29 mg/l and LD50, rabbit, dermal 560 mg/kg) is considered to be low to moderate.

The material may produce severe irritation to the eye causing pronounced inflammation.

The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic).

Acute toxicity of ethylenediamine (LD50, rat, oral range from 637 mg/kg to 1850 mg/kg; LC50, rat, inhalation >29 mg/l and LD50, rabbit, dermal 560 mg/kg) is considered to be low to moderate.

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

Legend: ✗ – Data available but does not fill the criteria for classification  
 ✓ – Data required to make classification available  
 ⊘ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
N-[3-(trimethoxysilyl)propyl]ethylenediamine	EC50	96	Algae or other aquatic plants	<1.000mg/L	3
N-[3-(trimethoxysilyl)propyl]ethylenediamine	LC50	96	Fish	597mg/L	2
N-[3-(trimethoxysilyl)propyl]ethylenediamine	EC50	48	Crustacea	81mg/L	2
N-[3-(trimethoxysilyl)propyl]ethylenediamine	EC50	72	Algae or other aquatic plants	5.5mg/L	2
N-[3-(trimethoxysilyl)propyl]ethylenediamine	NOEC	72	Algae or other aquatic plants	1.6mg/L	2
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	EC50	96	Algae or other aquatic plants	<1.000mg/L	3
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	EC50	96	Algae or other aquatic plants	613.559mg/L	3
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	LC50	96	Fish	25836.676mg/L	3
isopentane	EC50	48	Crustacea	2.3mg/L	1
isopentane	EC50	384	Crustacea	0.891mg/L	3
isopentane	LC50	96	Fish	3.653mg/L	3
isopentane	EC50	72	Algae or other aquatic plants	1.26mg/L	2
isopentane	NOEC	72	Algae or other aquatic plants	7.51mg/L	2
benzyl alcohol	EC03	168	Algae or other aquatic plants	=16mg/L	4
benzyl alcohol	LC50	96	Fish	10mg/L	4
benzyl alcohol	NOEC	336	Fish	5.1mg/L	2
benzyl alcohol	EC50	48	Crustacea	230mg/L	2
benzyl alcohol	EC50	72	Algae or other aquatic plants	500mg/L	2
bisphenol A	BCF	288	Fish	0.556mg/L	4
bisphenol A	EC20	96	Fish	0.075mg/L	4
bisphenol A	EC50	96	Algae or other aquatic plants	1mg/L	4
bisphenol A	LC50	96	Fish	3- 5mg/L	2
bisphenol A	NOEC	10656	Fish	0.016mg/L	2
bisphenol A	EC50	48	Crustacea	3.4- 5mg/L	2
3-(diethylamino)-1,2-propanediol	EC50	96	Algae or other aquatic plants	75.167mg/L	3
3-(diethylamino)-1,2-propanediol	LC50	96	Fish	1843.166mg/L	3
benzene-1,3-dimethanamine	LC50	96	Fish	75mg/L	2
benzene-1,3-dimethanamine	EC50	48	Crustacea	15.2mg/L	2
benzene-1,3-dimethanamine	EC50	504	Crustacea	8.4mg/L	2
benzene-1,3-dimethanamine	NOEC	504	Crustacea	4.7mg/L	2
benzene-1,3-dimethanamine	EC50	72	Algae or other aquatic plants	12mg/L	2
ethylenediamine	EC0	24	Crustacea	1.2mg/L	1
ethylenediamine	EC50	48	Crustacea	3mg/L	1
ethylenediamine	EC50	96	Algae or other aquatic plants	61mg/L	1

Continued...

## RESENE EPOX-O-BOND FILLER HARDENER

ethylenediamine	LC50	96	Fish	115.7mg/L	2
ethylenediamine	NOEC	504	Crustacea	0.16mg/L	2
<b>Legend:</b>	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Harmful 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.  
For bisphenol A and related bisphenols:

In general, studies have shown that bisphenol A can affect growth, reproduction and development in aquatic organisms.  
For benzene-1,3-dimethanamine (m-xylene-alpha, alpha'- diamine)

**Environmental fate:**

The chemical has a log Pow value of 0.18 at 2 a vapour pressure 5 C, of 0.04 hPa at 25 C, and a water solubility of > 100 000 mg/L.

Chromium in the oxidation state +3 (the trivalent form) is poorly absorbed by cells found in microorganisms, plants and animals.

For benzyl alkyl alcohols:

All of the cluster members are liquids under standard temperature and pressure conditions.

For benzoates:

The ultimate environmental characteristics for benzoates may be determined by the properties of counter-ions.

For benzyl alcohol:

log Kow : 1.1

Koc : <5

Henry's atm m<sup>3</sup> /mol: 3.91E-07

BOD 5: 1.55-1.6, 33-62%

COD : 96%

ThOD : 2.519

BCF : 4

Bioaccumulation : not significant

Anaerobic effects : significant degradation

Effects on algae and plankton: inhibits degradation of glucose

Degradation Biological: significant

processes Abiotic: RxnOH\*, no photochem

**Ecotoxicity**

Fish LC50 (48 h): fathead minnow 770 mg/l; (72 h): 480 mg/l; (96 h) 460 mg/l

Fish LC50 (96 h) fathead minnow 10 ppm, bluegill sunfish 15 ppm; tidewater silverside fish 15 ppm

Products of Biodegradation: Possibly hazardous short term degradation products are not likely.

Since chromium compounds cannot volatilize from water, transport of chromium from water to the atmosphere is not likely, except by transport in windblown sea sprays.

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

**DO NOT discharge into sewer or waterways.**

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
N-[3-(trimethoxysilyl)propyl]ethylenediamine	HIGH	HIGH
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	HIGH	HIGH
isopentane	HIGH	HIGH
benzyl alcohol	LOW	LOW
bisphenol A	HIGH (Half-life = 360 days)	LOW (Half-life = 0.31 days)
3-(diethylamino)-1,2-propanediol	LOW	LOW
benzene-1,3-dimethanamine	HIGH	HIGH
ethylenediamine	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
N-[3-(trimethoxysilyl)propyl]ethylenediamine	LOW (LogKOW = -1.6744)
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	LOW (LogKOW = -1.7304)
isopentane	LOW (LogKOW = 2.7234)
benzyl alcohol	LOW (LogKOW = 1.1)
bisphenol A	LOW (BCF = 100)
3-(diethylamino)-1,2-propanediol	LOW (LogKOW = -0.5937)
benzene-1,3-dimethanamine	LOW (BCF = 2.7)
ethylenediamine	LOW (BCF = 0.07)

**Mobility in soil**

Ingredient	Mobility
N-[3-(trimethoxysilyl)propyl]ethylenediamine	LOW (KOC = 6856)
N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine	LOW (KOC = 1902000)
isopentane	LOW (KOC = 67.7)
benzyl alcohol	LOW (KOC = 15.66)
bisphenol A	LOW (KOC = 75190)
3-(diethylamino)-1,2-propanediol	LOW (KOC = 10)
benzene-1,3-dimethanamine	LOW (KOC = 914.6)

## RESENE EPOX-O-BOND FILLER HARDENER

ethylenediamine

LOW (KOC = 24.72)

## SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

## Product / Packaging disposal

- ▶ Containers may still present a chemical hazard/ danger when empty.
- ▶ **DO NOT allow wash water from cleaning or process equipment to enter drains.**
- ▶ Recycle wherever possible.

Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

## SECTION 14 TRANSPORT INFORMATION

## Labels Required

	
Marine Pollutant	NO
HAZCHEM	2X

## Land transport (UN)

UN number	3066				
Packing group	III				
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)				
Environmental hazard	Not Applicable				
Transport hazard class(es)	<table border="1"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	8	Subrisk	Not Applicable
Class	8				
Subrisk	Not Applicable				
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>163; 223; 367</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table>	Special provisions	163; 223; 367	Limited quantity	5 L
Special provisions	163; 223; 367				
Limited quantity	5 L				

## Air transport (ICAO-IATA / DGR)

UN number	3066														
Packing group	III														
UN proper shipping name	Paint corrosive (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material corrosive (including paint thinning or reducing compounds)														
Environmental hazard	Not Applicable														
Transport hazard class(es)	<table border="1"> <tr> <td>ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>8L</td> </tr> </table>	ICAO/IATA Class	8	ICAO / IATA Subrisk	Not Applicable	ERG Code	8L								
ICAO/IATA Class	8														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	8L														
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>A3 A72 A192 A803</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>856</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>60 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>852</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>5 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y841</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>1 L</td> </tr> </table>	Special provisions	A3 A72 A192 A803	Cargo Only Packing Instructions	856	Cargo Only Maximum Qty / Pack	60 L	Passenger and Cargo Packing Instructions	852	Passenger and Cargo Maximum Qty / Pack	5 L	Passenger and Cargo Limited Quantity Packing Instructions	Y841	Passenger and Cargo Limited Maximum Qty / Pack	1 L
Special provisions	A3 A72 A192 A803														
Cargo Only Packing Instructions	856														
Cargo Only Maximum Qty / Pack	60 L														
Passenger and Cargo Packing Instructions	852														
Passenger and Cargo Maximum Qty / Pack	5 L														
Passenger and Cargo Limited Quantity Packing Instructions	Y841														
Passenger and Cargo Limited Maximum Qty / Pack	1 L														

## Sea transport (IMDG-Code / GGVSee)

UN number	3066
Packing group	III
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Environmental hazard	Not Applicable

## RESENE EPOX-O-BOND FILLER HARDENER

Transport hazard class(es)	IMDG Class	8
	IMDG Subrisk	Not Applicable
Special precautions for user	EMS Number	F-A, S-B
	Special provisions	163 223 367
	Limited Quantities	5 L

## Transport in bulk according to Annex II of MARPOL and the IBC code

Source	Ingredient	Pollution Category
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	isopentane	Y
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	benzyl alcohol	Y
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	ethylenediamine	Y

## SECTION 15 REGULATORY INFORMATION

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002659	Surface Coatings and Colourants (Corrosive, Combustible) Group Standard 2006

## N-[3-(TRIMETHOXSILYL)PROPYL]ETHYLENEDIAMINE(1760-24-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

## N,N-BIS[3-(TRIMETHOXSILYL)PROPYL]ETHYLENEDIAMINE(74956-86-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

## N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]ETHYLENEDIAMINE(68845-16-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

## ISOPENTANE(78-78-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

## BENZYL ALCOHOL(100-51-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

## BISPHENOL A(80-05-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

## 3-(DIETHYLAMINO)-1,2-PROPANEDIOL(621-56-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

## BENZENE-1,3-DIMETHANAMINE(1477-55-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

## ETHYLENEDIAMINE(107-15-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

## Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, a location test certificate is required when quantity greater than or equal to those indicated below are present.

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
Not Applicable	Not Applicable	Not Applicable

## Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations and Regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

Class of substance	Quantities

Continued...

## RESENE EPOX-O-BOND FILLER HARDENER

Not Applicable

Not Applicable

Refer Group Standards for further information

### Tracking Requirements

Not Applicable

National Inventory	Status
Australia - AICS	N (N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
Canada - DSL	N (N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine; N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
Canada - NDSL	N (isopentane; benzyl alcohol; ethylenediamine; 3-(diethylamino)-1,2-propanediol; N-[3-(trimethoxysilyl)propyl]ethylenediamine; bisphenol A; benzene-1,3-dimethanamine; N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	N (N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
Japan - ENCS	N (N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
Korea - KECI	N (N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine; N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	N (N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine)
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

### SECTION 16 OTHER INFORMATION

#### Other information

#### Ingredients with multiple cas numbers

Name	CAS No
bisphenol A	137885-53-1, 27360-89-0, 28106-82-3, 37808-08-5, 80-05-7

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.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

#### Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average  
 PC – STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit,  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL: No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index

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