

RESENE URACRYL GRAFFITISHIELD HARDENER

Resene Paints Ltd

Version No: 1.2
Safety Data Sheet according to HSNO Regulations

Issue Date: **03/11/2016**
Print Date: **03/11/2016**
L.GHS.NZL.EN

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

Product Identifier

Product name	RESENE URACRYL GRAFFITISHIELD 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	8574
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Details of the supplier of the safety data sheet

Registered company name	Resene Paints Ltd
Address	32-50 Vogel Street Wellington Naenae 5011 New Zealand
Telephone	+64 4 577 0500
Fax	+64 4 577 3327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)
Emergency telephone numbers	0800 764 766
Other emergency telephone numbers	Not Available

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+800 2436 2255	+612 9186 1132

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

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

Classification [1]	Skin Corrosion/Irritation Category 3, Eye Irritation Category 2A, Skin Sensitizer Category 1, Respiratory Sensitizer Category 1, Specific target organ toxicity - repeated exposure Category 1, Acute Aquatic Hazard Category 3, Flammable Liquid Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.5B (contact), 6.3B, 6.4A, 6.9A, 9.1D, 3.1C, 6.5A (respiratory)

Label elements

GHS label elements	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H316	Causes mild skin irritation
H319	Causes serious eye irritation.

Continued...

RESENE URACRYL GRAFFITISHIELD HARDENER

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

Precautionary statement(s) Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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Precautionary statement(s) Response

P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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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 in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

The specific chemical identity and/ or exact percentage of composition has been withheld as a trade secret

Mixtures

CAS No	%[weight]	Name
108-65-6	1-10	<u>propylene glycol monomethyl ether acetate, alpha-isomer</u>
822-06-0	0.1-1	<u>hexamethylene diisocyanate</u>

SECTION 4 FIRST AID MEASURES

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. <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>
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

- ▶ Foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Liquid and vapour are flammable. <p>Combustion products include; carbon dioxide (CO₂) carbon monoxide (CO) isocyanates and minor amounts of hydrogen cyanide nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material</p>

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SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	▶ Remove all ignition sources.
Major Spills	▶ 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

Safe handling	<ul style="list-style-type: none"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Avoid all personal contact, including inhalation. ▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	▶ Store in original containers in approved flammable liquid storage area.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Packing as supplied by manufacturer. ▶ For low viscosity materials (l) : Drums and jerry cans must be of the non-removable head type.
Storage incompatibility	<p>Propylene glycol monomethyl ether acetate:</p> <ul style="list-style-type: none"> ▶ may polymerise unless properly inhibited due to peroxide formation ▶ should be isolated from UV light, high temperatures, free radical initiators ▶ may react with strong oxidisers to produce fire and/ or explosion ▶ reacts violently with with sodium peroxide, uranium fluoride ▶ is incompatible with sulfuric acid, nitric acid, caustics, aliphatic amines, isocyanates, boranes ▶ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	hexamethylene diisocyanate	Isocyanates, all, (as -NCO)	0.02 mg/m ³	0.07 mg/m ³	Not Available	Sensitiser; These values apply to all isocyanates, including prepolymers, present in the workplace air as vapours, mist or dust.

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
propylene glycol monomethyl ether acetate, alpha-isomer	Propylene glycol monomethyl ether acetate, alpha-isomer; (1-Methoxypropyl-2-acetate)	Not Available	Not Available	Not Available
propylene glycol monomethyl ether acetate, alpha-isomer	Propylene glycol monomethyl ether acetate, beta-isomer; (2-Methoxypropyl-1-acetate)	Not Available	Not Available	Not Available
hexamethylene diisocyanate	Hexamethylene diisocyanate; (1,6-Diisocyanatohexane)	0.005 ppm	0.02 ppm	0.8 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 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

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
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Personal protection	
Eye and face protection	▶ Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	▶ Wear chemical protective gloves, e.g. PVC. NOTE: ▶ The material may produce skin sensitisation in predisposed individuals. 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.
Body protection	See Other protection below
Other protection	▶ Overalls. Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
Thermal hazards	Not Available

Respiratory protection

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.

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class 1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+		-	Airline**

* -Continuous Flow

** -Continuous-flow or positive pressure demand.

A (All classes) = Organic vapours, B AUS or B1 = Acid gases, B2 = Acid gas or hydrogen cyanide (HCN), B3 = Acid gas or hydrogen cyanide (HCN), E = Sulfur dioxide (SO₂), G = Agricultural chemicals, K = Ammonia (NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds (below 65 deg C)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

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

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

Continued...

RESENE URACRYL GRAFFITISHIELD HARDENER

Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Mice exposed at up to 3000 ppm PGMEA 6 hr/day for a total of 9 days during an 11-day period showed no pronounced effect on the weights of liver, kidneys, heart, spleen, thymus or testes.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'.
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Repeated application of commercial grade PGMEA to the skin of rabbits for 2-weeks caused slight redness and very slight exfoliation. 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.
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. Undiluted propylene glycol monomethyl ether acetate (PGMEA) causes moderate discomfort, slight conjunctival redness and slight corneal injury in rabbits
Chronic	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. 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. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. Repeated exposure to higher concentrations of propylene glycol monomethyl ether acetate (PGMEA) (1000 ppm and above) causes mild liver and kidney damage in animals.

RESENE URACRYL GRAFFITISHIELD HARDENER	TOXICITY	IRRITATION
	Not Available	Not Available

propylene glycol monomethyl ether acetate, alpha-isomer	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	* [CCINFO]
	Inhalation (rat) LC50: 4345 ppm/6hr ^[2]	Nil reported
	Oral (rat) LD50: >14.1 ml ^[1]	

hexamethylene diisocyanate	TOXICITY	IRRITATION
	dermal (rat) LD50: >7000 mg/kg ^[1]	Nil reported
	Inhalation (rat) LC50: 0.06 mg/L/4hr ^[2]	
	Inhalation (rat) LC50: 0.124 mg/L/4hr ^[2]	
	Inhalation (rat) LC50: 0.462 mg/L/4hr ^[2]	
	Oral (rat) LD50: 710 mg/kg ^[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

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	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. 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. 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.

Acute Toxicity	☐	Carcinogenicity	☐
Skin Irritation/Corrosion	✓	Reproductivity	☐
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	☐
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✓

Continued...

RESENE URACRYL GRAFFITISHIELD HARDENER

Mutagenicity



Aspiration Hazard



Legend: – Data available but does not fill the criteria for classification
 – Data required to make classification available
 – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
propylene glycol monomethyl ether acetate, alpha-isomer	LC50	96	Fish	100mg/L	1
propylene glycol monomethyl ether acetate, alpha-isomer	EC50	48	Crustacea	=408mg/L	1
propylene glycol monomethyl ether acetate, alpha-isomer	EC50	96	Algae or other aquatic plants	9.337mg/L	3
propylene glycol monomethyl ether acetate, alpha-isomer	EC0	24	Crustacea	=500mg/L	1
propylene glycol monomethyl ether acetate, alpha-isomer	NOEC	336	Fish	47.5mg/L	2
hexamethylene diisocyanate	LC50	96	Fish	22mg/L	1
hexamethylene diisocyanate	EC50	72	Algae or other aquatic plants	>77.4mg/L	2
hexamethylene diisocyanate	EC0	24	Crustacea	<0.33mg/L	1
hexamethylene diisocyanate	NOEC	72	Algae or other aquatic plants	11.7mg/L	2

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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.

DO NOT discharge into sewer or waterways.

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	
	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ Recycle wherever possible.

Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14 TRANSPORT INFORMATION

Continued...

RESENE URACRYL GRAFFITISHIELD HARDENER

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)	<table border="1"> <tr> <td>Class</td> <td>3</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	3	Subrisk	Not Applicable
Class	3				
Subrisk	Not Applicable				
Packing group	III				
Environmental hazard	Not Applicable				
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>163; 223; 367</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table>	Special provisions	163; 223; 367	Limited quantity	5 L
Special provisions	163; 223; 367				
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); Paint related material (including paint thinning or reducing compounds)														
Transport hazard class(es)	<table border="1"> <tr> <td>ICAO/IATA Class</td> <td>3</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>3L</td> </tr> </table>	ICAO/IATA Class	3	ICAO / IATA Subrisk	Not Applicable	ERG Code	3L								
ICAO/IATA Class	3														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	3L														
Packing group	III														
Environmental hazard	Not Applicable														
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>A3 A72 A192</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>366</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>220 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>355</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>60 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y344</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>10 L</td> </tr> </table>	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
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)

UN number	1263						
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)						
Transport hazard class(es)	<table border="1"> <tr> <td>IMDG Class</td> <td>3</td> </tr> <tr> <td>IMDG Subrisk</td> <td>Not Applicable</td> </tr> </table>	IMDG Class	3	IMDG Subrisk	Not Applicable		
IMDG Class	3						
IMDG Subrisk	Not Applicable						
Packing group	III						
Environmental hazard	Not Applicable						
Special precautions for user	<table border="1"> <tr> <td>EMS Number</td> <td>F-E, S-E</td> </tr> <tr> <td>Special provisions</td> <td>163 223 367 955</td> </tr> <tr> <td>Limited Quantities</td> <td>5 L</td> </tr> </table>	EMS Number	F-E, S-E	Special provisions	163 223 367 955	Limited Quantities	5 L
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

SECTION 15 REGULATORY INFORMATION

Continued...

RESENE URACRYL GRAFFITISHIELD HARDENER

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002662	Surface Coatings and Colourants (Flammable) Group Standard 2006

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER(108-65-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	New Zealand Inventory of Chemicals (NZIoC)
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HEXAMETHYLENE DIISOCYANATE(822-06-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, a location test certificate is required when quantity greater than or equal to those indicated below are present.

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 1500 L in containers up to and including 5 L	250 L 250 L

Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations and Regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (propylene glycol monomethyl ether acetate, alpha-isomer; hexamethylene diisocyanate)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION**Other information****Ingredients with multiple cas numbers**

Name	CAS No
propylene glycol monomethyl ether acetate, alpha-isomer	108-65-6, 84540-57-8, 142300-82-1

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

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

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
 PC – STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level

RESENE URACRYL GRAFFITISHIELD HARDENER

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

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