# RESENE EPOX-O-BOND FILLER HARDENER
## Resene Paints LTD

Version No: **1.2**
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: **08/03/2021**
Print Date: **08/03/2021**
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 |
| **Chemical Name** | Not Applicable |
| **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) (contains N-[3-(trimethoxysilyl)propyl]ethylenediamine) |
| **Other means of identification** | Not Available |

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

| | |
|---|---|
| **Relevant identified uses** | 8794 |

### Details of the 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** |
| **Emergency telephone numbers** | **0800 764766** | **+61 2 9186 1132** |
| **Other emergency telephone numbers** | **Not Available** | **+64 800 700 112** |

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

## SECTION 2 Hazards identification

### Classification of the substance or mixture

| | |
|---|---|
| **Classification [1]** | Skin Corrosion/Irritation Category 1C, Respiratory Sensitizer Category 1, Acute Toxicity (Dermal) Category 4, Flammable Liquid Category 4, Acute Aquatic Hazard Category 3, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Oral) Category 4, Reproductive Toxicity Category 2, Skin Sensitizer Category 1, Chronic Aquatic Hazard Category 3 |
| ***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** | 3.1D, 6.1D (dermal), 6.1D (oral), 8.2C, 8.3A, 6.5A (respiratory), 6.5B (contact), 6.8B, 9.1C, 9.1D |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |
| **Signal word** | **Danger** |

### Hazard statement(s)

| | |
|---|---|
| **H314** | Causes severe skin burns and eye damage. |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **H312** | Harmful in contact with skin. |
| **H227** | Combustible liquid. |
| **H302** | Harmful if swallowed. |
| **H361** | Suspected of damaging fertility or the unborn child. |
| **H317** | May cause an allergic skin reaction. |

**Page 1 continued...**

| | |
|---|---|
| **H412** | Harmful to aquatic life with long lasting effects. |

**Precautionary statement(s) Prevention**

| | |
|---|---|
| **P201** | Obtain special instructions before use. |
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P260** | Do not breathe mist/vapours/spray. |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |
| **P284** | [In case of inadequate ventilation] wear respiratory protection. |
| **P270** | Do not eat, drink or smoke when using this product. |
| **P273** | Avoid release to the environment. |
| **P272** | Contaminated work clothing should not be allowed out of the workplace. |

**Precautionary statement(s) Response**

| | |
|---|---|
| **P301+P330+P331** | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| **P303+P361+P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [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. |
| **P370+P378** | In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish. |
| **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. |
| **P301+P312** | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |

**Precautionary statement(s) Storage**

| | |
|---|---|
| **P403** | Store in a well-ventilated place. |
| **P405** | Store locked up. |

**Precautionary statement(s) Disposal**

| | |
|---|---|
| **P501** | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |

## SECTION 3 Composition / information on ingredients

**Substances**

See section below for composition of Mixtures
Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017 to be identified:

**Mixtures**

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

## SECTION 4 First aid measures

**Description of first aid measures**

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Immediately hold eyelids apart and flush the eye continuously with running water.<br>▸ 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.<br>▸ Continue flushing for at least 15 minutes.<br>▸ Transport to hospital or doctor without delay in event of irritation.<br>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |

**Continued...**

| | |
|---|---|
| **Skin Contact** | If skin or hair contact occurs:<br>▸ Immediately flush body and clothes with large amounts of water, using safety shower if available.<br>▸ Quickly remove all contaminated clothing, including footwear.<br>▸ Wash skin and hair with running water.<br>▸ Transport to hospital, or doctor in event of irritation. |
| **Inhalation** | If aerosols, fumes or combustion products are inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop seek medical attention. |
| **Ingestion** | ▸ For advice, contact a Poisons Information Centre or a doctor at once.<br>▸ Urgent hospital treatment is likely to be needed.<br>▸ If swallowed do **NOT** induce vomiting.<br>▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>▸ Observe the patient carefully.<br>▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.<br>▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.<br>▸ 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 |

### Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | ▸ Alert Fire Brigade and tell them location and nature of hazard. |
| **Fire/Explosion Hazard** | Combustible.<br>Combustion products include:<br>carbon monoxide (CO)<br>carbon dioxide ($CO_2$)<br>other pyrolysis products typical of burning organic material.<br>May emit corrosive fumes. |

## 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** | Remove all ignition sources. Contain spill with inert non- combustible absorbent then place in suitable, labelled container for waste disposal. Wipe up. Clean area with large quantity of water to complete clean- up. |
| **Major Spills** | Remove all ignition sources. Clear area of personnel and move upwind. Wear appropriate personnel protective equipment and clothing to prevent exposure. Avoid breathing in mists or vapours and skin or eyes contact. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non- combustible material onto spillage. Use clean non- sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authority. |

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

## SECTION 7 Handling and storage

### Precautions for safe handling

| | |
|---|---|
| **Safe handling** | ▸ Avoid unnecessary personal contact, including inhalation. |
| **Other information** | ▸ Store in original containers.<br>▸ **DO NOT** store near acids, or oxidising agents |

### Conditions for safe storage, including any incompatibilities

**Continued...**

| | |
|---|---|
| **Suitable container** | As supplied by manufacturer |
| **Storage incompatibility** | ▸ Avoid reaction with 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) | m-xylenediamine | m-Xylene a,a'-diamine | Not Available | Not Available | 0.1 mg/m3 | skin-Skin absorption |
| New Zealand Workplace Exposure Standards (WES) | ethylenediamine | Ethylenediamine (1,2-Diaminoethane) | 10 ppm / 25 mg/m3 | Not Available | Not Available | skin-Skin absorption (dsen)-Dermal sensitiser (rsen)-Respiratory sensitiser |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| N-[3-(trimethoxysilyl)propyl]ethylenediamine | 23 mg/m3 | 250 mg/m3 | 1,500 mg/m3 |
| isopentane | 3000* ppm | 33000*** ppm | 200000*** ppm |
| benzyl alcohol | 30 ppm | 52 ppm | 740 ppm |
| bisphenol A | 15 mg/m3 | 110 mg/m3 | 650 mg/m3 |
| ethylenediamine | 0.88 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 |
| m-xylenediamine | Not Available | Not Available |
| ethylenediamine | 1,000 ppm | Not Available |

**Occupational Exposure Banding**

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|---|---|
| N-[3-(trimethoxysilyl)propyl]ethylenediamine | D | > 0.1 to ≤ 1 ppm |
| N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine | E | ≤ 0.1 ppm |
| N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine | D | > 0.1 to ≤ 1 ppm |
| benzyl alcohol | E | ≤ 0.1 ppm |
| bisphenol A | E | ≤ 0.01 mg/m³ |
| 3-(diethylamino)-1,2-propanediol | 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.
For benzene-1,3-dimethanamine (m-xylene-alpha,alpha'-diamine; m-xylenediamine; m-xylyldiamine)
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

| | |
|---|---|
| **Appropriate engineering controls** | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. |
| **Personal protection** |  |
| **Eye and face protection** | ▸ Chemical goggles. |

**Continued...**

| | |
|---|---|
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ‣ Wear chemical protective gloves, e.g. PVC.<br>**NOTE:**<br>‣ The material may produce skin sensitisation in predisposed individuals. |
| **Body protection** | See Other protection below |
| **Other protection** | ‣ Overalls. |

**Respiratory protection**

**Respiratory protection required in insufficiently ventilated working areas and during spraying. 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** | Green paste |

| | | | |
|---|---|---|---|
| **Physical state** | Non Slump Paste | **Relative density (Water = 1)** | 0.95 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Available |
| **pH (as supplied)** | Not Available | **Decomposition temperature** | Not Available |
| **Melting point / freezing point (°C)** | Not Available | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | >95 | **Molecular weight (g/mol)** | Not Available |
| **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** | 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** | ‣ Stable |
| **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** | Inhalation of amine vapours may cause irritation of the mucous membranes of the nose and throat and lung irritation with respiratory distress and cough.<br>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.<br>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.<br>Inhalation of benzyl alcohol may affect respiration (paralysis of the respiratory center, respiratory depression, gasping respirations), cardiovascular system (hypotension |

**Continued...**

| | |
|---|---|
| **Ingestion** | 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.<br>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.<br>Aliphatic and alicyclic amines are generally well absorbed from the gut.<br>Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea.<br>Ingestion of large doses of benzyl alcohol may cause abdominal pain, nausea, vomiting, diarrhea. |
| **Skin Contact** | Skin contact with the material may be harmful; systemic effects may result following absorption.<br>The material can produce chemical burns following direct contact with the skin.<br>Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals.<br>Volatile amine vapours produce primary skin irritation and dermatitis.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. |
| **Eye** | The material can produce chemical burns to the eye following direct contact.<br>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. |
| **Chronic** | 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.<br>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.<br>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.<br>There is sufficient evidence to establish a causal relationship between human exposure to the material and subsequent developmental toxic effects in the off-spring.<br>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.<br>Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis.<br>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. |

**RESENE EPOX-O-BOND FILLER HARDENER**

| TOXICITY | IRRITATION |
|---|---|
| Not Available | Not Available |

**N-[3-(trimethoxysilyl)propyl]ethylenediamine**

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: >2000 mg/kg[1] | Eye (rabbit): 15 mg SEVERE |
| Inhalation(Rat) LC50; >1.49<2.44 mg/l4[1] | Eye: adverse effect observed (irreversible damage)[1] |
| Oral(Rat) LD50; 1897 mg/kg[1] | Skin (rabbit): 500 mg mild |
| | Skin: no adverse effect observed (not irritating)[1] |

**N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine**

| TOXICITY | IRRITATION |
|---|---|
| Not Available | Not Available |

**N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine**

| TOXICITY | IRRITATION |
|---|---|
| Oral(Rat) LD50; 18000 mg/kg[2] | Not Available |

**isopentane**

| TOXICITY | IRRITATION |
|---|---|
| Inhalation(Rat) LC50; >25.3 mg/l4[1] | Not Available |
| Oral(Rat) LD50; >2000 mg/kg[1] | |

**benzyl alcohol**

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: >2000 mg/kg[1] | Eye (rabbit): 0.75 mg open SEVERE |
| Inhalation(Rat) LC50; >4.178 mg/L4[1] | Eye: adverse effect observed (irritating)[1] |
| Oral(Rat) LD50; 1.442 mg/kg[2] | Skin (man): 16 mg/48h-mild |
| | Skin (rabbit):10 mg/24h open-mild |
| | Skin: no adverse effect observed (not irritating)[1] |

**bisphenol A**

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: 2.5 mg/kg[2] | Eye (rabbit): 0.25 mg/24h-SEVERE |
| Oral(Mouse) LD50; 150 mg/kg[2] | Eye: adverse effect observed (irritating)[1] |
| | Skin (rabbit): 250 mg open - mild |
| | Skin (rabbit): 500 mg/24h - mild |
| | Skin: adverse effect observed (irritating)[1] |
| | Skin: no adverse effect observed (not irritating)[1] |

**Continued...**

| | |
|---|---|
| **3-(diethylamino)-1,2-propanediol** | |

| TOXICITY | IRRITATION |
|---|---|
| Not Available | Not Available |

| | |
|---|---|
| **m-xylenediamine** | |

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: ~2000 mg/kg[2] | Eye (rabbit): 0.05 mg/24h SEVERE |
| Inhalation(Rat) LC50; 0.8 mg/l4[1] | Skin (rabbit): 0.75 mg/24h SEVERE |
| Oral(Rat) LD50; >200 mg/kg[1] | |

| | |
|---|---|
| **ethylenediamine** | |

| TOXICITY | IRRITATION |
|---|---|
| Dermal (rabbit) LD50: 550 mg/kg[2] | Eye (rabbit):0.67 mg SEVERE |
| Inhalation(Mouse) LC50; 0.3 mg/L4[2] | Eye (rabbit):0.75mg/24h SEVERE |
| Oral(Rat) LD50; 76 mg/kg[2] | 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** | The various members of the bisphenol family produce hormone like effects, seemingly as a result of binding to estrogen receptor-related receptors (ERRs; not to be confused with estrogen receptors)<br>A suspected estrogen-related receptors (ERR) binding agent:<br>Estrogen-related receptors (ERR, oestrogen-related receptors) are so named because of sequence homology with estrogen receptors but do not appear to bind estrogens or other tested steroid hormones. The ERR family have been demonstrated to control energy homeostasis, oxidative metabolism and mitochondrial biogenesis ,while effecting mammalian physiology in the heart, brown adipose tissue, white adipose tissue, placenta, macrophages, and demonstrated additional roles in diabetes and cancer.<br>ERRs bind enhancers throughout the genome where they exert effects on gene regulation<br>Although their overall functions remain uncertain, they also share DNA-binding sites, co-regulators, and target genes with the conventional estrogen receptors ERalpha and ERbeta and may function to modulate estrogen signaling pathways.<br>· ERR-alpha has wide tissue distribution but it is most highly expressed in tissues that preferentially use fatty acids as energy sources such as kidney, heart, brown adipose tissue, cerebellum, intestine, and skeletal muscle. |
| **N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE** | for Silquest Y-9400 (70-100% organofunctional silane) * OSi Specialites Inc. |
| **BENZYL ALCOHOL** | For benzyl alkyl alcohols:<br>Unlike benzylic alcohols, the beta-hydroxyl group of the members of this cluster is unlikely to undergo phase II metabolic activation.<br>For benzoates:<br>**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.<br>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.<br>The aryl alkyl alcohol (AAA) fragrance ingredients are a diverse group of chemical structures with similar metabolic and toxicity profiles.<br>The AAA fragrances demonstrate low acute and subchronic dermal and oral toxicity.<br>At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin.<br>The potential for eye irritation is minimal.<br>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. |
| **BISPHENOL A** | For bisphenol A (BPA)<br>Following oral administration absorption of BPA is rapid and extensive while dermal absorption is limited. |
| **M-XYLENEDIAMINE** | For benzene-1,3-dimethanamine (m-xylene-alpha,alpha'- diamine)<br>The toxicity via oral administration and inhalation was tissue damage in the digestive and respiratory organs, respectively, which are the first contact sites.<br>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.<br>▸ 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.<br>▸ 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). |
| **ETHYLENEDIAMINE** | 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 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. |
| **RESENE EPOX-O-BOND FILLER HARDENER & N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & M-XYLENEDIAMINE & ETHYLENEDIAMINE** | 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.<br>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.<br>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. |

**Continued...**

| | |
|---|---|
| **RESENE EPOX-O-BOND FILLER HARDENER & N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & BENZYL ALCOHOL & BISPHENOL A & M-XYLENEDIAMINE & ETHYLENEDIAMINE** | The following information refers to contact allergens as a group and may not be specific to this product.<br>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. |
| **RESENE EPOX-O-BOND FILLER HARDENER & BENZYL ALCOHOL** | 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.<br>Fragrance allergens act as haptens, i.e. low molecular weight chemicals that are immunogenic only when attached to a carrier protein. |
| **RESENE EPOX-O-BOND FILLER HARDENER & BISPHENOL A** | The chemical structure of hydroxylated diphenylalkanes or bisphenols consists of two phenolic rings joined together through a bridging carbon. |
| **RESENE EPOX-O-BOND FILLER HARDENER & N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & BISPHENOL A & 3-(DIETHYLAMINO)-1,2-PROPANEDIOL & M-XYLENEDIAMINE & ETHYLENEDIAMINE** | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. |
| **N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE** | For N-[3-(trimethoxysilyl)propyl]ethylenediamine (AEAPTMS) and its analogues:<br>**Acute toxicity**: In rabbits, AEAPTMS is moderately irritating to the skin and severely irritating to the eyes. |
| **N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & M-XYLENEDIAMINE & ETHYLENEDIAMINE** | The material may produce severe irritation to the eye causing pronounced inflammation. |
| **N-[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & BENZYL ALCOHOL & BISPHENOL A** | The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). |
| **N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & 3-(DIETHYLAMINO)-1,2-PROPANEDIOL** | No significant acute toxicological data identified in literature search. |
| **N,N-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE & N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]ETHYLENEDIAMINE** | For alkoxysilanes:<br>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.<br>Alkoxysilane groups that rapidly hydrolyse when in contact with water, result in metabolites that may only cause mild skin irritation. |
| **M-XYLENEDIAMINE & ETHYLENEDIAMINE** | The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). |

| | | | |
|---|---|---|---|
| **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 EPOX-O-BOND FILLER HARDENER**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**N-[3-(trimethoxysilyl)propyl]ethylenediamine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50 | 48 | Crustacea | 81mg/l | 2 |
| LC50 | 96 | Fish | 597mg/l | 2 |
| EC50 | 72 | Algae or other aquatic plants | 5.5mg/l | 2 |
| NOEC(ECx) | 72 | Algae or other aquatic plants | 1.6mg/l | 2 |
| EC50 | 96 | Algae or other aquatic plants | 11mg/l | 2 |

**N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**Continued...**

**N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**isopentane**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50(ECx) | 72 | Algae or other aquatic plants | 1.26mg/l | 2 |
| LC50 | 96 | Fish | 4.26mg/l | 2 |
| EC50 | 48 | Crustacea | 2.3mg/l | 1 |
| EC50 | 72 | Algae or other aquatic plants | 1.26mg/l | 2 |
| EC50 | 96 | Algae or other aquatic plants | 5.2mg/l | 2 |

**benzyl alcohol**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50 | 48 | Crustacea | 230mg/l | 2 |
| LC50 | 96 | Fish | 10mg/l | 2 |
| EC50(ECx) | 5 | Algae or other aquatic plants | >0.442mg/L | 4 |
| EC50 | 72 | Algae or other aquatic plants | 500mg/l | 2 |
| EC50 | 96 | Algae or other aquatic plants | 76.828mg/l | 2 |

**bisphenol A**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| ErC50 | 72 | Algae or other aquatic plants | 2.73.1mg/l | 1 |
| BCF | 1008 | Fish | 5.113.3 | 7 |
| NOEC(ECx) | 96 | Crustacea | 0.51mg/l | 1 |
| LC50 | 96 | Fish | 0.1410.185mg/L | 4 |
| EC50 | 48 | Crustacea | 10.2mg/l | 1 |
| EC50 | 72 | Algae or other aquatic plants | 1.251.89mg/l | 4 |
| EC50 | 96 | Algae or other aquatic plants | 1mg/l | 1 |

**3-(diethylamino)-1,2-propanediol**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**m-xylenediamine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| BCF | 1008 | Fish | <0.3 | 7 |
| EC50 | 48 | Crustacea | 15.2mg/l | 2 |
| LC50 | 96 | Fish | 75mg/l | 2 |
| EC50 | 72 | Algae or other aquatic plants | 12mg/l | 2 |
| NOEC(ECx) | 504 | Crustacea | 4.7mg/l | 2 |

**ethylenediamine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 504 | Crustacea | 2mg/l | 1 |
| EC50 | 72 | Algae or other aquatic plants | 645mg/l | 1 |
| EC50 | 96 | Algae or other aquatic plants | 61mg/l | 1 |
| EC50 | 48 | Crustacea | 17mg/l | 1 |
| LC50 | 96 | Fish | >11.5mg/l | 4 |

***Legend:*** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - 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:
Environmental fate:
Biodegradability (28 d) 89% - Easily biodegradable
Bioconcentration factor (BCF) 7.8 mg/l
Bisphenol A, its derivatives and analogues, can be released from polymers, resins and certain substances by metabolic products
Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII
As an environmental contaminant, bisphenol A interferes with nitrogen fixation at the roots of leguminous plants associated with the bacterial symbiont Sinorhizobium meliloti.
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.
For benzyl alcohol:
log Kow : 1.1
Koc : <5
Henry's atm m3 /mol: 3.91E-07

**Continued...**

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 |
|---|---|---|
| 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 |
| m-xylenediamine | 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) |
| m-xylenediamine | 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) |
| m-xylenediamine | LOW (KOC = 914.6) |
| 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.<br>Removal of bisphenol A (BPA) from aqueous solutions was accomplished by adsorption of enzymatically generated quinone derivatives on chitosan beads.<br>▸ Recycle wherever possible.<br>Consult manufacturer for recycling option.<br>Resene Paintwise accepts residual unwanted paint and packaging. See Resene website for Paintwise information. Or contact a Local Authority for the disposal information. Do not discharge the substance into the environment. |

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

### 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.
The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately

**Continued...**

treated and removed may be recycled.
The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

## SECTION 14 Transport information

### Labels Required

| | |
|---|---|
| |  |
| **Marine Pollutant** | NO |
| **HAZCHEM** | 2X |

### Land transport (UN)

| | |
|---|---|
| **UN number** | 3066 |
| **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) (contains N-[3-(trimethoxysilyl)propyl]ethylenediamine) |
| **Transport hazard class(es)** | Class: 8<br>Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: 163; 223; 367<br>Limited quantity: 5 L |

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

| | |
|---|---|
| **UN number** | 3066 |
| **UN proper shipping name** | Paint corrosive (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) (contains N-[3-(trimethoxysilyl)propyl]ethylenediamine); Paint related material corrosive (including paint thinning or reducing compounds) (contains N-[3-(trimethoxysilyl)propyl]ethylenediamine) |
| **Transport hazard class(es)** | ICAO/IATA Class: 8<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: 8L |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: A3 A72 A192 A803<br>Cargo Only Packing Instructions: 856<br>Cargo Only Maximum Qty / Pack: 60 L<br>Passenger and Cargo Packing Instructions: 852<br>Passenger and Cargo Maximum Qty / Pack: 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions: Y841<br>Passenger and Cargo Limited Maximum Qty / Pack: 1 L |

### Sea transport (IMDG-Code / GGVSee)

| | |
|---|---|
| **UN number** | 3066 |
| **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) (contains N-[3-(trimethoxysilyl)propyl]ethylenediamine) |
| **Transport hazard class(es)** | IMDG Class: 8<br>IMDG Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | EMS Number: F-A , S-B<br>Special provisions: 163 223 367<br>Limited Quantities: 5 L |

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

Not Applicable

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

**Continued...**

| Product name | Group |
|---|---|
| N-[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| isopentane | Not Available |
| benzyl alcohol | Not Available |
| bisphenol A | Not Available |
| 3-(diethylamino)-1,2-propanediol | Not Available |
| m-xylenediamine | Not Available |
| ethylenediamine | Not Available |

**Transport in bulk in accordance with the ICG Code**

| Product name | Ship Type |
|---|---|
| N-[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine | Not Available |
| isopentane | Not Available |
| benzyl alcohol | Not Available |
| bisphenol A | Not Available |
| 3-(diethylamino)-1,2-propanediol | Not Available |
| m-xylenediamine | Not Available |
| ethylenediamine | Not Available |

## 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 2017 |

**N-[3-(trimethoxysilyl)propyl]ethylenediamine 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 Inventory of Chemicals (NZIoC)

**N,N-bis[3-(trimethoxysilyl)propyl]ethylenediamine is found on the following regulatory lists**

New Zealand Inventory of Chemicals (NZIoC)

**N,N'-bis[3-(trimethoxysilyl)propyl]ethylenediamine is found on the following regulatory lists**

New Zealand Inventory of Chemicals (NZIoC)

**isopentane 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)

**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)

**bisphenol A is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List
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)

**3-(diethylamino)-1,2-propanediol is found on the following regulatory lists**

New Zealand Inventory of Chemicals (NZIoC)

**m-xylenediamine is found on the following regulatory lists**

New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

**ethylenediamine is found on the following regulatory lists**

**Continued...**

| | |
|---|---|
| Chemical Footprint Project - Chemicals of High Concern List | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| New Zealand Approved Hazardous Substances with controls | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals | New Zealand Workplace Exposure Standards (WES) |

### 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 | |
| 3.1C or 3.1D | | | | 10 L |

### Tracking Requirements

Not Applicable

### National Inventory Status

| National Inventory | Status |
|---|---|
| New Zealand - NZIoC | Yes |
| ***Legend:*** | *Yes = All CAS declared ingredients are on the inventory*<br>*No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)* |

## SECTION 16 Other information

| | |
|---|---|
| **Revision Date** | 08/03/2021 |
| **Initial Date** | 10/02/2016 |

### SDS Version Summary

| Version | Issue Date | Sections Updated |
|---|---|---|
| 0.2.1.1.1 | 08/03/2021 | Acute Health (inhaled), Chronic Health, Classification, Engineering Control, Environmental, First Aid (inhaled), Physical Properties, Spills (major), Spills (minor) |

### 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
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

Powered by AuthorITe, from Chemwatch.