

RESENE ARMOURBOND HARDENER

Resene Paints LTD

Version No: 1.1
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: 12/03/2024
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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 ARMOURBOND HARDENER
Synonyms	Not Available
Proper shipping name	CORROSIVE LIQUID, N.O.S. (contains diethylenetriamine / MIBK ketimine adduct with PGE)
Other means of identification	Not Available

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

Relevant identified uses	9342
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	Resene Paints LTD
Address	32-50 Vogel Street Wellington 5011 New Zealand
Telephone	+64 4 5770500
Fax	+64 4 5773327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7days)	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	Not Available	+61 3 9573 3188

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

Classification [1]	Corrosive to Metals Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 1C, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1, Sensitisation (Respiratory) Category 1, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Hazardous to Soil Organisms
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	8.1A, 6.1D (dermal), 6.1D (oral), 8.2C, 8.3A, 6.5A (respiratory), 6.5B (contact), 6.8B, 6.9B, 9.1B, 9.2B

Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
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.

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H373	May cause damage to organs through prolonged or repeated exposure. (Oral, Dermal)
H411	Toxic to aquatic life with long lasting effects.
H422	Hazardous to soil organisms.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P234	Keep only in original packaging.
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. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious).
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
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.
P363	Wash contaminated clothing before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it 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.
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Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
90-72-2	1-5	<u>2,4,6-tris[(dimethylamino)methyl]phenol</u>
71302-83-5	10-30	<u>hydrocarbons, C9-unsaturated, polymerised</u>
100-51-6	10-30	<u>benzyl alcohol</u>
112-80-1	0.1-0.5	<u>oleic acid</u>
68541-07-1	20-40	<u>diethylenetriamine / MIBK ketimine adduct with PGE</u>
111-40-0	1-5	<u>diethylenetriamine</u>
108-10-1	0.1-1	<u>methyl isobutyl ketone</u>
68071-65-8	5-15	<u>tall oil/ triethylenetetramine/ tetraethylenepentamine</u>

Legend: 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
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	<ul style="list-style-type: none"> ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay. ▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▶ 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. ▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. <p>This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)</p>
Ingestion	<ul style="list-style-type: none"> ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Transport to hospital or doctor without delay.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5 Firefighting measures

Extinguishing media

- ▶ Foam.

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
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Advice for firefighters

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	<p>WARNING: In use may form flammable/ explosive vapour-air mixtures.</p> <ul style="list-style-type: none"> ▶ Non combustible. <p>Burning release: carbon dioxide (CO₂) aldehydes nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material. May emit corrosive fumes.</p> <p>WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ In the event of a spill of a reactive diluent, the focus is on containing the spill to prevent contamination of soil and surface or ground water. ▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. <p>Small spills should be covered with inorganic absorbents and disposed of properly.</p> <ul style="list-style-type: none"> ▶ Clean up all spills immediately.
Major Spills	<p>Environmental hazard - contain spillage.</p> <p>For release onto land: recommended sorbents listed in order of priority.</p> <p>Industrial spills or releases of reactive diluents are infrequent and generally contained.</p>

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Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear appropriate personnel protective equipment and clothing to prevent exposure. Avoid breathing in mists or vapours and skin or eyes contact. Prevent, by any means available, spillage from entering drains or water course. Stop leak if safe to do so. Contain spill with sawdust, sand, earth, inert material or vermiculite then place in suitable, labelled container for waste disposal. Clean contaminated objects and areas thoroughly observing environmental regulations. If the product contaminates waterways, inform competent authorities in accordance with local regulations.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> Avoid unnecessary personal contact, including inhalation.
Other information	<ul style="list-style-type: none"> Store in original containers. DO NOT store near acids, or oxidising agents

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> As supplied by manufacturer
Storage incompatibility	<p>Benzyl alcohol:</p> <ul style="list-style-type: none"> may froth in contact with water slowly oxidises in air, oxygen forming benzaldehyde is incompatible with mineral acids, caustics, aliphatic amines, isocyanates reacts violently with strong oxidisers, and explosively with sulfuric acid at elevated temperatures corrodes aluminium at high temperatures is incompatible with aluminum, iron, steel attacks some nonfluorinated plastics; may attack, extract and dissolve polypropylene <p>Benzyl alcohol contaminated with 1.4% hydrogen bromide and 1.2% of dissolved iron(II) polymerises exothermically above 100 deg.</p> <p>Secondary amines form salts with strong acids and can be oxidized to the corresponding nitrene using hydrogen peroxide, catalyzed by selenium dioxide</p> <ul style="list-style-type: none"> Segregate from alcohol, water. Avoid contact with copper, aluminium and their alloys. <p>Glycidyl ethers:</p> <ul style="list-style-type: none"> may form unstable peroxides on storage in air, light, sunlight, UV light or other ionising radiation, trace metals - inhibitor should be maintained at adequate levels may polymerise in contact with heat, organic and inorganic free radical producing initiators may polymerise with evolution of heat in contact with oxidisers, strong acids, bases and amines react violently with strong oxidisers, permanganates, peroxides, acyl halides, alkalis, ammonium persulfate, bromine dioxide attack some forms of plastics, coatings, and rubber <p>Reactive diluents are stable under recommended storage conditions, but can decompose at elevated temperatures. In some cases, decomposition can cause pressure build-up in closed systems.</p> <ul style="list-style-type: none"> Avoid cross contamination between the two liquid parts of product (kit). Avoid reaction with amines, mercaptans, strong acids and oxidising agents

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)	diethylenetriamine	Diethylene triamine	1 ppm / 4.2 mg/m3	Not Available	Not Available	(skin) - Skin absorption (dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser
New Zealand Workplace Exposure Standards (WES)	methyl isobutyl ketone	Hexone (Methyl isobutyl ketone)	50 ppm / 205 mg/m3	307 mg/m3 / 75 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
2,4,6-tris[(dimethylamino)methyl]phenol	6.5 mg/m3	72 mg/m3	430 mg/m3
benzyl alcohol	30 ppm	52 ppm	740 ppm
oleic acid	220 mg/m3	2,400 mg/m3	15,000 mg/m3
diethylenetriamine	3 ppm	8.5 ppm	51 ppm
methyl isobutyl ketone	75 ppm	500 ppm	3000* ppm

Ingredient	Original IDLH	Revised IDLH
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available	Not Available
hydrocarbons, C9-unsaturated, polymerised	Not Available	Not Available
benzyl alcohol	Not Available	Not Available
oleic acid	Not Available	Not Available

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Ingredient	Original IDLH	Revised IDLH
diethylenetriamine / MIBK ketimine adduct with PGE	Not Available	Not Available
diethylenetriamine	Not Available	Not Available
methyl isobutyl ketone	500 ppm	Not Available
tall oil/ triethylenetetramine/ tetraethylenepentamine	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
benzyl alcohol	E	≤ 0.1 ppm
diethylenetriamine / MIBK ketimine adduct with PGE	E	≤ 0.1 ppm
tall oil/ triethylenetetramine/ tetraethylenepentamine	E	≤ 0.1 ppm

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

MATERIAL DATA

Fragrance substance with is an established contact allergen in humans.

IFRA Restricted Fragrance Substance

The International Fragrance Association (IFRA) Standards form the basis for the globally accepted and recognized risk management system for the safe use of fragrance ingredients and are part of the IFRA Code of Practice.

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits.

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

For epichlorohydrin

Odour Threshold Value: 0.08 ppm

NOTE: Detector tubes for epichlorohydrin, measuring in excess of 5 ppm, are commercially available.


Amine adducts have much reduced volatility and are less irritating to the skin and eyes than amine hardeners.

Polyamide hardeners have much reduced volatility, toxicity and are much less irritating to the skin and eyes than amine hardeners.

for methyl isobutyl ketone (MIBK):

Unfatigued, odour recognition threshold (100% test panel) is 0.3 - 0.5 ppm.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> 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.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. <p>NOTE:</p> <ul style="list-style-type: none"> The material may produce skin sensitisation in predisposed individuals. When handling liquid-grade epoxy resins wear chemically protective gloves, boots and aprons. Leather wear not recommended: Contaminated leather footwear, watch bands, should be destroyed, i.e. burnt, as they cannot be adequately decontaminated
Body protection	Overalls
Respiratory protection	Respiratory protection required in insufficiently ventilated working areas. An approved respirator with a replaceable vapour/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to AS/NZS 1715 Standard, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716 Standard, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances. Recommended filter type: Type A filter (organic vapour).

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear to amber liquid with characteristic odour		
Physical state	Liquid	Relative density (Water = 1)	0.9-1.0
Odour	Not Available	Partition coefficient n-octanol / water	Not Available

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Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	200-250
Initial boiling point and boiling range (°C)	>180	Molecular weight (g/mol)	Not Available
Flash point (°C)	>100	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	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)	0.4
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	198

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>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. Inhalation of vapours may cause drowsiness and dizziness.</p> <p>Inhalation of amine vapours may cause irritation of the mucous membranes of the nose and throat and lung irritation with respiratory distress and cough.</p> <p>Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure.</p> <p>In animal testing, exposure to aerosols of some reactive diluents (notably o-cresol glycidyl ether, CAS RN: 2210-79-9) has been reported to affect the adrenal gland, central nervous system, kidney, liver, ovaries, spleen, testes, thymus, and respiratory tract.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhalation of benzyl alcohol may affect respiration (paralysis of the respiratory center, respiratory depression, gasping respirations), cardiovascular system (hypotension)</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>Inhalation of alkaline corrosives may produce irritation of the respiratory tract with coughing, choking, pain and mucous membrane damage.</p>
Ingestion	<p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. Reactive diluents exhibit a range of ingestion hazards. Aliphatic and alicyclic amines are generally well absorbed from the gut. Ingestion of large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting, diarrhea. Ingestion of alkaline corrosives may produce immediate pain, and circumoral burns.</p>
Skin Contact	<p>Volatile amine vapours produce primary skin irritation and dermatitis. Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Skin contact with reactive diluents may cause slight to moderate irritation with local redness. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Skin contact with the material may produce toxic effects; systemic effects may result following absorption. The material can produce severe chemical burns following direct contact with the skin. Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop.</p>
Eye	<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. Vapours of volatile amines cause eye irritation with lachrymation, conjunctivitis and minor transient corneal oedema which results in 'halos' around lights (glauropsia, 'blue haze', or 'blue-grey haze'). Eye contact with reactive diluents may cause slight to severe irritation with the possibility of chemical burns or moderate to severe corneal injury.</p>

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	Direct contact with alkaline corrosives may produce pain and burns.
Chronic	<p>On the basis, primarily, of animal experiments, concern has been expressed 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>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>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</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>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure.</p> <p>There is sufficient evidence to provide a strong presumption that human exposure to the material may result in impaired fertility on the basis of: - clear evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects.</p> <p>All glycidyl ethers show genotoxic potential due their alkylating properties.</p> <p>For some reactive diluents, prolonged or repeated skin contact may result in absorption of potentially harmful amounts or allergic skin reactions</p> <p>Exposure to some reactive diluents (notably neopentylglycol diglycidyl ether, CAS RN:17557-23-2) has caused cancer in some animal testing.</p> <p>Secondary amines may react in the acid conditions of the stomach with oxidants or preservatives) to form potentially carcinogenic N-nitrosamines.</p> <p>Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis.</p> <p>Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure.</p>

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	Not Available	Not Available
2,4,6-tris[(dimethylamino)methyl]phenol	TOXICITY	IRRITATION
	dermal (rat) LD50: >973 mg/kg ^[1]	Eye (rabbit): 0.05 mg/24h - SEVERE [Rohm & Haas, Henkel]* [Ciba]
	Oral (Rat) LD50: 1200 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]
		Skin (rabbit): 2 mg/24h - SEVERE
		Skin: adverse effect observed (corrosive) ^[1]
hydrocarbons, C9-unsaturated, polymerised	TOXICITY	IRRITATION
	Not Available	Eye: no adverse effect observed (not irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]
benzyl alcohol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 2000 mg/kg ^[2]	Eye (rabbit): 0.75 mg open SEVERE
	Inhalation (Rat) LC50: >4.178 mg/L4h ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 1230 mg/kg ^[2]	Skin (man): 16 mg/48h-mild
		Skin (rabbit):10 mg/24h open-mild
		Skin: no adverse effect observed (not irritating) ^[1]
oleic acid	TOXICITY	IRRITATION
	Oral (Rat) LD50: 74000 mg/kg ^[2]	Skin (human):15 mg/3d-l- moderate
		Skin (rabbit):500 mg mild
diethylenetriamine / MIBK ketimine adduct with PGE	TOXICITY	IRRITATION
	dermal (rat) LD50: 1250 mg/kg ^[2]	Eye: Corrosive [SHELL]
	Oral (Rat) LD50: 650 mg/kg ^[2]	Skin: Corrosive - Sensitiser
diethylenetriamine	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 1090 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 1080 mg/kg ^[2]	Skin (rabbit): 10 mg/24h - SEVERE
		Skin (rabbit):500 mg open moderate
		Skin: adverse effect observed (corrosive) ^[1]
methyl isobutyl ketone	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >16000 mg/kg ^[1]	Eye (human): 200 ppm/15m

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	Inhalation (Rat) LC50: -8.2-16.4 mg/l4h ^[2]	Eye (rabbit): 40 mg - SEVERE
	Oral (Rat) LD50: 2080 mg/kg ^[2]	Eye (rabbit): 500 mg/24h - mild
		Skin (rabbit): 500 mg/24h - mild
tall oil/ triethylenetetramine/ tetraethylenepentamine	TOXICITY	IRRITATION
	Not Available	Not Available

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

BENZYL ALCOHOL	<p>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.</p> <p>For benzoates: Acute toxicity: 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. A member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS) based in part on their self-limiting properties as flavouring substances in food; their rapid absorption. The aryl alkyl alcohol (AAA) fragrance ingredients are a diverse group of chemical structures with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic dermal and oral toxicity. At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin. The potential for eye irritation is minimal. With the exception of benzyl alcohol and to a lesser extent phenethyl and 2-phenoxyethyl AAA alcohols, human sensitization studies, diagnostic patch tests and human induction studies, indicate that AAA fragrance ingredients generally have no or low sensitization potential.</p>
OLEIC ACID	<p>Polyunsaturated fats (PUFAs) protect against cardiovascular disease by providing more membrane fluidity than monounsaturated fats (MUFAs), but they are more vulnerable to lipid peroxidation (rancidity). For aliphatic fatty acids (and salts) Acute oral (gavage) toxicity: The acute oral LD50 values in rats for both were greater than >2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy. Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating. Human skin irritation studies using more realistic exposures (30-minute, 1-hour or 24-hours) indicate that the aliphatic acids have sufficient, good or very good skin compatibility. The material may be irritating to the eye, with prolonged contact causing inflammation.</p>
DIETHYLENETRIAMINE / MIBK KETIMINE ADDUCT WITH PGE	<p>The material may produce moderate eye irritation leading to inflammation. The material may produce respiratory tract irritation. Amine adducts have much reduced volatility and are less irritating to the skin and eyes than amine hardeners.</p>
METHYL ISOBUTYL KETONE	<p>For methyl isobutyl ketone (MIBK): MIBK is primarily absorbed by the lungs in animals and humans; it can however be absorbed by the gastrointestinal system and through skin. In two cases involving individuals exposed to the vapour MIBK was found in the brain, liver, lung, vitreous fluid, kidney and blood. Experiments in guinea pigs show that MIBK is metabolised to 4-hydroxy-4-methyl-2-pentanone and 4-methyl-2-pentanone. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p>
TALL OIL/ TRIETHYLENETETRAMINE/ TETRAETHYLENEPENTAMINE	<p>For Fatty Nitrogen-Derived ether amines and Fatty Nitrogen-derived amines (FND ether amines and FND amines): FND ether amines and FND amines are very similar in structure and function.</p>
RESENE ARMOURBOND HARDENER & 2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL & DIETHYLENETRIAMINE / MIBK KETIMINE ADDUCT WITH PGE & DIETHYLENETRIAMINE & METHYL ISOBUTYL KETONE	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ends.</p>
RESENE ARMOURBOND HARDENER & DIETHYLENETRIAMINE / MIBK KETIMINE ADDUCT WITH PGE & DIETHYLENETRIAMINE	<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. Handling ethyleneamine products is complicated by their tendency to react with other chemicals, such as carbon dioxide in the air, which results in the formation of solid carbamates.</p>
RESENE ARMOURBOND HARDENER & BENZYL ALCOHOL & DIETHYLENETRIAMINE / MIBK KETIMINE ADDUCT WITH PGE & DIETHYLENETRIAMINE	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p>
RESENE ARMOURBOND HARDENER & BENZYL ALCOHOL	<p>Adverse reactions to fragrances in perfumes and in fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, photosensitivity, immediate contact reactions (contact urticaria), and pigmented contact dermatitis. Fragrance allergens act as haptens, i.e. low molecular weight chemicals that are immunogenic only when attached to a carrier protein.</p>

RESENE ARMOURBOND HARDENER

RESENE ARMOURBOND HARDENER & DIETHYLENTRIAMINE / MIBK KETIMINE ADDUCT WITH PGE	Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit many common characteristics with respect to animal toxicology. for 1,2-butylene oxide (ethyloxirane): Ethyloxirane increased the incidence of tumours of the respiratory system in male and female rats exposed via inhalation.
2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL & DIETHYLENTRIAMINE / MIBK KETIMINE ADDUCT WITH PGE	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. <ul style="list-style-type: none"> ▸ 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. ▸ 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).
2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL & HYDROCARBONS, C9-UNSATURATED, POLYMERISED & TALL OIL/ TRIETHYLENETETRAMINE/ TETRAETHYLENEPENTAMINE	No significant acute toxicological data identified in literature search.
2,4,6-TRIS[(DIMETHYLAMINO)METHYL]PHENOL & DIETHYLENTRIAMINE	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).
BENZYL ALCOHOL & OLEIC ACID & DIETHYLENTRIAMINE / MIBK KETIMINE ADDUCT WITH PGE & METHYL ISOBUTYL KETONE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).
DIETHYLENTRIAMINE / MIBK KETIMINE ADDUCT WITH PGE & DIETHYLENTRIAMINE	For alkyl polyamines: The alkyl polyamines cluster consists of organic compounds containing two terminal primary amine groups and at least one secondary amine group. Typically these substances are derivatives of ethylenediamine, propylenediamine or hexanediamine.

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 either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

RESENE ARMOURBOND HARDENER	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

2,4,6-tris[(dimethylamino)methyl]phenol	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	>100mg/l	2
	EC50	72h	Algae or other aquatic plants	2.8mg/l	2
	EC50(ECx)	24h	Crustacea	280mg/l	Not Available
	LC50	96h	Fish	1000mg/l	Not Available

hydrocarbons, C9-unsaturated, polymerised	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

benzyl alcohol	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	76.828mg/l	2
	EC50	48h	Crustacea	230mg/l	2
	EC50	72h	Algae or other aquatic plants	500mg/l	2
	NOEC(ECx)	336h	Fish	5.1mg/l	2
	LC50	96h	Fish	10mg/l	4

oleic acid	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	205mg/l	4

diethylenetriamine / MIBK ketimine adduct with PGE	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	~17mg/l	2

Continued...

RESENE ARMOURBOND HARDENER

	NOEC(ECx)	72h	Algae or other aquatic plants	<0.35mg/l	2
	EC50	72h	Algae or other aquatic plants	~1.2mg/l	2
diethylenetriamine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	345.6mg/l	1
	BCF	1008h	Fish	<0.3-1.7	7
	ERC50	72h	Algae or other aquatic plants	1164mg/l	1
	EC50	48h	Crustacea	16mg/l	1
	EC50	72h	Algae or other aquatic plants	1164mg/l	1
	NOEC(ECx)	504h	Crustacea	5.6mg/l	1
	LC50	96h	Fish	175mg/l	2
methyl isobutyl ketone	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	400mg/l	1
	EC50	48h	Crustacea	170mg/l	1
	EC50(ECx)	48h	Crustacea	170mg/l	1
	LC50	96h	Fish	>179mg/l	2
tall oil/ triethylenetetramine/ tetraethylenepentamine	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.

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.

Toxic to soil organisms.

Reactive diluents generally have a low to moderate potential for bioconcentration (tendency to accumulate in the food chain) and a high to very high potential for mobility in soil.

Environmental toxicity is a function of the n-octanol/water partition coefficient (log Pow, log Kow).

Significant environmental findings are limited.

For 1,2-Butylene oxide (Ethylloxirane):

log Kow values of 0.68 and 0.86.

For benzyl alcohol:

log Kow : 1.1

Koc : <5

Henry's atm m³/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.

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
2,4,6-tris[(dimethylamino)methyl]phenol	HIGH	HIGH
benzyl alcohol	LOW	LOW
oleic acid	LOW	LOW
diethylenetriamine	LOW	LOW
methyl isobutyl ketone	HIGH (Half-life = 7001 days)	LOW (Half-life = 1.9 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
2,4,6-tris[(dimethylamino)methyl]phenol	LOW (LogKOW = 0.773)
benzyl alcohol	LOW (LogKOW = 1.1)
oleic acid	LOW (LogKOW = 7.64)

RESENE ARMOURBOND HARDENER

Ingredient	Bioaccumulation
diethylenetriamine	LOW (BCF = 1.7)
methyl isobutyl ketone	LOW (LogKOW = 1.31)

Mobility in soil

Ingredient	Mobility
2,4,6-tris[[dimethylamino)methyl]]phenol	LOW (Log KOC = 15130)
benzyl alcohol	LOW (Log KOC = 15.66)
oleic acid	LOW (Log KOC = 11670)
diethylenetriamine	LOW (Log KOC = 87.53)
methyl isobutyl ketone	LOW (Log KOC = 10.91)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ 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. Consult manufacturer for recycling option.
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Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.

Do not allow product or wash water from cleaning or process equipment to enter drains or watercourses. It may be necessary to collect all wash water for treatment before disposal. The generation of waste should be avoided or minimised wherever possible.

Disposal of this product should comply with Hazard Substances (Disposal) Notice 2017 (EPA Consolidation 30 April 2021) and local regulations.



This substance can be disposed of if it is treated by using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance, or exporting the substance from New Zealand as waste.

For treating, discharging, or incinerating processes contact your local authority.

The substance may be discharged onto a landfill, but only if a concentration of the substance in an environmental medium below the exposure limit set by the Local Authority, or if the substance is very rapidly degradable. Dilution with any other substances before discharging is possible for corrosive/ irritative substances.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	
HAZCHEM	2X

Land transport (UN)

14.1. UN number or ID number	1760	
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains diethylenetriamine / MIBK ketimine adduct with PGE)	
14.3. Transport hazard class(es)	Class	8
	Subsidiary Hazard	Not Applicable
14.4. Packing group	III	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	223; 274
	Limited quantity	5 L

Air transport (ICAO-IATA / DGR)

14.1. UN number	1760
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RESENE ARMOURBOND HARDENER

14.2. UN proper shipping name	Corrosive liquid, n.o.s. * (contains diethylenetriamine / MIBK ketimine adduct with PGE)	
14.3. Transport hazard class(es)	ICAO/IATA Class	8
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	8L
14.4. Packing group	III	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	A3 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)

14.1. UN number	1760	
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains diethylenetriamine / MIBK ketimine adduct with PGE)	
14.3. Transport hazard class(es)	IMDG Class	8
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	III	
14.5. Environmental hazard	Marine Pollutant	
14.6. Special precautions for user	EMS Number	F-A , S-B
	Special provisions	223 274
	Limited Quantities	5 L

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available
hydrocarbons, C9-unsaturated, polymerised	Not Available
benzyl alcohol	Not Available
oleic acid	Not Available
diethylenetriamine / MIBK ketimine adduct with PGE	Not Available
diethylenetriamine	Not Available
methyl isobutyl ketone	Not Available
tall oil/ triethylenetetramine/ tetraethylenepentamine	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
2,4,6-tris[(dimethylamino)methyl]phenol	Not Available
hydrocarbons, C9-unsaturated, polymerised	Not Available
benzyl alcohol	Not Available
oleic acid	Not Available
diethylenetriamine / MIBK ketimine adduct with PGE	Not Available
diethylenetriamine	Not Available
methyl isobutyl ketone	Not Available
tall oil/ triethylenetetramine/ tetraethylenepentamine	Not Available

SECTION 15 Regulatory information

RESENE ARMOURBOND HARDENER

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
HSR002658	Surface Coatings and Colourants Corrosive Group Standard 2020

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

2,4,6-tris[(dimethylamino)methyl]phenol is found on the following regulatory lists

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

hydrocarbons, C9-unsaturated, polymerised is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)

benzyl alcohol is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities
 New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities

oleic acid is found on the following regulatory lists

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

diethylenetriamine / MIBK ketimine adduct with PGE is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)

diethylenetriamine is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

methyl isobutyl ketone is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
 New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

tall oil/ triethylenetetramine/ tetraethylenepentamine is found on the following regulatory lists

New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits for dangerous goods

Additional Regulatory Information

Not Applicable

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantities
Not Applicable	Not Applicable

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
6.5A or 6.5B	120	1	3	
8.2C	120	1	3	

RESENE ARMOURBOND HARDENER

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (hydrocarbons, C9-unsaturated, polymerised)
Canada - DSL	Yes
Canada - NDSL	No (2,4,6-tris[(dimethylamino)methyl]phenol; hydrocarbons, C9-unsaturated, polymerised; benzyl alcohol; oleic acid; diethylenetriamine / MIBK ketimine adduct with PGE; diethylenetriamine; methyl isobutyl ketone; tall oil/ triethylenetetramine/ tetraethylenepentamine)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (hydrocarbons, C9-unsaturated, polymerised)
Japan - ENCS	No (hydrocarbons, C9-unsaturated, polymerised; tall oil/ triethylenetetramine/ tetraethylenepentamine)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (hydrocarbons, C9-unsaturated, polymerised; tall oil/ triethylenetetramine/ tetraethylenepentamine)
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hydrocarbons, C9-unsaturated, polymerised; diethylenetriamine / MIBK ketimine adduct with PGE; tall oil/ triethylenetetramine/ tetraethylenepentamine)
Vietnam - NCI	Yes
Russia - FBEPH	No (diethylenetriamine / MIBK ketimine adduct with PGE; tall oil/ triethylenetetramine/ tetraethylenepentamine)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	12/03/2024
Initial Date	12/03/2024

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.

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
- ▶ ES: Exposure Standard
- ▶ 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
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration

- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European Inventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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