

# RESENE URACRYL GRAFFITISHIELD HARDENER

## Resene Paints (Australia) Limited

Version No: 1.2.5.2

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

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### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

Product name	RESENE URACRYL GRAFFITISHIELD HARDENER
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Other means of identification	Not Available

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

Relevant identified uses	8574
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#### Details of the supplier of the safety data sheet

Registered company name	Resene Paints (Australia) Limited	Resene Paints LTD
Address	64 Link Drive Queensland 4207 Australia	32-50 Vogel Street Wellington 5011 New Zealand
Telephone	+61 7 55126600	+64 4 5770500
Fax	+61 7 55126697	+64 4 5773327
Website	<a href="http://www.resene.com.au">www.resene.com.au</a>	<a href="http://www.resene.co.nz">www.resene.co.nz</a>
Email	Not Available	advice@resene.co.nz

#### Emergency telephone number

Association / Organisation	AUSTRALIAN POISONS CENTRE	NZ POISONS (24hr 7days)	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	131126	0800 764766	+61 2 9186 1132
Other emergency telephone numbers	Not Available	Not Available	+61 1800 951 288

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

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule	Not Applicable
Classification [1]	Flammable Liquid Category 3, Respiratory Sensitizer Category 1, Acute Aquatic Hazard Category 3, Skin Sensitizer Category 1, Specific target organ toxicity - repeated exposure Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	
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Signal word	Danger
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#### Hazard statement(s)

H226	Flammable liquid and vapour.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H402	Harmful to aquatic life.
H317	May cause an allergic skin reaction.
H372	Causes damage to organs through prolonged or repeated exposure. (Dermal, Inhalation)

#### Supplementary statement(s)

## RESENE URACRYL GRAFFITISHIELD HARDENER

Not Applicable

## Precautionary statement(s) Prevention

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.
P280	Wear protective gloves and protective clothing.
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.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

## Precautionary statement(s) Response

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: 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

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

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

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
108-65-6	<10	<u>propylene glycol monomethyl ether acetate, alpha-isomer</u>
822-06-0	0.1-1	<u>hexamethylene diisocyanate</u>
Not Available	>91.5	aliphatic polyisocyanate
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 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 seek medical attention.</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>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul> <p>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.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>

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- ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

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

Treat symptomatically.

## 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.
- ▶ Alcohol stable 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
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### Advice for firefighters

<b>Fire Fighting</b>	
<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> ) Polyurethane polymer is a combustible material which may be ignited if exposed to an open flame. carbon monoxide (CO) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NO <sub>x</sub> ) other pyrolysis products typical of burning organic material. When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. <ul style="list-style-type: none"> <li>▶ Burns with acrid black smoke.</li> </ul>
<b>HAZCHEM</b>	*3Y

## 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. 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. <ul style="list-style-type: none"> <li>▶ 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.</li> </ul> For isocyanate spills of less than 40 litres (2 m <sup>2</sup> ): <ul style="list-style-type: none"> <li>▶ 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.</li> </ul>

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>▶ Avoid unnecessary personal contact, including inhalation.</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> for commercial quantities of isocyanates: -Isocyanates should be stored in adequately bunded areas.

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	▶ Packing as supplied by manufacturer.
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<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Esters react with acids to liberate heat along with alcohols and acids.</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>
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**SECTION 8 Exposure controls / personal protection****Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	propylene glycol monomethyl ether acetate, alpha-isomer	1-Methoxy-2-propanol acetate	50 ppm / 274 mg/m <sup>3</sup>	548 mg/m <sup>3</sup> / 100 ppm	Not Available	Not Available
Australia Exposure Standards	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.02 mg/m <sup>3</sup>	0.07 mg/m <sup>3</sup>	Not Available	Not Available

**Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
propylene glycol monomethyl ether acetate, alpha-isomer	Not Available	Not Available	Not Available
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm

Ingredient	Original IDLH	Revised IDLH
propylene glycol monomethyl ether acetate, alpha-isomer	Not Available	Not Available
hexamethylene diisocyanate	Not Available	Not Available

**MATERIAL DATA**

for isocyanates:

Some jurisdictions require that health surveillance be conducted on occupationally exposed workers.


for propylene glycol monomethyl ether acetate (PGMEA)

Saturated vapour concentration: 4868 ppm at 20 C.

for 1,6-hexamethylene diisocyanate (HDI):

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

**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>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p>For esters:</p> <ul style="list-style-type: none"> <li>▶ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials.</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <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>	<p>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.</p> <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**

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.

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- ▶ 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 national 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

<b>Appearance</b>	Clear to hazy colourless liquid with solvent odour		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	1.12-1.15
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	333
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	146	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	45.5	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available BuAC = 1	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Flammable.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	7.0	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	1.8	<b>Volatile Component (%vol)</b>	10
<b>Vapour pressure (kPa)</b>	0.3	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Partly miscible	<b>pH as a solution (%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	4.6	<b>VOC g/L</b>	110

## 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>	The main effects of simple aliphatic esters are narcosis and irritation and anaesthesia at higher concentrations. 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.
<b>Ingestion</b>	High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption.
<b>Skin Contact</b>	Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.
<b>Eye</b>	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.
<b>Chronic</b>	Studies with some glycol ethers (principally the monoethylene glycols) and their esters indicate reproductive changes, testicular atrophy, infertility and kidney function changes. Polyisocyanates still contain small amounts of monomeric isocyanate (typically <0.5 parts per weight) and both – the polyisocyanate and the monomer - have toxicological importance. Fully reacted polyurethane polymer is chemically inert. Repeated exposure to higher concentrations of propylene glycol monomethyl ether acetate (PGMEA) (1000 ppm and above) causes mild liver and kidney damage in animals.

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	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.	
RESENE URACRYL GRAFFITISHIELD HARDENER	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
propylene glycol monomethyl ether acetate, alpha-isomer	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral(Rat) LD50; 5155 mg/kg <sup>[1]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
hexamethylene diisocyanate	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >525 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; 0.124 mg/L4h <sup>[1]</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 URACRYL GRAFFITISHIELD HARDENER	Generally, linear and branched-chain alkyl esters are hydrolysed to their component alcohols and carboxylic acids in the intestinal tract, blood and most tissues throughout the body.
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER	A BASF report (in ECETOC ) showed that inhalation exposure to 545 ppm PGMEA (beta isomer) was associated with a teratogenic response in rabbits; but exposure to 145 ppm and 36 ppm had no adverse effects. The beta isomer of PGMEA comprises only 10% of the commercial material, the remaining 90% is alpha isomer. *Shin-Etsu SDS
HEXAMETHYLENE DIISOCYANATE	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. 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. No significant acute toxicological data identified in literature search. for diisocyanates:</p> <p>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.</p>
RESENE URACRYL GRAFFITISHIELD HARDENER & HEXAMETHYLENE DIISOCYANATE	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 URACRYL GRAFFITISHIELD HARDENER & PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER	<p>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 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. A BASF report (in ECETOC ) showed that inhalation exposure to 545 ppm PGMEA (beta isomer) was associated with a teratogenic response in rabbits; but exposure to 145 ppm and 36 ppm had no adverse effects. The beta isomer of PGMEA comprises only 10% of the commercial material, the remaining 90% is alpha isomer.</p>

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 URACRYL GRAFFITISHIELD HARDENER	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	Not Available	Not Available	Not Available	Not Available	Not Available
propylene glycol monomethyl ether acetate, alpha-isomer	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	EC50	72h	Algae or other aquatic plants	>1000mg/l	2

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	LC50	96h	Fish	>100mg/l	2
	EC50	48h	Crustacea	373mg/l	2
	NOEC(ECx)	336h	Fish	47.5mg/l	2
	EC50	96h	Algae or other aquatic plants	>1000mg/l	2
hexamethylene diisocyanate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	EC0(ECx)	24h	Crustacea	<0.33mg/l	1
	EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
	LC50	96h	Fish	22mg/l	1
<b>Legend:</b>	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				

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.

For high molecular weight synthetic polymers: (according to the Sustainable Futures (SF) program (U.S. EPA 2005b; U.S. EPA 2012c) polymer assessment guidance.)

High MW polymers are expected:

·to have low vapour pressure and are not expected to undergo volatilization .

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 glycol ethers:

**Environmental fate:**

Ether groups are generally stable to hydrolysis in water under neutral conditions and ambient temperatures.

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
propylene glycol monomethyl ether acetate, alpha-isomer	LOW	LOW
hexamethylene diisocyanate	LOW	LOW

#### Bioaccumulative potential

Ingredient	Bioaccumulation
propylene glycol monomethyl ether acetate, alpha-isomer	LOW (LogKOW = 0.56)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)

#### Mobility in soil

Ingredient	Mobility
propylene glycol monomethyl ether acetate, alpha-isomer	HIGH (KOC = 1.838)
hexamethylene diisocyanate	LOW (KOC = 5864)


### SECTION 13 Disposal considerations

#### Waste treatment methods

Product / Packaging disposal	<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> <li>▶ Recycle wherever possible.</li> </ul> <p>Consult manufacturer for recycling option.</p> <p>Resene Paintwise accepts residual unwanted paint and packaging. See Resene website for Paintwise information. Or contact a Local Authority for the disposal information. Do not discharge the substance into the environment.</p>
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### SECTION 14 Transport information

#### Labels Required

	
Marine Pollutant	NO
HAZCHEM	*3Y

#### Land transport (ADG)

## RESENE URACRYL GRAFFITISHIELD HARDENER

<b>UN number</b>	1263	
<b>UN proper shipping name</b>	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)	
<b>Transport hazard class(es)</b>	Class	3
	Subrisk	Not Applicable
<b>Packing group</b>	III	
<b>Environmental hazard</b>	Not Applicable	
<b>Special precautions for user</b>	Special provisions	163 223 367
	Limited quantity	5 L

## Air transport (ICAO-IATA / DGR)

<b>UN number</b>	1263	
<b>UN proper shipping name</b>	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds)	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	3
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	3L
<b>Packing group</b>	III	
<b>Environmental hazard</b>	Not Applicable	
<b>Special precautions for user</b>	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)

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

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

Not Applicable

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

Product name	Group
propylene glycol monomethyl ether acetate, alpha-isomer	Not Available
hexamethylene diisocyanate	Not Available
aliphatic polyisocyanate	Not Available

## Transport in bulk in accordance with the ICG Code

Product name	Ship Type
propylene glycol monomethyl ether acetate, alpha-isomer	Not Available
hexamethylene diisocyanate	Not Available
aliphatic polyisocyanate	Not Available

## SECTION 15 Regulatory information

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

Continued...



## RESENE URACRYL GRAFFITISHIELD HARDENER

**propylene glycol monomethyl ether acetate, alpha-isomer is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

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

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

**National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
New Zealand - NZIoC	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 and are not exempt from listing (see specific ingredients in brackets)

**SECTION 16 Other information**

<b>Revision Date</b>	16/04/2021
<b>Initial Date</b>	11/11/2016

**SDS Version Summary**

Version	Date of Update	Sections Updated
0.2.1.1	16/04/2021	Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Classification, Environmental, First Aid (inhaled), Physical Properties, Spills (major)
0.2.2.1	27/04/2021	Regulation Change
0.2.3.1	04/05/2021	Regulation Change
0.2.4.1	07/05/2021	Regulation Change
0.2.5.1	11/05/2021	Regulation Change
0.2.5.2	30/05/2021	Template Change

**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  
 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  
 TCST: Taiwan Chemical Substance Inventory  
 INSQ: Inventario Nacional de Sustancias Químicas  
 NCI: National Chemical Inventory  
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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