

# RESENE DUREPOX HARDENER

## Resene Automotive & Light Industrial

Version No: 2.6  
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: 12/01/2024  
Print Date: 12/01/2024  
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)
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 manufacturer or 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 4 577 0500
Fax	+64 9 259 2737
Website	<a href="http://reseneauto.co.nz/">http://reseneauto.co.nz/</a>
Email	accounts@reseneauto.co.nz

#### Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	0800 737363	+61 3 9573 3188

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

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

Classification [1]	Flammable Liquids Category 3, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2, Acute Toxicity (Inhalation) Category 4, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2
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), 6.1D (oral), 6.3A, 6.4A, 6.5B (contact), 6.8B, 6.9B, 6.1E (respiratory tract irritant)

#### Label elements

Hazard pictogram(s)	
Signal word	Warning

#### Hazard statement(s)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.

## RESENE DUREPOX HARDENER

<b>H373</b>	May cause damage to organs through prolonged or repeated exposure. (Oral, Dermal, Inhalation)
-------------	---

### Precautionary statement(s) Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P260</b>	Do not breathe mist/vapours/spray.
<b>P271</b>	Use only a well-ventilated area.
<b>P280</b>	Wear protective gloves, protective clothing, eye protection and face protection.
<b>P240</b>	Ground and bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
<b>P242</b>	Use non-sparking tools.
<b>P243</b>	Take action to prevent static discharges.
<b>P264</b>	Wash all exposed external body areas thoroughly after handling.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.

### Precautionary statement(s) Response

<b>P308+P313</b>	IF exposed or concerned: Get medical advice/ attention.
<b>P370+P378</b>	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water and soap.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice/attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>P301+P312</b>	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
<b>P330</b>	Rinse mouth.

### Precautionary statement(s) Storage

<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>P405</b>	Store locked up.

### Precautionary statement(s) Disposal

<b>P501</b>	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
1305-78-8	0.1-0.3	<u>calcium oxide</u>
108-88-3	10-30	<u>toluene</u>
108-65-6	1-5	<u>propylene glycol monomethyl ether - mixture of isomers</u>
28182-81-2	30-60	<u>hexamethylene diisocyanate polymer</u>
822-06-0	0.1-0.4	<u>hexamethylene diisocyanate</u>
Not Available	1-10	reaction mass of ethylbenzene and xylene

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

## SECTION 4 First aid measures

### Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay if pain persists or recurs.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Quickly but gently, wipe material off skin with a dry, clean cloth.</li> </ul>

Continued...

## RESENE DUREPOX HARDENER

	<ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	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.
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

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

Treat symptomatically

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.

**SECTION 5 Firefighting measures****Extinguishing media**

- ▶ Foam.

**Special hazards arising from the substrate or mixture**

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

**Advice for firefighters**

<b>Fire Fighting</b>	▶ Alert Fire Brigade and tell them location and nature of hazard.
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Liquid and vapour are flammable.</li> </ul> Combustion products include: carbon dioxide (CO <sub>2</sub> ) carbon monoxide (CO) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NO <sub>x</sub> ) other pyrolysis products typical of burning organic material.

**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**

<b>Minor Spills</b>	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.
<b>Major Spills</b>	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.

Continued...

## RESENE DUREPOX HARDENER

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

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>· Electrostatic discharge may be generated during pumping - this may result in fire.</li> <li>▶ Avoid unnecessary personal contact, including inhalation.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers in approved flammable liquid storage area.</li> </ul>

## Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> </ul>
<b>Storage incompatibility</b>	<p>Toluene:</p> <ul style="list-style-type: none"> <li>▶ reacts violently with strong oxidisers, acids</li> </ul> <p>Xylenes:</p> <ul style="list-style-type: none"> <li>▶ may ignite or explode in contact with strong oxidisers</li> <li>▶ attack some plastics, rubber and coatings</li> <li>▶ Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.</li> </ul> <p>For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms.</p> <p>Propylene glycol <b>monomethyl</b> ether (PGME):</p> <ul style="list-style-type: none"> <li>· reacts violently with strong oxidisers, alkalis</li> <li>· is incompatible with aliphatic amines, boranes, sulfuric acid, nitric acid, perchloric acid, caustics, isocyanates</li> <li>· Avoid reaction with water, alcohols and detergent solutions.</li> <li>▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li> </ul>

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	calcium oxide	Calcium oxide	2 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	toluene	Toluene (Toluol)	20 ppm / 75 mg/m3	377 mg/m3 / 100 ppm	Not Available	(skin) - Skin absorption oto - Ototoxin (bio) - Exposure can also be estimated by biological monitoring
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	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure
New Zealand Workplace Exposure Standards (WES)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.02 mg/m3	0.07 mg/m3	Not Available	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure

## Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
calcium oxide	6 mg/m3	110 mg/m3	660 mg/m3
toluene	Not Available	Not Available	Not Available
propylene glycol monomethyl ether - mixture of isomers	100 ppm	160 ppm	660 ppm
propylene glycol monomethyl ether - mixture of isomers	Not Available	Not Available	Not Available
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm

Ingredient	Original IDLH	Revised IDLH

Continued...

## RESENE DUREPOX HARDENER

Ingredient	Original IDLH	Revised IDLH
calcium oxide	25 mg/m <sup>3</sup>	Not Available
toluene	500 ppm	Not Available
propylene glycol monomethyl ether - mixture of isomers	Not Available	Not Available
hexamethylene diisocyanate polymer	Not Available	Not Available
hexamethylene diisocyanate	Not Available	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 calcium oxide:

The TLV-TWA is thought to be protective against undue irritation and is analogous to that recommended for sodium hydroxide.

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

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

for 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 1,6-hexamethylene diisocyanate (HDI):

The toxicological action of HDI is similar to that of toluene diisocyanate and the TLV-TWA is analogous.


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.

**Exposure controls**

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. <ul style="list-style-type: none"> <li>▶ All processes in which isocyanates are used should be enclosed wherever possible.</li> </ul>
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye and face protection</b>	▶ Safety glasses with side shields.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<b>NOTE:</b> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals.</li> <li>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.</li> <li>▶ Do NOT wear natural rubber (latex gloves).</li> <li>▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>▶ <b>DO NOT use skin cream unless necessary and then use only minimum amount.</b></li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	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. <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> </ul>

**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.

For spraying or operations which might generate aerosols:

Full face respirator with supplied air.

**SECTION 9 Physical and chemical properties****Information on basic physical and chemical properties**

<b>Appearance</b>	Colourless clear liquid with characteristic odour		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	1.05
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available

Continued...

## RESENE DUREPOX HARDENER

<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	439
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature (°C)</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	136	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	33	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Flammable.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	7.3	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	1.3	<b>Volatile Component (%vol)</b>	38
<b>Vapour pressure (kPa)</b>	1.0	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	4.0	<b>VOC g/L</b>	343

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	▶ stable .
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

## Information on toxicological effects

<b>Inhaled</b>	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Inhalation of vapours may cause drowsiness and dizziness.</p> <p>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.</p> <p>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.</p>
<b>Ingestion</b>	<p>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.</p> <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p>
<b>Skin Contact</b>	<p>The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.</p>
<b>Eye</b>	<p>The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis.</p> <p>Evidence exists, or practical experience predicts, that the material may cause severe 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.</p>
<b>Chronic</b>	<p>On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>Practical evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a substantial number of individuals at a greater frequency than would be expected from the response of a normal population.</p> <p>Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>There is sufficient evidence to establish a causal relationship between human exposure to the material and impaired fertility</p> <p>Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure.</p> <p>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.</p> <p><b>CONTAINS</b> free organic isocyanate.</p>

## RESENE DUREPOX HARDENER

RESENE DUREPOX HARDENER	TOXICITY	IRRITATION
		Not Available
calcium oxide	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup>
	Inhalation(Rat) LC50: >3 mg/l4h <sup>[1]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>
	Oral (Rat) LD50: >2000 mg/kg <sup>[1]</sup>	
toluene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 12124 mg/kg <sup>[2]</sup>	Eye (rabbit): 2mg/24h - SEVERE
	Inhalation(Rat) LC50: >13350 ppm4h <sup>[2]</sup>	Eye (rabbit):0.87 mg - mild
	Oral (Rat) LD50: 636 mg/kg <sup>[2]</sup>	Eye (rabbit):100 mg/30sec - mild
		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit):20 mg/24h-moderate
		Skin (rabbit):500 mg - moderate
	Skin: adverse effect observed (irritating) <sup>[1]</sup>	
	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
propylene glycol monomethyl ether - mixture of isomers	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit) 230 mg mild
	Oral (Rat) LD50: 3739 mg/kg <sup>[2]</sup>	Eye (rabbit) 500 mg/24 h. - mild
		Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
		Skin (rabbit) 500 mg open - mild
	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
hexamethylene diisocyanate polymer	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Skin (rabbit): 500 mg - moderate
	Inhalation(Rat) LC50: 0.052-0.5 mg/L4h <sup>[1]</sup>	
	Oral (Rat) LD50: >2000 mg/kg <sup>[1]</sup>	
hexamethylene diisocyanate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 593 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50: 0.06 mg/L4h <sup>[2]</sup>	Skin: adverse effect observed (corrosive) <sup>[1]</sup>
	Oral (Mouse) LD50: 350 mg/kg <sup>[2]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>
<b>Legend:</b>	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 DUREPOX HARDENER	Data demonstrate that during inhalation exposure,aromatic hydrocarbons undergo substantial partitioning into adipose tissues.
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. The material may be irritating to the eye, with prolonged contact causing inflammation.
HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS The material may produce moderate eye irritation leading to inflammation.
HEXAMETHYLENE DIISOCYANATE	For diisocyanates: In general, there appears to be little or no difference between aromatic and aliphatic diisocyanates as toxicants. For 1,6-hexamethylene diisocyanate: Exposures to HDI are often associated with exposures to its prepolymers, especially to a trimeric biuretic prepolymer of HDI (HDI-BT), which is widely used as a hardener in automobile and airplane paints, and which typically contains 0.5-1% unreacted HDI.
RESENE DUREPOX HARDENER & CALCIUM OXIDE & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends.
RESENE DUREPOX HARDENER & HEXAMETHYLENE	The following information refers to contact allergens as a group and may not be specific to this product. 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

DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	
RESENE DUREPOX HARDENER & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS	for propylene glycol ethers (PGEs): 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). 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.
RESENE DUREPOX HARDENER & TOLUENE	For toluene: <b>Acute Toxicity</b> 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.
TOLUENE & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE POLYMER	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 & HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in literature search.
HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved.

Acute Toxicity	✓	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

calcium oxide	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>14mg/l	2
	EC50	48h	Crustacea	49.1mg/l	2
	LC50	96h	Fish	50.6mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	14mg/l	2

toluene	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	>376.71mg/L	4
	EC50	72h	Algae or other aquatic plants	12.5mg/l	4
	EC50	48h	Crustacea	3.78mg/L	5
	LC50	96h	Fish	5-35mg/l	4
NOEC(ECx)	168h	Crustacea	0.74mg/L	5	

propylene glycol monomethyl ether - mixture of isomers	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	>1000mg/l	2
	EC50	72h	Algae or other aquatic plants	>1000mg/l	2
	EC50	48h	Crustacea	373mg/l	2
	LC50	96h	Fish	100mg/l	1
NOEC(ECx)	336h	Fish	47.5mg/l	2	

Continued...



## RESENE DUREPOX HARDENER

hexamethylene diisocyanate polymer	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	EC50	48h	Crustacea	>100mg/l	Not Available
	LC50	96h	Fish	>100mg/l	Not Available
	EC50(ECx)	48h	Crustacea	>100mg/l	Not Available

hexamethylene diisocyanate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
	EC0(ECx)	24h	Crustacea	<0.33mg/l	1
	LC50	96h	Fish	22mg/l	1

**Legend:** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

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: log Kow's range from 0.309 for TPM to 1.523 for DPnB.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

for polyisocyanates:

Polyisocyanates are not readily biodegradable.

Hydrolysis would represent the primary fate mechanism for the majority of the commercial isocyanate monomers, but, is tempered somewhat by the lack of water solubility.

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 : 5.94;

E-03BOD 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.

**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
hexamethylene diisocyanate	LOW	LOW

#### 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)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)

#### Mobility in soil

Ingredient	Mobility
toluene	LOW (KOC = 268)
propylene glycol monomethyl ether - mixture of isomers	HIGH (KOC = 1)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)

## SECTION 13 Disposal considerations

### Waste treatment methods

## RESENE DUREPOX HARDENER

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible.</li> </ul> <p>Consult manufacturer for recycling option. Contact a Local Authority for the disposal information. Do not discharge the substance into the environment.</p> <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> </ul>
-------------------------------------	---

**Disposal Requirements**

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

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

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

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

For treating and discharging processes contact your local authority.

The treating may include burning the substance if the burning is managed to ensure that no person, or place where a person may legally be present.

The substance may be discharged into the environment as waste or disposed into a landfill if the substance will not come into contact with oxidising substances and where is no ignition source which is capable to ignite the substance.

**SECTION 14 Transport information****Labels Required**

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	*3Y

**Land transport (UN)**

14.1. UN number or ID number	1263	
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	
14.3. Transport hazard class(es)	Class	3
	Subsidiary Hazard	Not Applicable
14.4. Packing group	III	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	163; 223; 367
	Limited quantity	5 L

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

14.1. UN number	1263	
14.2. UN proper shipping name	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	
14.3. Transport hazard class(es)	ICAO/IATA Class	3
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	3L
14.4. Packing group	III	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	A3 A72 A192
	Cargo Only Packing Instructions	366
	Cargo Only Maximum Qty / Pack	220 L
	Passenger and Cargo Packing Instructions	355
	Passenger and Cargo Maximum Qty / Pack	60 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y344
	Passenger and Cargo Limited Maximum Qty / Pack	10 L

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

## RESENE DUREPOX HARDENER

14.1. UN number	1263	
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	
14.3. Transport hazard class(es)	IMDG Class	3
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	III	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	F-E , S-E
	Special provisions	163 223 367 955
	Limited Quantities	5 L

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

Not Applicable

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

Product name	Group
calcium oxide	Not Available
toluene	Not Available
propylene glycol monomethyl ether - mixture of isomers	Not Available
hexamethylene diisocyanate polymer	Not Available
hexamethylene diisocyanate	Not Available
reaction mass of ethylbenzene and xylene	Not Available

## 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
calcium oxide	Not Available
toluene	Not Available
propylene glycol monomethyl ether - mixture of isomers	Not Available
hexamethylene diisocyanate polymer	Not Available
hexamethylene diisocyanate	Not Available
reaction mass of ethylbenzene and xylene	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
HSR002662	Surface Coatings and Colourants Flammable Group Standard 2020

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

## calcium oxide 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)

## toluene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic  
 New Zealand Approved Hazardous Substances with controls  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data  
 New Zealand Inventory of Chemicals (NZIoC)  
 New Zealand Workplace Exposure Standards (WES)

## propylene glycol monomethyl ether - mixture of isomers 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

## RESENE DUREPOX HARDENER

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

**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)

**hexamethylene diisocyanate is found on the following regulatory lists**

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

**Additional Regulatory Information**

Not Applicable

**Hazardous Substance Location**

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

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
3.1C	500 L in containers more than 5 L	250 L
3.1C	1 500 L in containers up to and including 5 L	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

**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	
3.1C or 3.1D				10 L

**Tracking Requirements**

Not Applicable

**National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSDL	No (calcium oxide; toluene; hexamethylene diisocyanate; reaction mass of ethylbenzene and xylene)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
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
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

**SECTION 16 Other information**

Revision Date	12/01/2024
Initial Date	20/02/2020

**SDS Version Summary**

Version	Date of	Sections Updated

Continued...

## RESENE DUREPOX HARDENER

	Update	
1.6	12/01/2024	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Chronic Health, Hazards identification - Classification, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, Composition / information on ingredients - Ingredients

**Other information**

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

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

**Definitions and abbreviations**

- ▶ PC - TWA: Permissible Concentration-Time Weighted Average
- ▶ PC - STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit,
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
  
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Powered by AuthorITe, from Chemwatch.