# RESENE DUREPOX HARDENER

**Resene Automotive & Light Industrial**

Version No: **1.1**
Safety Data Sheet according to HSNO Regulations

Issue Date: **24/02/2020**
Print Date: **24/02/2020**
L.GHS.NZL.EN

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

### Product Identifier

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

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

| | |
|---|---|
| **Relevant identified uses** | 9515 |

### Details of the supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | **Resene Automotive & Light Industrial** |
| **Address** | 32-50 Vogel Street Wellington Naenae 5011 New Zealand |
| **Telephone** | +64 4 5770500 |
| **Fax** | +64 9 259 2737 |
| **Website** | www.resene.co.nz |
| **Email** | advice@resene.co.nz |

### Emergency telephone number

| | | |
|---|---|---|
| **Association / Organisation** | **NZ POISONS (24hr 7 days)** | **CHEMWATCH EMERGENCY RESPONSE** |
| **Emergency telephone numbers** | **0800 764766** | **+64 800 700 112** |
| **Other emergency telephone numbers** | **0800 737363** | **+61 2 9186 1132** |

**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

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|---|---|
| **Classification [1]** | Flammable Liquid Category 3, Respiratory Sensitizer Category 1, Specific target organ toxicity - single exposure Category 2, Acute Toxicity (Inhalation) Category 4, Eye Irritation Category 2, Reproductive Toxicity Category 2, Skin Sensitizer Category 1, Carcinogenicity Category 2, Skin Corrosion/Irritation 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** | 3.1C, 6.1D (inhalation), 6.3B, 6.4A, 6.5A (respiratory), 6.5B (contact), 6.7B, 6.8B, 6.9B |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |
| **SIGNAL WORD** | **DANGER** |

### Hazard statement(s)

| | |
|---|---|
| **H226** | Flammable liquid and vapour. |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **H371** | May cause damage to organs. (Not specified) (Oral, Dermal, Inhalation) |
| **H332** | Harmful if inhaled. |
| **H319** | Causes serious eye irritation. |
| **H361** | Suspected of damaging fertility or the unborn child. |
| **H317** | May cause an allergic skin reaction. |
| **H351** | Suspected of causing cancer. |
| **H316** | Causes mild skin irritation. |

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**Precautionary statement(s) Prevention**

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| **P201** | Obtain special instructions before use. |
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P233** | Keep container tightly closed. |
| **P260** | Do not breathe mist/vapours/spray. |
| **P271** | Use in a well-ventilated area. |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |
| **P284** | [In case of inadequate ventilation] wear respiratory protection. |
| **P240** | Ground and bond container and receiving equipment. |
| **P241** | Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment. |
| **P242** | Use non-sparking tools. |
| **P243** | Take action to prevent static discharges. |
| **P270** | Do not eat, drink or smoke when using this product. |
| **P272** | Contaminated work clothing should not be allowed out of the workplace. |

**Precautionary statement(s) Response**

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|---|---|
| **P304+P340** | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| **P321** | Specific treatment (see advice on this label). |
| **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 normal protein foam to extinguish. |
| **P302+P352** | IF ON SKIN: Wash with plenty of water and soap. |
| **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+P311** | IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider. |
| **P312** | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |
| **P333+P313** | If skin irritation or rash occurs: Get medical advice/attention. |
| **P337+P313** | If eye irritation persists: Get medical advice/attention. |
| **P362+P364** | Take off contaminated clothing and wash it before reuse. |
| **P303+P361+P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |

**Precautionary statement(s) Storage**

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| **P403+P235** | Store in a well-ventilated place. Keep cool. |
| **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

**Mixtures**

| CAS No | %[weight] | Name |
|---|---|---|
| 108-88-3 | 5-10 | toluene |
| 108-65-6 | 10-20 | propylene glycol monomethyl ether - mixture of isomers |
| 28182-81-2 | 40-70 | hexamethylene diisocyanate polymer |
| 1330-20-7 | 5-10 | xylene |
| 100-41-4 | 2-5 | ethylbenzene |

## SECTION 4 FIRST AID MEASURES

**Description of first aid measures**

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|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Wash out immediately with fresh 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>▸ Seek medical attention without delay; if pain persists or recurs seek medical attention.<br>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin contact occurs:<br>▸ Immediately remove all contaminated clothing, including footwear.<br>▸ Flush skin and hair with running water (and soap if available).<br>▸ Seek medical attention in event of irritation. |

**Continued...**

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|---|---|
| **Inhalation** | ▸ If fumes or combustion products are inhaled remove from contaminated area.<br>▸ Lay patient down. Keep warm and rested.<br>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.<br>▸ 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.<br>▸ Transport to hospital, or doctor.<br>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted. |
| **Ingestion** | ▸ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.<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>▸ Seek medical advice.<br>▸ Avoid giving milk or oils.<br>▸ Avoid giving alcohol. |

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.
For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- Some cross-sensitivity occurs between different isocyanates.
- Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]
**NOTE:** Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.
[Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]
Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.
For acute or short term repeated exposures to xylene:

- Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.
- Pulmonary absorption is rapid with about 60-65% retained at rest.
- Primary threat to life from ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 < 50 mm Hg or pCO2 > 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.

BIOLOGICAL EXPOSURE INDEX - BEI
These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

| Determinant | Index | Sampling Time | Comments |
|---|---|---|---|
| Methylhippu-ric acids in urine | 1.5 gm/gm creatinine | End of shift | |
| | 2 mg/min | Last 4 hrs of shift | |

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

- Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Foam.

### Special hazards arising from the substrate or mixture

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| **Fire Incompatibility** | ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

### Advice for firefighters

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| **Fire Fighting** | ▸ Alert Fire Brigade and tell them location and nature of hazard. |
| **Fire/Explosion Hazard** | ▸ Liquid and vapour are flammable.<br>Combustion products include:<br>carbon dioxide ($CO_2$)<br>carbon monoxide (CO)<br>isocyanates<br>hydrogen cyanide |

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|---|---|
| | and minor amounts of<br>nitrogen oxides (NOx)<br>other pyrolysis products typical of burning organic material.<br>When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture.<br>▸ Burns with acrid black smoke. |

## 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

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| **Minor Spills** | ▸ Remove all ignition sources. |
| **Major Spills** | Chemical Class: aromatic hydrocarbons<br>For release onto land: recommended sorbents listed in order of priority.<br>▸ Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur.<br>For isocyanate spills of less than 40 litres (2 m2):<br>▸ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.<br>▸ Avoid contamination with water, alkalies and detergent solutions.<br>▸ Clear area of personnel and move upwind. |

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

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| **Safe handling** | ▸ Containers, even those that have been emptied, may contain explosive vapours.<br>▸ Electrostatic discharge may be generated during pumping - this may result in fire.<br>▸ Avoid all personal contact, including inhalation.<br>▸ **DO NOT** allow clothing wet with material to stay in contact with skin |
| **Other information** | Consider storage under inert gas.<br>▸ Store in original containers in approved flammable liquid storage area.<br>for commercial quantities of isocyanates:<br>▸ Isocyanates should be stored in adequately bunded areas. |

### Conditions for safe storage, including any incompatibilities

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| **Suitable container** | ▸ Packing as supplied by manufacturer.<br>▸ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. |
| **Storage incompatibility** | Toluene:<br>▸ reacts violently with strong oxidisers, bromine, bromine trifluoride, chlorine, hydrochloric acid/ sulfuric acid mixture, 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione, dinitrogen tetraoxide, fluorine, concentrated nitric acid, nitrogen dioxide, silver chloride, sulfur dichloride, uranium fluoride, vinyl acetate<br>▸ forms explosive mixtures with strong acids, strong oxidisers, silver perchlorate, tetranitromethane<br>▸ is incompatible with bis-toluenediazo oxide<br>▸ attacks some plastics, rubber and coatings<br>▸ may generate electrostatic charges, due to low conductivity, on flow or agitation.<br>Xylenes:<br>▸ may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride<br>▸ attack some plastics, rubber and coatings<br>▸ may generate electrostatic charges on flow or agitation due to low conductivity.<br>▸ Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.<br>For alkyl aromatics:<br>The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms.<br>Propylene glycol monomethyl ether (PGME):<br>·reacts violently with strong oxidisers, alkalis<br>·is incompatible with aliphatic amines, boranes, sulfuric acid, nitric acid, perchloric acid, caustics, isocyanates<br>·Avoid reaction with water, alcohols and detergent solutions.<br>▸ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol. |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|

**Continued...**

| | | | | | | |
|---|---|---|---|---|---|---|
| New Zealand Workplace Exposure Standards (WES) | toluene | Toluene (Toluol) | 50 ppm / 188 mg/m3 | Not Available | Not Available | (skin) - Skin absorption |
| New Zealand Workplace Exposure Standards (WES) | propylene glycol monomethyl ether - mixture of isomers | Propylene glycol monomethyl ether | 100 ppm / 369 mg/m3 | 553 mg/m3 / 150 ppm | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | hexamethylene diisocyanate polymer | Isocyanates, all, (as -NCO) | 0.02 mg/m3 | 0.07 mg/m3 | Not Available | (sen) - Sensitiser; Note: These values apply to all isocyanates, including prepolymers, present in the workplace air as vapours, mist or dust. |
| New Zealand Workplace Exposure Standards (WES) | xylene | Dimethylbenzene (see Xylene) | 50 ppm / 217 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | ethylbenzene | Ethyl benzene | 100 ppm / 434 mg/m3 | 543 mg/m3 / 125 ppm | Not Available | Not Available |

**EMERGENCY LIMITS**

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|---|
| toluene | Toluene | Not Available | Not Available | Not Available |
| propylene glycol monomethyl ether - mixture of isomers | Propylene glycol monomethyl ether; (Ucar Triol HG-170) | 100 ppm | 160 ppm | 660 ppm |
| propylene glycol monomethyl ether - mixture of isomers | Propylene glycol monomethyl ether acetate, alpha-isomer; (1-Methoxypropyl-2-acetate) | Not Available | Not Available | Not Available |
| hexamethylene diisocyanate polymer | Hexamethylene diisocyanate polymer | 7.8 mg/m3 | 86 mg/m3 | 510 mg/m3 |
| xylene | Xylenes | Not Available | Not Available | Not Available |
| ethylbenzene | Ethyl benzene | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| toluene | 500 ppm | Not Available |
| propylene glycol monomethyl ether - mixture of isomers | Not Available | Not Available |
| hexamethylene diisocyanate polymer | Not Available | Not Available |
| xylene | 900 ppm | Not Available |
| ethylbenzene | 800 ppm | Not Available |

**MATERIAL DATA**

IFRA Prohibited 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.
for isocyanates:
Some jurisdictions require that health surveillance be conducted on occupationally exposed workers.
for propylene glycol monomethyl ether (PGME)
Odour Threshold: 10 ppm.
For toluene:
Odour Threshold Value: 0.16-6.7 (detection), 1.9-69 (recognition)
NOTE: Detector tubes measuring in excess of 5 ppm, are available.
for xylenes:
IDLH Level: 900 ppm
Odour Threshold Value: 20 ppm (detection), 40 ppm (recognition)
NOTE: Detector tubes for o-xylene, measuring in excess of 10 ppm, are available commercially.
for ethyl benzene:
Odour Threshold Value: 0.46-0.60 ppm
NOTE: Detector tubes for ethylbenzene, measuring in excess of 30 ppm, are commercially available.

## Exposure controls

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| **Appropriate engineering controls** | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.<br>▸ All processes in which isocyanates are used should be enclosed wherever possible. |
| **Personal protection** |  |
| **Eye and face protection** | ▸ Safety glasses with side shields. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | **NOTE:**<br>▸ The material may produce skin sensitisation in predisposed individuals.<br>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.<br>▸ Do NOT wear natural rubber (latex gloves).<br>▸ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.<br>▸ **DO NOT** use skin cream unless necessary and then use only minimum amount. |

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| **Body protection** | See Other protection below |
| **Other protection** | All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health.<br>▸ Overalls.<br>▸ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. |

### Recommended material(s)

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:
***"Forsberg Clothing Performance Index".***
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
RESENE DUREPOX HARDENER

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

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

**Full face respirator with supplied air.**

- **Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.**
- **The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.**
- **Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used**

For spraying or operations which might generate aerosols:
Full face respirator with supplied air.

- In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate nationals standard must be used.
- Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable.
- Personal protective equipment must be appropriately selected, individually fitted and workers trained in their correct use and maintenance. Personal protective equipment must be regularly checked and maintained to ensure that the worker is being protected.
- Air- line respirators or self-contained breathing apparatus complying with the appropriate national standard should be used during the clean-up of spills and the repair or clean-up of contaminated equipment and similar situations which cause emergency exposures to hazardous atmospheric concentrations of isocyanate.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Moisture sensitive.<br>Colourless clear liquid with characteristic odour |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 1.05 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | 439 |
| **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)** | 136 | **Molecular weight (g/mol)** | Not Available |
| **Flash point (°C)** | 33 | **Taste** | Not Available |
| **Evaporation rate** | Not Available | **Explosive properties** | Not Available |
| **Flammability** | Flammable. | **Oxidising properties** | Not Available |

**Continued...**

| | | | |
|---|---|---|---|
| **Upper Explosive Limit (%)** | 7.3 | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | 1.3 | **Volatile Component (%vol)** | 38 |
| **Vapour pressure (kPa)** | 1.0 | **Gas group** | Not Available |
| **Solubility in water** | Immiscible | **pH as a solution (1%)** | Not Available |
| **Vapour density (Air = 1)** | 4.0 | **VOC g/L** | 343 |

## 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** | Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.<br>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models).<br>Inhalation of vapours may cause drowsiness and dizziness.<br>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema.<br>The odour of for propylene glycol monomethyl ether (PGME) becomes objectionable at 100 ppm and intolerable with anaesthetic effects at 1000 ppm.<br>Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness.<br>The acute toxicity of inhaled alkylbenzenes is best described by central nervous system depression.<br><br>Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure.<br>Xylene is a central nervous system depressant. |
| **Ingestion** | Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.<br>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models).<br>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. |
| **Skin Contact** | The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis.<br>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.<br>Toxic amounts of for propylene glycol monomethyl ether (PGME) may be absorbed through the skin following extensive prolonged contact ; this may result in drowsiness.<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** | Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. |
| **Chronic** | 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.<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 impaired fertility<br>Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure.<br>Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.<br>Repeated oral doses of 3 g/kg for propylene glycol monomethyl ether (PGME) produced minor changes in the liver and kidneys in rats.<br>A 90-day inhalation study in rats with polymeric MDI (6 hours/day, 5 days/week) produced moderate to severe hyperplastic inflammatory lesions in the nasal cavities and lungs at levels of 8 mg/m3 or greater.<br>Prolonged or repeated contact with xylenes may cause defatting dermatitis with drying and cracking.<br><br>**CONTAINS** free organic isocyanate. |

| | | |
|---|---|---|
| **RESENE DUREPOX HARDENER** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |

**Continued...**

| | | |
|---|---|---|
| **toluene** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[1] | Eye (rabbit): 2mg/24h - SEVERE |
| | Inhalation (rat) LC50: 49 mg/l/4H[2] | Eye (rabbit):0.87 mg - mild |
| | Oral (rat) LD50: 636 mg/kg[2] | Eye (rabbit):100 mg/30sec - mild |
| | | Eye: adverse effect observed (irritating)[1] |
| | | Skin (rabbit):20 mg/24h-moderate |
| | | Skin (rabbit):500 mg - moderate |
| | | Skin: adverse effect observed (irritating)[1] |
| | | Skin: no adverse effect observed (not irritating)[1] |
| **propylene glycol monomethyl ether - mixture of isomers** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[1] | Eye (rabbit) 230 mg mild |
| | Inhalation (rat) LC50: 6510.0635325 mg/l/6h[2] | Eye (rabbit) 500 mg/24 h. - mild |
| | Oral (rat) LD50: 5155 mg/kg[1] | Eye: no adverse effect observed (not irritating)[1] |
| | | Skin (rabbit) 500 mg open - mild |
| | | Skin: no adverse effect observed (not irritating)[1] |
| **hexamethylene diisocyanate polymer** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[1] | Skin (rabbit): 500 mg - moderate |
| | Inhalation (rat) LC50: 4.625 mg/l/1he[2] | |
| | Oral (rat) LD50: approximately2000 mg/kg[1] | |
| **xylene** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >1700 mg/kg[2] | Eye (human): 200 ppm irritant |
| | Inhalation (rat) LC50: 4994.295 mg/l/4h[2] | Eye (rabbit): 5 mg/24h SEVERE |
| | Oral (rat) LD50: 3523-8700 mg/kg[2] | Eye (rabbit): 87 mg mild |
| | | Eye: adverse effect observed (irritating)[1] |
| | | Skin (rabbit):500 mg/24h moderate |
| | | Skin: adverse effect observed (irritating)[1] |
| **ethylbenzene** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >5000 mg/kg[2] | Eye (rabbit): 500 mg - SEVERE |
| | Inhalation (mouse) LC50: 17.75 mg/l/2H[2] | Eye: no adverse effect observed (not irritating)[1] |
| | Oral (rat) LD50: 3500 mg/kg[2] | Skin (rabbit): 15 mg/24h mild |
| | | Skin: no adverse effect observed (not irritating)[1] |
| ***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* | |

| | |
|---|---|
| **TOLUENE** | For toluene:<br>**Acute Toxicity**<br>Humans exposed to intermediate to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis, and death. |
| **PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS** | NOTE: Exposure of pregnant rats and rabbits to the substance did not give rise to teratogenic effects at concentrations up to 3000 ppm.<br><br>Asthma-like symptoms may continue for months or even years after exposure to the material ceases.<br>The material may be irritating to the eye, with prolonged contact causing inflammation. |
| **HEXAMETHYLENE DIISOCYANATE POLYMER** | * Bayer SDS ** Ardex SDS<br>The material may produce moderate eye irritation leading to inflammation. |
| **XYLENE** | Reproductive effector in rats<br>The substance is classified by IARC as Group 3:<br>**NOT** classifiable as to its carcinogenicity to humans.<br>Evidence of carcinogenicity may be inadequate or limited in animal testing. |
| **ETHYLBENZENE** | Liver changes, utheral tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.<br>Ethylbenzene is readily absorbed following inhalation, oral, and dermal exposures, distributed throughout the body, and excreted primarily through urine.<br>**NOTE:** Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.<br><br>**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. |
| **RESENE DUREPOX HARDENER & HEXAMETHYLENE DIISOCYANATE POLYMER** | 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...**

| | |
|---|---|
| | 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.<br>Isocyanate vapours/mists are irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis with wheezing, gasping and severe distress, even sudden loss of consciousness, and pulmonary oedema. |
| **RESENE DUREPOX HARDENER & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS** | for propylene glycol ethers (PGEs):<br>Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM).<br>Testing of a wide variety of propylene glycol ethers Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. |
| **TOLUENE & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE POLYMER & XYLENE & ETHYLBENZENE** | The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). |
| **PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE POLYMER** | No significant acute toxicological data identified in literature search. |
| **XYLENE & ETHYLBENZENE** | The material may produce severe irritation to the eye causing pronounced inflammation. |

| | | | |
|---|---|---|---|
| **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 DUREPOX HARDENER**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**toluene**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| LC50 | 96 | Fish | 0.0073mg/L | 4 |
| EC50 | 48 | Crustacea | 3.78mg/L | 5 |
| EC50 | 72 | Algae or other aquatic plants | 12.5mg/L | 4 |
| BCF | 24 | Algae or other aquatic plants | 10mg/L | 4 |
| NOEC | 168 | Crustacea | 0.74mg/L | 5 |

**propylene glycol monomethyl ether - mixture of isomers**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| LC50 | 96 | Fish | 100mg/L | 1 |
| EC50 | 48 | Crustacea | 373mg/L | 2 |
| EC50 | 72 | Algae or other aquatic plants | >1-mg/L | 2 |
| NOEC | 96 | Algae or other aquatic plants | >=1-mg/L | 2 |

**hexamethylene diisocyanate polymer**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| LC50 | 96 | Fish | 8.9mg/L | 2 |
| EC50 | 48 | Crustacea | 127mg/L | 2 |
| EC50 | 72 | Algae or other aquatic plants | >1-mg/L | 2 |
| EC0 | 24 | Crustacea | >=1-mg/L | 2 |

**xylene**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| LC50 | 96 | Fish | 2.6mg/L | 2 |
| EC50 | 48 | Crustacea | 1.8mg/L | 2 |
| EC50 | 72 | Algae or other aquatic plants | 3.2mg/L | 2 |
| NOEC | 73 | Algae or other aquatic plants | 0.44mg/L | 2 |

**ethylbenzene**

| ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|
| LC50 | 96 | Fish | 0.0043mg/L | 4 |
| EC50 | 48 | Crustacea | 1.184mg/L | 4 |

**Continued...**

| | | | | | |
|---|---|---|---|---|---|
| | EC50 | 96 | Algae or other aquatic plants | 3.6mg/L | 4 |
| | NOEC | 168 | Crustacea | 0.96mg/L | 5 |

| | |
|---|---|
| ***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 propylene glycol ethers:
**Environmental fate:**
Most are liquids at room temperature and all are water-soluble.
Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.
for polyisocyanates:
Polyisocyanates are not readily biodegradable.
Hydrolysis would represents the primary fate mechanism for the majority of the commercial isocyanate monomers, but, is tempered somewhat by the lack of water solubility.
For xylenes :
log Koc : 2.05-3.08
Koc : 25.4-204
Half-life (hr) air : 0.24-42
Half-life (hr) H2O surface water : 24-672
Half-life (hr) H2O ground : 336-8640
Half-life (hr) soil : 52-672
Henry's Pa m3 /mol: 637-879
Henry's atm m3 /mol: 7.68E-03
BOD 5 if unstated: 1.4,1%
COD : 2.56,13%
ThOD : 3.125
BCF : 23
log BCF : 1.17-2.41
**Environmental Fate**
**Terrestrial fate:**: Measured Koc values of 166 and 182, indicate that 3-xylene is expected to have moderate mobility in soil.
For glycol ethers:
**Environmental fate:**
Ether groups are generally stable to hydrolysis in water under neutral conditions and ambient temperatures.
For toluene:
log Kow : 2.1-3
log Koc : 1.12-2.85
Koc : 37-260
log Kom : 1.39-2.89
Half-life (hr) air : 2.4-104
Half-life (hr) H2O surface water : 5.55-528
Half-life (hr) H2O ground : 168-2628
Half-life (hr) soil : <48-240
Henry's Pa m3 /mol: 518-694
Henry's atm m3 /mol: 5.94E-03
BOD 5 0.86-2.12, 5%
COD : 0.7-2.52,21-27%
ThOD : 3.13
BCF : 1.67-380
log BCF : 0.22-3.28
**Environmental fate:**
**Transport:** The majority of toluene evaporates to the atmosphere from the water and soil.It is moderately retarded by adsorption to soils rich in organic material (Koc = 259), therefore, transport to ground water is dependent on the soil composition.
**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| toluene | LOW (Half-life = 28 days) | LOW (Half-life = 4.33 days) |
| propylene glycol monomethyl ether - mixture of isomers | LOW (Half-life = 56 days) | LOW (Half-life = 1.7 days) |
| hexamethylene diisocyanate polymer | HIGH | HIGH |
| xylene | HIGH (Half-life = 360 days) | LOW (Half-life = 1.83 days) |
| ethylbenzene | HIGH (Half-life = 228 days) | LOW (Half-life = 3.57 days) |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| toluene | LOW (BCF = 90) |
| propylene glycol monomethyl ether - mixture of isomers | LOW (BCF = 2) |
| hexamethylene diisocyanate polymer | LOW (LogKOW = 7.5795) |
| xylene | MEDIUM (BCF = 740) |
| ethylbenzene | LOW (BCF = 79.43) |

### Mobility in soil

| Ingredient | Mobility |
|---|---|

**Continued...**

| | |
|---|---|
| toluene | LOW (KOC = 268) |
| propylene glycol monomethyl ether - mixture of isomers | HIGH (KOC = 1) |
| hexamethylene diisocyanate polymer | LOW (KOC = 18560000) |
| ethylbenzene | LOW (KOC = 517.8) |

## SECTION 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Containers may still present a chemical hazard/ danger when empty.<br>Legislation addressing waste disposal requirements may differ by country, state and/ or territory.<br>▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains.<br>▸ Recycle wherever possible. |

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.

## SECTION 14 TRANSPORT INFORMATION

### Labels Required

| | |
|---|---|
| |  |
| **Marine Pollutant** | NO |
| **HAZCHEM** | •3Y |

### Land transport (UN)

| | |
|---|---|
| **UN number** | 1263 |
| **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) |
| **Transport hazard class(es)** | Class: 3<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** | 1263 |
| **UN proper shipping name** | Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) |
| **Transport hazard class(es)** | ICAO/IATA Class: 3<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: 3L |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: A3 A72 A192<br>Cargo Only Packing Instructions: 366<br>Cargo Only Maximum Qty / Pack: 220 L<br>Passenger and Cargo Packing Instructions: 355<br>Passenger and Cargo Maximum Qty / Pack: 60 L<br>Passenger and Cargo Limited Quantity Packing Instructions: Y344<br>Passenger and Cargo Limited Maximum Qty / Pack: 10 L |

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

**Continued...**

| | |
|---|---|
| **UN number** | 1263 |
| **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) |
| **Transport hazard class(es)** | IMDG Class: 3<br>IMDG Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | EMS Number: F-E , S-E<br>Special provisions: 163 223 367 955<br>Limited Quantities: 5 L |

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

Not Applicable

## 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 |
|---|---|
| HSR002669 | Surface Coatings and Colourants (Flammable, Toxic [6.7]) Group Standard 2017 |

**TOLUENE IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Chemical Footprint Project - Chemicals of High Concern List
GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
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)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

**PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Chemical Footprint Project - Chemicals of High Concern List
GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
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)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

**HEXAMETHYLENE DIISOCYANATE POLYMER 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)
New Zealand Workplace Exposure Standards (WES)

**XYLENE IS FOUND ON THE FOLLOWING REGULATORY LISTS**

GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
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)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

**ETHYLBENZENE IS FOUND ON THE FOLLOWING REGULATORY LISTS**

**Continued...**

| | |
|---|---|
| Chemical Footprint Project - Chemicals of High Concern List | International Air Transport Association (IATA) Dangerous Goods Regulations |
| GESAMP/EHS Composite List - GESAMP Hazard Profiles | International Maritime Dangerous Goods Requirements (IMDG Code) |
| IMO IBC Code Chapter 17: Summary of minimum requirements | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals |
| IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO | New Zealand Inventory of Chemicals (NZIoC) |
| IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards | New Zealand Workplace Exposure Standards (WES) |
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs | United Nations Recommendations on the Transport of Dangerous Goods Model Regulations |
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B : Possibly carcinogenic to humans | |

### Hazardous Substance Location

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

| Hazard Class | Quantity beyond which controls apply for closed containers | Quantity beyond which controls apply when use occurring in open containers |
|---|---|---|
| 3.1C | 500 L in containers greater than 5 L<br>1500 L in containers up to and including 5 L | 250 L<br>250 L |

### 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

### Tracking Requirements

Not Applicable

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AICS | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (toluene; xylene; ethylbenzene) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | No (hexamethylene diisocyanate polymer) |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | No (hexamethylene diisocyanate polymer) |
| Vietnam - NCI | Yes |
| Russia - ARIPS | 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** | 24/02/2020 |
| **Initial Date** | 20/02/2020 |

### 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.

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**end of SDS**