

RALI MARINE SHIELD ULTRAFLEX PART A

Resene Paints Ltd

Version No: 1.4

Safety Data Sheet according to HSNO Regulations

Issue Date: 03/04/2019

Print Date: 03/04/2019

L.GHS.NZL.EN

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

Product Identifier

Product name	RALI MARINE SHIELD ULTRAFLEX PART A
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	9512
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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 New Zealand
Telephone	+64 4 577 0500
Fax	+64 4 5773327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number



Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	Not Available	+61 2 9186 1132

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification ^[1]	Eye Irritation Category 2A, Respiratory Sensitizer Category 1, Specific target organ toxicity - single exposure Category 2, Acute Aquatic Hazard Category 3, Flammable Liquid Category 2, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Skin Sensitizer Category 1, Aspiration Hazard Category 1, Carcinogenicity Category 2, Chronic Aquatic Hazard Category 4, Acute Vertebrate Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1B, 6.1E (aspiration), 6.3A, 6.4A, 6.5A (respiratory), 6.5B (contact), 6.7B, 6.8B, 6.9B, 9.1D, 9.3C

Label elements

Hazard pictogram(s)	 
SIGNAL WORD	DANGER

Hazard statement(s)

H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H371	May cause damage to organs.
H402	Harmful to aquatic life.
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H361	Suspected of damaging fertility or the unborn child.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.

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H351	Suspected of causing cancer.
H413	May cause long lasting harmful effects to aquatic life.
H433	Harmful to terrestrial vertebrates.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
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Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
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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

Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017 to be identified:

Mixtures

CAS No	%[weight]	Name
77-58-7	0.1-0.5	<u>dibutyltin dilaurate</u>
4083-64-1	1-10	<u>p-toluenesulfonyl isocyanate</u>
Not Available	1-5	Benzotriazol derivatives
1330-20-7	1-10	<u>xylene</u>
100-41-4	1-5	<u>ethylbenzene</u>
108-88-3	10-20	<u>toluene</u>
28182-81-2	10-30	<u>hexamethylene diisocyanate polymer</u>
822-06-0	0.1-0.5	<u>hexamethylene diisocyanate</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irritation at the eye by keeping eyelids apart and away from eye. Seek medical attention without delay if pain persists or recurs.
Skin Contact	If skin contact occurs: <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	Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.
Ingestion	<ul style="list-style-type: none"> If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

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.
- Foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Alert Fire Brigade and tell them location and nature of hazard. <p>Slight hazard when exposed to heat, flame and oxidisers.</p>
Fire/Explosion Hazard	<ul style="list-style-type: none"> Liquid and vapour are highly flammable. <p>Combustion products include: carbon dioxide (CO₂) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.</p>

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	Contain spill with inert non- combustible absorbent then place in suitable container for disposal. Clean area with large quantity of water to complete clean-up.
Major Spills	<ul style="list-style-type: none"> Clean up all spills immediately. <p>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.</p>

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. Electrostatic discharge may be generated during pumping - this may result in fire. Avoid unnecessary personal contact, including inhalation.
Other information	<ul style="list-style-type: none"> Store in original containers in approved flame-proof area. Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

Suitable container	Generally packaging as originally supplied with the article or manufactured item is sufficient to protect against physical hazards.
Storage incompatibility	<p>Toluene:</p> <ul style="list-style-type: none"> reacts violently with strong oxidisers, bromine, bromine trifluoride, chlorine, hydrochloric acid/ sulfuric acid mixture, 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione, dinitrogen tetroxide, fluorine, concentrated nitric acid, nitrogen dioxide, silver chloride, sulfur dichloride, uranium fluoride, vinyl acetate forms explosive mixtures with strong acids, strong oxidisers, silver perchlorate, tetranitromethane is incompatible with bis-toluenediazo oxide attacks some plastics, rubber and coatings may generate electrostatic charges, due to low conductivity, on flow or agitation. <p>Xylenes:</p> <ul style="list-style-type: none"> may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride attack some plastics, rubber and coatings may generate electrostatic charges on flow or agitation due to low conductivity. Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents. <p>For alkyl aromatics:</p> <p>The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms.</p> <ul style="list-style-type: none"> Avoid reaction with water, alcohols and detergent solutions. A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	dibutyltin dilaurate	Tin metal: Organic compounds, as Sn	0.1 mg/m ³	0.2 mg/m ³	Not Available	(skin) - Skin absorption
New Zealand Workplace Exposure Standards (WES)	p-toluenesulfonyl isocyanate	Isocyanates, all, (as -NCO)	0.02 mg/m ³	0.07 mg/m ³	Not Available	(sen) - Sensitiser; Note: These values apply to all isocyanates, including prepolymers, present in the workplace air as vapours, mist or dust.

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

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
dibutyltin dilaurate	Dibutyltin dilaurate; (Dibutylbis(lauroyloxy)stannane)	1.1 mg/m3	8 mg/m3	48 mg/m3
p-toluenesulfonyl isocyanate	Isocyanate-bearing waste (as CNs N.O.S.)	6 mg/m3	8.3 mg/m3	50 mg/m3
xylene	Xylenes	Not Available	Not Available	Not Available
ethylbenzene	Ethyl benzene	Not Available	Not Available	Not Available
toluene	Toluene	Not Available	Not Available	Not Available
hexamethylene diisocyanate polymer	Hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
hexamethylene diisocyanate	Hexamethylene diisocyanate; (1,6-Diisocyanatohexane)	0.018 ppm	0.2 ppm	3 ppm

Ingredient	Original IDLH	Revised IDLH
dibutyltin dilaurate	25 mg/m3	Not Available
p-toluenesulfonyl isocyanate	Not Available	Not Available
Benzotriazol derivatives	Not Available	Not Available
xylene	900 ppm	Not Available
ethylbenzene	800 ppm	Not Available
toluene	500 ppm	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 xylenes:

IDLH Level: 900 ppm

Odour Threshold Value: 20 ppm (detection), 40 ppm (recognition)

NOTE: Detector tubes for o-xylene, measuring in excess of 10 ppm, are available commercially.

for ethyl benzene:

Odour Threshold Value: 0.46-0.60 ppm

NOTE: Detector tubes for ethylbenzene, measuring in excess of 30 ppm, are commercially available.

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.

Exposure controls

Appropriate engineering controls	Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Personal protection	
Eye and face protection	► Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	NOTE: <ul style="list-style-type: none"> ► The material may produce skin sensitisation in predisposed individuals. ► Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ► Overalls. ► Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

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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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid		
Physical state	article	Relative density (Water = 1)	1.0
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	60
Initial boiling point and boiling range (°C)	110-130	Molecular weight (g/mol)	Not Available
Flash point (°C)	5	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	51
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	423

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>The acute toxicity of inhaled alkylbenzenes is best described by central nervous system depression. 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>Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure.</p> <p>Xylene is a central nervous system depressant.</p>
Ingestion	Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.
Skin Contact	<p>The material may accentuate any pre-existing dermatitis condition</p> <p>Toxic effects may result from skin 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> <p>The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either</p> <ul style="list-style-type: none"> ► produces moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or ► produces significant, but moderate, 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.
Eye	Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.
Chronic	<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>

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Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.

Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure.

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.

Prolonged or repeated contact with xylenes may cause defatting dermatitis with drying and cracking.

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.

RALI MARINE SHIELD ULTRAFLEX PART A	<table> <tr> <th data-bbox="394 465 938 488">TOXICITY</th><th data-bbox="944 465 1482 488">IRRITATION</th></tr> <tr> <td data-bbox="394 497 938 519">Not Available</td><td data-bbox="944 497 1482 519">Not Available</td></tr> </table>	TOXICITY	IRRITATION	Not Available	Not Available														
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dibutyltin dilaurate	<table> <tr> <th data-bbox="394 577 938 600">TOXICITY</th><th data-bbox="944 577 1482 600">IRRITATION</th></tr> <tr> <td data-bbox="394 609 938 642">dermal (rat) LD50: >2000 mg/kg^[1]</td><td data-bbox="944 609 1482 642">Eye (rabbit): 100 mg/24h -moderate</td></tr> <tr> <td data-bbox="394 645 938 678">Inhalation (mouse) LC50: 0.075 mg/l/2H^[2]</td><td data-bbox="944 645 1482 678">Skin (rabbit): 500 mg/24h - mild</td></tr> <tr> <td data-bbox="394 680 938 714">Oral (rat) LD50: 175 mg/kg^[2]</td><td data-bbox="944 680 1482 714"></td></tr> </table>	TOXICITY	IRRITATION	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 100 mg/24h -moderate	Inhalation (mouse) LC50: 0.075 mg/l/2H ^[2]	Skin (rabbit): 500 mg/24h - mild	Oral (rat) LD50: 175 mg/kg ^[2]											
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toluene	<table> <tr> <th data-bbox="394 1496 938 1518">TOXICITY</th><th data-bbox="944 1496 1482 1518">IRRITATION</th></tr> <tr> <td data-bbox="394 1527 938 1561">dermal (rat) LD50: >2000 mg/kg^[1]</td><td data-bbox="944 1527 1482 1561">Eye (rabbit): 2mg/24h - SEVERE</td></tr> <tr> <td data-bbox="394 1563 938 1597">Inhalation (rat) LC50: 49 mg/l/4H^[2]</td><td data-bbox="944 1563 1482 1597">Eye (rabbit):0.87 mg - mild</td></tr> <tr> <td data-bbox="394 1599 938 1632">Oral (rat) LD50: 636 mg/kg^[2]</td><td data-bbox="944 1599 1482 1632">Eye (rabbit):100 mg/30sec - mild</td></tr> <tr> <td data-bbox="394 1635 938 1668"></td><td data-bbox="944 1635 1482 1668">Eye: adverse effect observed (irritating)^[1]</td></tr> <tr> <td data-bbox="394 1671 938 1704"></td><td data-bbox="944 1671 1482 1704">Skin (rabbit):20 mg/24h-moderate</td></tr> <tr> <td data-bbox="394 1706 938 1740"></td><td data-bbox="944 1706 1482 1740">Skin (rabbit):500 mg - moderate</td></tr> <tr> <td data-bbox="394 1742 938 1776"></td><td data-bbox="944 1742 1482 1776">Skin: adverse effect observed (irritating)^[1]</td></tr> <tr> <td data-bbox="394 1778 938 1812"></td><td data-bbox="944 1778 1482 1812">Skin: no adverse effect observed (not irritating)^[1]</td></tr> </table>	TOXICITY	IRRITATION	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 2mg/24h - SEVERE	Inhalation (rat) LC50: 49 mg/l/4H ^[2]	Eye (rabbit):0.87 mg - mild	Oral (rat) LD50: 636 mg/kg ^[2]	Eye (rabbit):100 mg/30sec - mild		Eye: adverse effect observed (irritating) ^[1]		Skin (rabbit):20 mg/24h-moderate		Skin (rabbit):500 mg - moderate		Skin: adverse effect observed (irritating) ^[1]		Skin: no adverse effect observed (not irritating) ^[1]
TOXICITY	IRRITATION																		
dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 2mg/24h - SEVERE																		
Inhalation (rat) LC50: 49 mg/l/4H ^[2]	Eye (rabbit):0.87 mg - mild																		
Oral (rat) LD50: 636 mg/kg ^[2]	Eye (rabbit):100 mg/30sec - mild																		
	Eye: adverse effect observed (irritating) ^[1]																		
	Skin (rabbit):20 mg/24h-moderate																		
	Skin (rabbit):500 mg - moderate																		
	Skin: adverse effect observed (irritating) ^[1]																		
	Skin: no adverse effect observed (not irritating) ^[1]																		
hexamethylene diisocyanate polymer	<table> <tr> <th data-bbox="394 1881 938 1904">TOXICITY</th><th data-bbox="944 1881 1482 1904">IRRITATION</th></tr> <tr> <td data-bbox="394 1912 938 1946">dermal (rat) LD50: >2000 mg/kg^[1]</td><td data-bbox="944 1912 1482 1946">Skin (rabbit): 500 mg - moderate</td></tr> <tr> <td data-bbox="394 1948 938 1982">Inhalation (rat) LC50: 4.625 mg/l/1he^[2]</td><td data-bbox="944 1948 1482 1982"></td></tr> <tr> <td data-bbox="394 1984 938 2018">Oral (rat) LD50: approximately2000 mg/kg^[1]</td><td data-bbox="944 1984 1482 2018"></td></tr> </table>	TOXICITY	IRRITATION	dermal (rat) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg - moderate	Inhalation (rat) LC50: 4.625 mg/l/1he ^[2]		Oral (rat) LD50: approximately2000 mg/kg ^[1]											
TOXICITY	IRRITATION																		
dermal (rat) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg - moderate																		
Inhalation (rat) LC50: 4.625 mg/l/1he ^[2]																			
Oral (rat) LD50: approximately2000 mg/kg ^[1]																			
hexamethylene diisocyanate	<table> <tr> <th data-bbox="394 2074 938 2096">TOXICITY</th><th data-bbox="944 2074 1482 2096">IRRITATION</th></tr> <tr> <td data-bbox="394 2105 938 2139">Dermal (rabbit) LD50: =570 mg/kg^[2]</td><td data-bbox="944 2105 1482 2139">Eye: adverse effect observed (irritating)^[1]</td></tr> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: =570 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]														
TOXICITY	IRRITATION																		
Dermal (rabbit) LD50: =570 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]																		

RALI MARINE SHIELD ULTRAFLEX PART A

Inhalation (rat) LC50: 0.06 mg/l/4h ^[2]	Skin: adverse effect observed (corrosive) ^[1]
Oral (rat) LD50: =710 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

DIBUTYLTIN DILAURATE	Exposure to the material may result in a possible risk of irreversible effects.
P-TOLUENESULFONYL ISOCYANATE	for p-toluenesulfonyl isocyanate The acute oral toxicity (LD50) of PTSI is 2600 mg/kg. for p-toluenesulfonamide (PTSA): PTSA was studied for oral toxicity in rats in a single dose toxicity test at doses of 889, 1333, 2000 and 3000 mg/kg in females and 2000 mg/kg in males, and in an OECD combined repeat dose and reproductive/developmental toxicity screening test at doses of 0, 120, 300 and 750 mg/kg/day in both sexes. PTSA was also tested for mutagenicity with assays for reverse mutation in bacteria and chromosomal aberrations in cultured Chinese hamster (CHL) cells.
XYLENE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Reproductive effector in rats
ETHYLBENZENE	Ethylbenzene is readily absorbed following inhalation, oral, and dermal exposures, distributed throughout the body, and excreted primarily through urine. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Liver changes, uterine tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.
TOLUENE	For toluene: Acute Toxicity 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.
HEXAMETHYLENE DIISOCYANATE POLYMER	The material may produce moderate eye irritation leading to inflammation. * Bayer SDS ** Ardex SDS
HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in literature search. 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. for diisocyanates: In general, there appears to be little or no difference between aromatic and aliphatic diisocyanates as toxicants.
RALI MARINE SHIELD ULTRAFLEX PART A & P-TOLUENESULFONYL ISOCYANATE & 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.
RALI MARINE SHIELD ULTRAFLEX PART A & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	The following information refers to contact allergens as a group and may not be specific to this product.
P-TOLUENESULFONYL ISOCYANATE & HEXAMETHYLENE DIISOCYANATE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases.
P-TOLUENESULFONYL ISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & 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.
XYLENE & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation.
XYLENE & ETHYLBENZENE & TOLUENE & HEXAMETHYLENE DIISOCYANATE POLYMER	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).

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

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Continued...

RALI MARINE SHIELD ULTRAFLEX PART A

Toxicity

RALI MARINE SHIELD ULTRAFLEX PART A	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

dibutyltin dilaurate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	48	Crustacea	<0.463mg/L	2
	EC50	72	Algae or other aquatic plants	>1mg/L	2
	NOEC	48	Crustacea	1.7mg/L	2

p-toluenesulfonyl isocyanate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>45mg/L	2
	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	25mg/L	2
	NOEC	72	Algae or other aquatic plants	10mg/L	2

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

ethylbenzene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.0043mg/L	4
	EC50	48	Crustacea	1.184mg/L	4
	EC50	96	Algae or other aquatic plants	3.6mg/L	4
	NOEC	168	Crustacea	0.96mg/L	5

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

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

hexamethylene diisocyanate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	22mg/L	1
	EC50	72	Algae or other aquatic plants	>77.4mg/L	2
	NOEC	72	Algae or other aquatic plants	4.9mg/L	2

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.

Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

for polyisocyanates:

Polyisocyanates are not readily biodegradable.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
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Continued...

RALI MARINE SHIELD ULTRAFLEX PART A

dibutyltin dilaurate	HIGH	HIGH
p-toluenesulfonyl isocyanate	HIGH	HIGH
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)
hexamethylene diisocyanate polymer	HIGH	HIGH
hexamethylene diisocyanate	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
dibutyltin dilaurate	LOW (BCF = 110)
p-toluenesulfonyl isocyanate	LOW (LogKOW = 2.3424)
xylene	MEDIUM (BCF = 740)
ethylbenzene	LOW (BCF = 79.43)
toluene	LOW (BCF = 90)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)

Mobility in soil

Ingredient	Mobility
dibutyltin dilaurate	LOW (KOC = 64610000)
p-toluenesulfonyl isocyanate	LOW (KOC = 882.1)
ethylbenzene	LOW (KOC = 517.8)
toluene	LOW (KOC = 268)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>Recycle wherever possible or consult manufacturer for recycling options.</p> <p>► DO NOT allow wash water from cleaning or process equipment to enter drains.</p> <p>► Recycle wherever possible.</p> <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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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

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

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	•3YE

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> <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				

RALI MARINE SHIELD ULTRAFLEX PART A

Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions	163; 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)	ICAO/IATA Class	3	
	ICAO / IATA Subrisk	Not Applicable	
	ERG Code	3L	
Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions	A3 A72 A192	
	Cargo Only Packing Instructions	364	
	Cargo Only Maximum Qty / Pack	60 L	
	Passenger and Cargo Packing Instructions	353	
	Passenger and Cargo Maximum Qty / Pack	5 L	
	Passenger and Cargo Limited Quantity Packing Instructions	Y341	
	Passenger and Cargo Limited Maximum Qty / Pack	1 L	

Sea transport (IMDG-Code / GGVSee)

UN number	1263		
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)		
Transport hazard class(es)	IMDG Class	3	
	IMDG Subrisk	Not Applicable	
Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number	F-E , S-E	
	Special provisions	163 367	
	Limited Quantities	5 L	

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

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

HSR Number	Group Standard
HSR002669	Surface Coatings and Colourants (Flammable, Toxic [6.7]) Group Standard 2017

DIBUTYL TIN DILAUATE(77-58-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations	New Zealand Inventory of Chemicals (NZIoC)
International Maritime Dangerous Goods Requirements (IMDG Code)	New Zealand Workplace Exposure Standards (WES)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	

P-TOLUENESULFONYL ISOCYANATE(4083-64-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations	New Zealand Inventory of Chemicals (NZIoC)
International Maritime Dangerous Goods Requirements (IMDG Code)	New Zealand Workplace Exposure Standards (WES)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	

XYLENE(1330-20-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...

RALI MARINE SHIELD ULTRAFLEX PART A

GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

ETHYLBENZENE(100-41-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

TOLUENE(108-88-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

HEXAMETHYLENE DIISOCYANATE POLYMER(28182-81-2) 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(822-06-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

International Air Transport Association (IATA) Dangerous Goods Regulations

International Maritime Dangerous Goods Requirements (IMDG Code)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

Hazardous Substance Location

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

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
3.1B	100 L in containers greater than 5 L 250 L in containers up to and including 5 L	50 L 50 L

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
3.1B	250 L (when in containers greater than 5 L) 500 L (when in containers up to and including 5 L)

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (toluene; xylene; ethylbenzene; dibutyltin dilaurate; Benzotriazol derivatives; p-toluenesulfonyl isocyanate; hexamethylene diisocyanate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (Benzotriazol derivatives)

Continued...

RALI MARINE SHIELD ULTRAFLEX PART A

Japan - ENCS	No (hexamethylene diisocyanate polymer; Benzotriazol derivatives)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer; Benzotriazol derivatives; p-toluenesulfonyl isocyanate)
Vietnam - NCI	Yes
Russia - ARIPS	No (Benzotriazol derivatives)
Thailand - TECI	No (hexamethylene diisocyanate polymer)
Legend:	<i>Yes = All ingredients are on the inventory</i> <i>No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

SECTION 16 OTHER INFORMATION

Revision Date	03/04/2019
Initial Date	03/04/2019

SDS Version Summary

Version	Issue Date	Sections Updated
0.4.1.1.1	03/04/2019	Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Classification, First Aid (swallowed)

Other information

Ingredients with multiple cas numbers

Name	CAS No
hexamethylene diisocyanate polymer	28182-81-2, 53200-31-0, 1192214-73-5

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.

Powered by AuthorITe, from Chemwatch.

RALI MARINE SHIELD ULTRAFLEX PART B

Resene Paints Ltd

Version No: 1.1

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 3

Issue Date: 02/04/2019

Print Date: 11/04/2019

S.GHS.NZL.EN

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

Product Identifier

Product name	RALI MARINE SHIELD ULTRAFLEX PART B
Synonyms	Incl. All colours
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	Use according to manufacturer's directions.
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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 New Zealand
Telephone	+64 4 577 0500
Fax	+64 4 5773327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	Not Available	+61 2 9186 1132

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]	Flammable Liquid Category 3, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 2, Acute Aquatic Hazard Category 3, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Carcinogenicity Category 2, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1C, 6.3A, 6.4A, 6.7B, 6.8B, 6.9B, 9.1C, 9.1D

Label elements

Hazard pictogram(s)	
SIGNAL WORD	WARNING

Hazard statement(s)

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H371	May cause damage to organs.
H315	Causes skin irritation.
H361	Suspected of damaging fertility or the unborn child.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

Continued...

RALI MARINE SHIELD ULTRAFLEX PART B

P201	Obtain special instructions before use.
------	---

Precautionary statement(s) Response

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
-----------	---

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
------	---

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
119-61-9	0.1-2	<u>benzophenone</u>
95-63-6	1-5	<u>1,2,4-trimethyl benzene</u>
1330-20-7	1-5	<u>xylene</u>
100-41-4	0.1-1	<u>ethylbenzene</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: <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 if pain persists or recurs. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: <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.
Ingestion	<ul style="list-style-type: none"> If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

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
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ 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. Combustion products include: <ul style="list-style-type: none"> carbon monoxide (CO) carbon dioxide (CO2) other pyrolysis products typical of burning organic material.

SECTION 6 ACCIDENTAL RELEASE MEASURES

RALI MARINE SHIELD ULTRAFLEX PART B

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	<ul style="list-style-type: none"> Remove all ignition sources. Contain spill with inert non- combustible absorbent then place in suitable container for disposal. Clean area with large quantity of water to complete clean-up.
Major Spills	<p>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.</p>

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. Electrostatic discharge may be generated during pumping - this may result in fire. Avoid unnecessary personal contact, including inhalation. DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> 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.
Storage incompatibility	strong oxidisers

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)	xylene	Dimethylbenzene (see Xylene)	50 ppm / 217 mg/m ³	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	ethylbenzene	Ethyl benzene	100 ppm / 434 mg/m ³	543 mg/m ³ / 125 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
benzophenone	Benzophenone	1.5 mg/m ³	90 mg/m ³	310 mg/m ³
1,2,4-trimethyl benzene	Permafluor E+	140 mg/m ³	360 mg/m ³	2,200 mg/m ³
1,2,4-trimethyl benzene	Trimethylbenzene, 1,2,4-; (Pseudocumene)	Not Available	Not Available	480 ppm
xylene	Xylenes	Not Available	Not Available	Not Available
ethylbenzene	Ethyl benzene	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
benzophenone	Not Available	Not Available
1,2,4-trimethyl benzene	Not Available	Not Available
xylene	900 ppm	Not Available
ethylbenzene	800 ppm	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with side shields.
Skin protection	See Hand protection below

Continued...

RALI MARINE SHIELD ULTRAFLEX PART B

Hands/feet protection	<p>► Wear chemical protective gloves, e.g. PVC.</p> <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>
Body protection	See Other protection below
Other protection	<p>► Overalls.</p>

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

RALI MARINE SHIELD ULTRAFLEX PART B

Material	CPI
TEFLON	A
VITON	A
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type A Filter of sufficient capacity.

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 5 x ES	A-AUS / Class 1	-	A-PAPR-AUS / Class 1
up to 25 x ES	Air-line*	A-2	A-PAPR-2
up to 50 x ES	-	A-3	-
50+ x ES	-	Air-line**	-

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, 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 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Coloured liquid		
Physical state	Liquid	Relative density (Water = 1)	1.05-1.60
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	309
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	100
Initial boiling point and boiling range (°C)	180-193	Molecular weight (g/mol)	Not Available
Flash point (°C)	36-38	Taste	Not Available
Evaporation rate	0.54 BuAC = 1	Explosive properties	Not Available
Flammability	Flammable.	Oxidising properties	Not Available
Upper Explosive Limit (%)	5.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.1	Volatile Component (%vol)	61.8
Vapour pressure (kPa)	0.41	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	3.33	VOC g/L	571

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► stable

Continued...

RALI MARINE SHIELD ULTRAFLEX PART B

Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. On exposure to mixed trimethylbenzenes, some people may become nervous, tensed, anxious and have difficult breathing. Headache, fatigue, tiredness, irritability and digestive disturbances (nausea, loss of appetite and bloating) are the most common symptoms of xylene overexposure. Xylene is a central nervous system depressant
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects.

RALI MARINE SHIELD ULTRAFLEX PART B	TOXICITY	IRRITATION
	Not Available	Not Available
benzophenone	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 3535 mg/kg ^[2] Oral (rat) LD50: >10,000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
1,2,4-trimethyl benzene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3160 mg/kg ^[2] Inhalation (rat) LC50: 18 mg/l/4h ^[2] Oral (rat) LD50: 5000 mg/kg ^[1]	Not Available
xylene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1700 mg/kg ^[2] Inhalation (rat) LC50: 4994.295 mg/l/4h ^[2] Oral (rat) LD50: 3523-8700 mg/kg ^[2]	Eye (human): 200 ppm irritant Eye (rabbit): 5 mg/24h SEVERE Eye (rabbit): 87 mg mild Eye: adverse effect observed (irritating) ^[1] Skin (rabbit): 500 mg/24h moderate Skin: adverse effect observed (irritating) ^[1]
ethylbenzene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[2] Inhalation (mouse) LC50: 17.75 mg/l/2h ^[2] Oral (rat) LD50: 3500 mg/kg ^[2]	Eye (rabbit): 500 mg - SEVERE Eye: no adverse effect observed (not irritating) ^[1] Skin (rabbit): 15 mg/24h mild Skin: no adverse effect observed (not irritating) ^[1]

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

BENZOPHENONE	The following information refers to contact allergens as a group and may not be specific to this product. This is a member or analogue of a group of aromatic substituted secondary alcohols, ketones and related esters generally regarded as safe (GRAS), based partly on the fact that in humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin.
1,2,4-TRIMETHYL BENZENE	Other Toxicity data is available for CHEMWATCH 12172 1,2,3-trimethylbenzene CHEMWATCH 2325 1,3,5-trimethylbenzene
XYLENE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Reproductive effector in rats
ETHYLBENZENE	Ethylbenzene is readily absorbed when inhaled, swallowed or in contact with the skin. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. Liver changes, uterine tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.

Continued...

RALI MARINE SHIELD ULTRAFLEX PART B

RALI MARINE SHIELD ULTRAFLEX PART B & 1,2,4- TRIMETHYL BENZENE	For trimethylbenzenes: Absorption of 1,2,4-trimethylbenzene occurs after exposure by swallowing, inhalation, or skin contact.		
BENZOPHENONE & 1,2,4- TRIMETHYL BENZENE	Asthma-like symptoms may continue for months or even years after exposure to the material ends.		
BENZOPHENONE & ETHYLBENZENE	WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.		
XYLENE & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.		

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

RALI MARINE SHIELD ULTRAFLEX PART B	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
benzophenone	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	4.478mg/L	3
	EC50	48	Crustacea	6.784mg/L	2
	EC50	72	Algae or other aquatic plants	1.8mg/L	2
	NOEC	504	Crustacea	0.2mg/L	2
1,2,4-trimethyl benzene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.318mg/L	3
	EC50	48	Crustacea	ca.6.14mg/L	2
	EC50	96	Algae or other aquatic plants	2.154mg/L	3
xylene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	2.6mg/L	2
	EC50	48	Crustacea	1.8mg/L	2
	EC50	72	Algae or other aquatic plants	3.2mg/L	2
	NOEC	73	Algae or other aquatic plants	0.44mg/L	2
ethylbenzene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.0043mg/L	4
	EC50	48	Crustacea	1.184mg/L	4
	EC50	96	Algae or other aquatic plants	3.6mg/L	4
	NOEC	168	Crustacea	0.96mg/L	5

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
benzophenone	HIGH	HIGH
1,2,4-trimethyl benzene	LOW (Half-life = 56 days)	LOW (Half-life = 0.67 days)
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)

Bioaccumulative potential

Continued...

RALI MARINE SHIELD ULTRAFLEX PART B

Ingredient	Bioaccumulation
benzophenone	LOW (BCF = 9.2)
1,2,4-trimethyl benzene	LOW (BCF = 275)
xylene	MEDIUM (BCF = 740)
ethylbenzene	LOW (BCF = 79.43)

Mobility in soil

Ingredient	Mobility
benzophenone	LOW (KOC = 1077)
1,2,4-trimethyl benzene	LOW (KOC = 717.6)
ethylbenzene	LOW (KOC = 517.8)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory.</p> <p>▶ DO NOT allow wash water from cleaning or process equipment to enter drains.</p> <p>▶ Recycle wherever possible. 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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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

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

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
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> <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> <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> <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						

RALI MARINE SHIELD ULTRAFLEX PART B

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)

UN number	1263
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Transport hazard class(es)	IMDG Class 3
	IMDG Subrisk Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	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

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

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

HSR Number	Group Standard
HSR002669	Surface Coatings and Colourants (Flammable, Toxic [6.7]) Group Standard 2017

BENZOPHENONE(119-61-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	New Zealand Inventory of Chemicals (NZIoC)
International Air Transport Association (IATA) Dangerous Goods Regulations	New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits
International Maritime Dangerous Goods Requirements (IMDG Code)	New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	

1,2,4-TRIMETHYL BENZENE(95-63-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles	International Maritime Dangerous Goods Requirements (IMDG Code)
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO	New Zealand Inventory of Chemicals (NZIoC)
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards	New Zealand Land Transport Rule; Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities
International Air Transport Association (IATA) Dangerous Goods Regulations	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

XYLENE(1330-20-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

ETHYLBENZENE(100-41-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

RALI MARINE SHIELD ULTRAFLEX PART B

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

Hazardous Substance Location

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

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

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (xylene; ethylbenzene; 1,2,4-trimethyl benzene; benzophenone)
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	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Thailand - TECI	No (1,2,4-trimethyl benzene)
Legend:	Yes = All ingredients are on the inventory No = 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

Revision Date	02/04/2019
Initial Date	02/04/2019

Other information

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

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

Definitions and abbreviations

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

RALI MARINE SHIELD ULTRAFLEX PART B

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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RALI MARINE SHIELD ULTRAFLEX REDUCER

RESENE AUTOMOTIVE & LIGHT INDUSTRIAL

Version No: 1.1

Safety Data Sheet according to HSNO Regulations

Issue Date: 03/04/2019

Print Date: 03/04/2019

L.GHS.NZL.EN

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

Product Identifier

Product name	RALI MARINE SHIELD ULTRAFLEX REDUCER
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	6663
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Details of the supplier of the safety data sheet

Registered company name	RESENE AUTOMOTIVE & LIGHT INDUSTRIAL
Address	32-50 Vogel Street Naenae Wellington New Zealand
Telephone	+64 4 5770500
Fax	+64 4 5773327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	0800 737636	+61 2 9186 1132

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification ^[1]	Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 2, Acute Aquatic Hazard Category 3, Flammable Liquid Category 2, Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Chronic Aquatic Hazard Category 3, Acute Vertebrate Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1B, 6.1D (inhalation), 6.1D (oral), 6.3A, 6.4A, 6.8B, 6.9B, 9.1C, 9.1D, 9.3C

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

H319	Causes serious eye irritation.
H371	May cause damage to organs.
H225	Highly flammable liquid and vapour.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H361	Suspected of damaging fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.
H433	Harmful to terrestrial vertebrates.

Continued...

RALI MARINE SHIELD ULTRAFLEX REDUCER

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
------	---

Precautionary statement(s) Response

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
-----------	---

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
------	---

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017 to be identified:

Mixtures

CAS No	%[weight]	Name
77-58-7	0.1-1	<u>dibutyltin dilaurate</u>
108-88-3	40-80	<u>toluene</u>

SECTION 4 FIRST AID MEASURES

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 if pain persists or recurs. 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	<p>If aerosols, fumes or combustion products are inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop seek medical attention.</p>
Ingestion	<ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

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	<ul style="list-style-type: none"> Avoid contamination with oxidising agents.
----------------------	--

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	<ul style="list-style-type: none"> Liquid and vapour are highly flammable. <p>Combustion products include: carbon dioxide (CO₂) other pyrolysis products typical of burning organic material.</p> <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

RALI MARINE SHIELD ULTRAFLEX REDUCER

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> Remove all ignition sources. Contain spill with inert non-combustible absorbent then place in suitable container for disposal. Clean area with large quantity of water to complete clean-up.
Major Spills	Remove all ignition sources. Clear area of personnel and move upwind. Wear appropriate personnel protective equipment and clothing to prevent exposure. Avoid breathing in mists or vapours and skin or eyes contact. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authority.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> Containers, even those that have been emptied, may contain explosive vapours. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. <ul style="list-style-type: none"> Electrostatic discharge may be generated during pumping - this may result in fire. Avoid unnecessary personal contact, including inhalation. DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> Store in original containers in approved flame-proof area.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> Packing as supplied by manufacturer.
Storage incompatibility	strong oxidisers

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)	dibutyltin dilaurate	Tin metal: Organic compounds, as Sn	0.1 mg/m ³	0.2 mg/m ³	Not Available	(skin) - Skin absorption
New Zealand Workplace Exposure Standards (WES)	toluene	Toluene (Toluol)	50 ppm / 188 mg/m ³	Not Available	Not Available	(skin) - Skin absorption

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
dibutyltin dilaurate	Dibutyltin dilaurate; (Dibutylbis(lauroyloxy)stannane)	1.1 mg/m ³	8 mg/m ³	48 mg/m ³
toluene	Toluene	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
dibutyltin dilaurate	25 mg/m ³	Not Available
toluene	500 ppm	Not Available

MATERIAL DATA

IFRA Prohibited Fragrance Substance

The International Fragrance Association (IFRA) Standards form the basis for the globally accepted and recognized risk management system for the safe use of fragrance ingredients and are part of the IFRA Code of Practice.

For cyclohexanone

Odour Threshold Value: 0.12 ppm (detection and recognition)

Exposure at the TLV-TWA produces minimal irritation and this limit is significantly lower than the concentration reported to just induce demonstrable changes in the liver and kidneys of rabbits repeatedly exposed to the substance (190 ppm).

For n-butyl acetate

Odour Threshold Value: 0.0063 ppm (detection), 0.038-12 ppm (recognition)

Exposure at or below the recommended TLV-TWA is thought to prevent significant irritation of the eyes and respiratory passages as well as narcotic effects.

for propylene glycol monomethyl ether acetate (PGMEA)

Saturated vapour concentration: 4868 ppm at 20 °C.

For diethylene glycol monobutyl ether:

CEL TWA: 15.5 ppm, 100 mg/m³

(CEL = Chemwatch Exposure Limit)

In studies involving the inhalation toxicity of diethylene glycol monobutyl ether, exposure for 6 hours daily at 100 mg/m³ had no effect.

for methyl isobutyl ketone (MIBK):

Unfatigued, odour recognition threshold (100% test panel) is 0.3 - 0.5 ppm.

Continued...

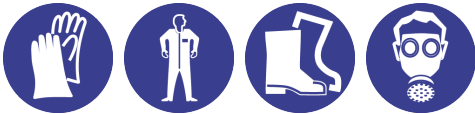
RALI MARINE SHIELD ULTRAFLEX REDUCER

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.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Personal protection	
Eye and face protection	► Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	► Wear chemical protective gloves, e.g. PVC. 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.

Respiratory protection

Type A Filter of sufficient capacity

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the 'Exposure Standard' (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor
up to 10 x ES
up to 50 x ES
up to 100 x ES

Half-Face Respirator
A-AUS
-
-

Full-Face Respirator
-
A-AUS / Class 1
A-2

Powered Air Respirator
A-PAPR-AUS / Class 1
-
A-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, 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 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid		
Physical state	Liquid	Relative density (Water = 1)	0.876
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	>530
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)	116	Molecular weight (g/mol)	Not Available
Flash point (°C)	11	Taste	Not Available
Evaporation rate	>2.4	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	6.7	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.3	Volatile Component (%vol)	99.2
Vapour pressure (kPa)	>7	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	>1	VOC g/L	867

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► stable
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

RALI MARINE SHIELD ULTRAFLEX REDUCER

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. 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. At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver).
Skin Contact	The material may accentuate any pre-existing dermatitis condition Toxic effects may result from skin absorption 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. The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either <ul style="list-style-type: none"> ▶ produces moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or ▶ produces significant, but moderate, 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.
Eye	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. The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis.
Chronic	Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects. Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure.

RALI MARINE SHIELD ULTRAFLEX REDUCER	TOXICITY	IRRITATION
	Not Available	Not Available

dibutyltin dilaurate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 100 mg/24h - moderate
	Inhalation (mouse) LC50: 0.075 mg/l/2H ^[2]	Skin (rabbit): 500 mg/24h - mild
	Oral (rat) LD50: 175 mg/kg ^[2]	

toluene	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 2mg/24h - SEVERE
	Inhalation (rat) LC50: 49 mg/l/4H ^[2]	Eye (rabbit): 0.87 mg - mild
	Oral (rat) LD50: 636 mg/kg ^[2]	Eye (rabbit): 100 mg/30sec - mild
		Eye: adverse effect observed (irritating) ^[1]
		Skin (rabbit): 20 mg/24h - moderate
		Skin (rabbit): 500 mg - moderate
		Skin: adverse effect observed (irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]

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

RALI MARINE SHIELD ULTRAFLEX REDUCER	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). 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.
DIBUTYLTIN DILAURATE	Exposure to the material may result in a possible risk of irreversible effects.
TOLUENE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).
RALI MARINE SHIELD ULTRAFLEX REDUCER & TOLUENE	For toluene: Acute Toxicity 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.

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✓
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓

Continued...

RALI MARINE SHIELD ULTRAFLEX REDUCER

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

RALI MARINE SHIELD ULTRAFLEX REDUCER	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

dibutyltin dilaurate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	48	Crustacea	<0.463mg/L	2
	EC50	72	Algae or other aquatic plants	>1mg/L	2
	NOEC	48	Crustacea	1.7mg/L	2

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

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
dibutyltin dilaurate	HIGH	HIGH
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
dibutyltin dilaurate	LOW (BCF = 110)
toluene	LOW (BCF = 90)

Mobility in soil

Ingredient	Mobility
dibutyltin dilaurate	LOW (KOC = 64610000)
toluene	LOW (KOC = 268)

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. Consult manufacturer for recycling option. 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.
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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017


Disposal Requirements

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

Continued...

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	•3YE

Land transport (UN)

UN number	1263
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Transport hazard class(es)	Class : 3 Subrisk : Not Applicable
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : 163; 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)	ICAO/IATA Class : 3 ICAO / IATA Subrisk : Not Applicable ERG Code : 3L
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : A3 A72 A192 Cargo Only Packing Instructions : 364 Cargo Only Maximum Qty / Pack : 60 L Passenger and Cargo Packing Instructions : 353 Passenger and Cargo Maximum Qty / Pack : 5 L Passenger and Cargo Limited Quantity Packing Instructions : Y341 Passenger and Cargo Limited Maximum Qty / Pack : 1 L

Sea transport (IMDG-Code / GGVSee)

UN number	1263
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Transport hazard class(es)	IMDG Class : 3 IMDG Subrisk : Not Applicable
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	EMS Number : F-E , S-E Special provisions : 163 367 Limited Quantities : 5 L

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

RALI MARINE SHIELD ULTRAFLEX REDUCER

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 2017

DIBUTYLTIN DILAURATE(77-58-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations	New Zealand Inventory of Chemicals (NZIoC)
International Maritime Dangerous Goods Requirements (IMDG Code)	New Zealand Workplace Exposure Standards (WES)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	

TOLUENE(108-88-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

Hazardous Substance Location

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

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
3.1B	100 L in containers greater than 5 L 250 L in containers up to and including 5 L	50 L 50 L

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
3.1B	250 L (when in containers greater than 5 L) 500 L (when in containers up to and including 5 L)

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (toluene; dibutyltin dilaurate)
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	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Thailand - TECI	Yes
Legend:	Yes = All ingredients are on the inventory No = 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

Revision Date	03/04/2019
Initial Date	23/07/2015

Continued...

RALI MARINE SHIELD ULTRAFLEX REDUCER**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.

Powered by AuthorITe, from Chemwatch.

RALI MARINE SHIELD ULTRAPREP

RESENE AUTOMOTIVE & LIGHT INDUSTRIAL

Version No: 1.1

Safety Data Sheet according to HSNO Regulations

Issue Date: 04/04/2019

Print Date: 04/04/2019

L.GHS.NZL.EN

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

Product Identifier

Product name	RALI MARINE SHIELD ULTRAPREP
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	10121
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Details of the supplier of the safety data sheet

Registered company name	RESENE AUTOMOTIVE & LIGHT INDUSTRIAL
Address	32-50 Vogel Street Naenae Wellington New Zealand
Telephone	+64 4 5770500
Fax	+64 4 5773327
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	0800 737636	+61 2 9186 1132

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification ^[1]	Flammable Liquid Category 3, Eye Irritation Category 2A, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Oral) Category 4, Reproductive Toxicity Category 2, Aspiration Hazard Category 2, Carcinogenicity Category 2, Chronic Aquatic Hazard Category 3, Skin Corrosion/Irritation Category 3, Acute Aquatic Hazard Category 2, Acute Vertebrate Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1C, 6.1D (dermal), 6.1D (oral), 6.1E (aspiration), 6.3B, 6.4A, 6.7B, 6.8B, 9.1C, 9.1D, 9.3C

Label elements

Hazard pictogram(s)	
SIGNAL WORD	WARNING

Hazard statement(s)

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H312	Harmful in contact with skin.
H302	Harmful if swallowed.
H361	Suspected of damaging fertility or the unborn child.
H305	May be harmful if swallowed and enters airways.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.
H316	Causes mild skin irritation.

Continued...

RALI MARINE SHIELD ULTRAPREP

H401	Toxic to aquatic life.
H433	Harmful to terrestrial vertebrates.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
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Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
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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

Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017 to be identified:

Mixtures

CAS No	%[weight]	Name
91-20-3	0.1-1	<u>naphthalene, molten</u>
1330-20-7	40-80	<u>xylene</u>
100-41-4	10-20	<u>ethylbenzene</u>
64742-95-6	1-10	<u>naphtha petroleum, light aromatic solvent</u>
64742-94-5	1-10	<u>solvent naphtha petroleum, heavy aromatic</u>

SECTION 4 FIRST AID MEASURES

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 if pain persists or recurs. 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.
Ingestion	<ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

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	<ul style="list-style-type: none"> 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 monoxide (CO) carbon dioxide (CO2)</p>

Continued...

RALI MARINE SHIELD ULTRAPREP

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

Minor Spills	<ul style="list-style-type: none"> Remove all ignition sources. Contain spill with inert non- combustible absorbent then place in suitable container for disposal. Clean area with large quantity of water to complete clean-up.
Major Spills	Remove all ignition sources. Clear area of personnel and move upwind. Wear appropriate personnel protective equipment and clothing to prevent exposure. Avoid breathing in mists or vapours and skin or eyes contact. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non- combustible material onto spillage. Use clean non- sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authority.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> Containers, even those that have been emptied, may contain explosive vapours. Electrostatic discharge may be generated during pumping - this may result in fire. Avoid unnecessary personal contact, including inhalation. DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> 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.
Storage incompatibility	Xylenes: <ul style="list-style-type: none"> may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride attack some plastics, rubber and coatings may generate electrostatic charges on flow or agitation due to low conductivity. Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents. For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms.

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)	naphthalene, molten	Naphthalene	10 ppm / 52 mg/m3	79 mg/m3 / 15 ppm	Not Available	‡ - Currently under review; 6.7B - Suspected carcinogen
New Zealand Workplace Exposure Standards (WES)	xylene	Dimethylbenzene (see Xylene)	50 ppm / 217 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	ethylbenzene	Ethyl benzene	100 ppm / 434 mg/m3	543 mg/m3 / 125 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
naphthalene, molten	Naphthalene	15 ppm	83 ppm	500 ppm
xylene	Xylenes	Not Available	Not Available	Not Available
ethylbenzene	Ethyl benzene	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
naphthalene, molten	250 ppm	Not Available
xylene	900 ppm	Not Available
ethylbenzene	800 ppm	Not Available
naphtha petroleum, light aromatic solvent	Not Available	Not Available
solvent naphtha petroleum, heavy aromatic	Not Available	Not Available

MATERIAL DATA

Continued...

RALI MARINE SHIELD ULTRAPREP

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 naphthalene:

Odour Threshold Value: 0.038 ppm

The TLV-TWA is thought to be low enough to prevent ocular toxicity but the margin of safety associated with the TLV for hypersusceptible individuals (with glucose-6-phosphate dehydrogenase defective erythrocytes) to naphthalene-induced blood dyscrasias is unknown.

For trimethyl benzene as mixed isomers (of unstated proportions)

Odour Threshold Value: 2.4 ppm (detection)

Use care in interpreting effects as a single isomer or other isomer mix.

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

for xylenes:

IDLH Level: 900 ppm

Odour Threshold Value: 20 ppm (detection), 40 ppm (recognition)

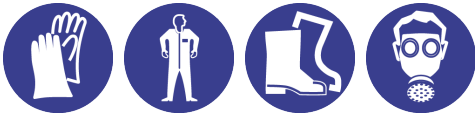
NOTE: Detector tubes for o-xylene, measuring in excess of 10 ppm, are available commercially.

for ethyl benzene:

Odour Threshold Value: 0.46-0.60 ppm

NOTE: Detector tubes for ethylbenzene, measuring in excess of 30 ppm, are commercially available.

Exposure controls

Appropriate engineering controls	CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
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. 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.

Respiratory protection

Type A Filter of sufficient capacity.

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the 'Exposure Standard' (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, 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 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless liquid		
Physical state	Liquid	Relative density (Water = 1)	0.88
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	>140	Molecular weight (g/mol)	Not Available
Flash point (°C)	24	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Flammable.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	>99
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available

Continued...

RALI MARINE SHIELD ULTRAPREP

Vapour density (Air = 1)

Not Available

VOC g/L

880

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► stable
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>The acute toxicity of inhaled alkylbenzenes is best described by central nervous system depression. Inhalation hazard is increased at higher temperatures. Inhalation of vapours may cause drowsiness and dizziness. A significant number of individuals exposed to mixed trimethylbenzenes complained of nervousness, tension, anxiety and asthmatic bronchitis.</p> <p>Inhalation of naphthalene vapour has been associated with headache, loss of appetite and nausea. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination. When humans were exposed to the 100 and 200 ppm for 8 hours about 45-65% is retained in the body.</p> <p>Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure. Xylene is a central nervous system depressant.</p>
Ingestion	<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. 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>Ingestion of naphthalene and its congeners may produce abdominal cramps with nausea, vomiting, diarrhoea, headache, profuse perspiration, listlessness, confusion, and in severe poisonings, coma with or without convulsions. Considered an unlikely route of entry in commercial/industrial environments The liquid may produce considerable gastrointestinal discomfort and may be harmful or toxic if swallowed.</p>
Skin Contact	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>Workers sensitised to naphthalene and its congeners show exfoliative dermatitis. 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. The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either</p> <ul style="list-style-type: none"> ► produces moderate inflammation of the skin in a substantial number of individuals following direct contact, and/or ► produces significant, but moderate, 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.
Eye	<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> <p>The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis.</p>
Chronic	<p>On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic effect; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects. Prolonged or repeated contact with xylenes may cause defatting dermatitis with drying and cracking. Industrial workers exposed to a maximum level of ethylbenzene of 0.06 mg/l (14 ppm) reported headaches and irritability and tired quickly.</p>

RALI MARINE SHIELD ULTRAPREP	TOXICITY	IRRITATION
	Not Available	Not Available
naphthalene, molten	TOXICITY	IRRITATION
	dermal (rat) LD50: >2500 mg/kg ^[2]	Not Available
	Oral (rat) LD50: 490 mg/kg ^[2]	
xylene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1700 mg/kg ^[2]	Eye (human): 200 ppm irritant
	Inhalation (rat) LC50: 4994.295 mg/l/4h ^[2]	Eye (rabbit): 5 mg/24h SEVERE
	Oral (rat) LD50: 3523-8700 mg/kg ^[2]	Eye (rabbit): 87 mg mild
		Eye: adverse effect observed (irritating) ^[1]

Continued...

RALI MARINE SHIELD ULTRAPREP

		Skin (rabbit): 500 mg/24h moderate
		Skin: adverse effect observed (irritating) ^[1]
ethylbenzene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[2]	Eye (rabbit): 500 mg - SEVERE
	Inhalation (mouse) LC50: 17.75 mg/l/2H ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: 3500 mg/kg ^[2]	Skin (rabbit): 15 mg/24h mild
		Skin: no adverse effect observed (not irritating) ^[1]
naphtha petroleum, light aromatic solvent	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (rat) LC50: >7331.62506 mg/l/8h ^[2]	Skin: adverse effect observed (irritating) ^[1]
	Oral (rat) LD50: >4500 mg/kg ^[1]	
solvent naphtha petroleum, heavy aromatic	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): Irritating
	Inhalation (rat) LC50: >0.59 mg/l/4H ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: >2000 mg/kg ^[1]	Skin: adverse effect observed (irritating) ^[1]



Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

NAPHTHALENE, MOLTEN	The material may be irritating to the eye, with prolonged contact causing inflammation.
XYLENE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Reproductive effector in rats
ETHYLBENZENE	NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Liver changes, uterine tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.
NAPHTHA PETROLEUM, LIGHT AROMATIC SOLVENT	For C9 aromatics (typically trimethylbenzenes - TMBs) Acute Toxicity Acute toxicity studies (oral, dermal and inhalation routes of exposure) have been conducted in rats using various solvent products containing predominantly mixed C9 aromatic hydrocarbons (CAS RN 64742-95-6). * [Devoe] .
SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC	Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. for petroleum: Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline This product may contain benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic.
RALI MARINE SHIELD ULTRAPREP & NAPHTHA PETROLEUM, LIGHT AROMATIC SOLVENT	For trimethylbenzenes: Absorption of 1,2,4-trimethylbenzene occurs after oral, inhalation, or dermal exposure.
RALI MARINE SHIELD ULTRAPREP & ETHYLBENZENE	Ethylbenzene is readily absorbed following inhalation, oral, and dermal exposures, distributed throughout the body, and excreted primarily through urine.
NAPHTHALENE, MOLTEN & XYLENE & ETHYLBENZENE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).
NAPHTHALENE, MOLTEN & NAPHTHA PETROLEUM, LIGHT AROMATIC SOLVENT	Asthma-like symptoms may continue for months or even years after exposure to the material ceases.
XYLENE & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation.

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

RALI MARINE SHIELD ULTRAPREP

Legend:  - Data either not available or does not fill the criteria for classification
 - Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

RALI MARINE SHIELD ULTRAPREP	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

naphthalene, molten	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.213mg/L	4
	EC50	48	Crustacea	1.6mg/L	4
	EC50	72	Algae or other aquatic plants	ca.0.4mg/L	1
	BCF	12	Fish	10.2mg/L	4
	NOEC	48	Fish	0.0001mg/L	4

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

ethylbenzene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.0043mg/L	4
	EC50	48	Crustacea	1.184mg/L	4
	EC50	96	Algae or other aquatic plants	3.6mg/L	4
	NOEC	168	Crustacea	0.96mg/L	5

naphtha petroleum, light aromatic solvent	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	4.1mg/L	2
	EC50	48	Crustacea	3.2mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
	NOEC	72	Algae or other aquatic plants	=1mg/L	1

solvent naphtha petroleum, heavy aromatic	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.58mg/L	2
	EC50	48	Crustacea	0.76mg/L	2
	EC50	72	Algae or other aquatic plants	<1mg/L	1
	NOEC	96	Algae or other aquatic plants	0.12mg/L	2

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Toxic 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.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
naphthalene, molten	HIGH (Half-life = 258 days)	LOW (Half-life = 1.23 days)
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
naphthalene, molten	HIGH (BCF = 18000)
xylene	MEDIUM (BCF = 740)
ethylbenzene	LOW (BCF = 79.43)

Continued...

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solvent naphtha petroleum, heavy aromatic

LOW (BCF = 159)

Mobility in soil

Ingredient	Mobility
naphthalene, molten	LOW (KOC = 1837)
ethylbenzene	LOW (KOC = 517.8)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory.</p> <p>DO NOT allow wash water from cleaning or process equipment to enter drains.</p> <p>Recycle wherever possible. Consult manufacturer for recycling option. 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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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

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

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	*3Y

Land transport (UN)

UN number	1263
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Transport hazard class(es)	Class : 3 Subrisk : Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	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)	ICAO/IATA Class : 3 ICAO / IATA Subrisk : Not Applicable ERG Code : 3L
Packing group	III
Environmental hazard	Not Applicable
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

Continued...

RALI MARINE SHIELD ULTRAPREP

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, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Transport hazard class(es)	IMDG Class 3 IMDG Subrisk Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	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

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

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

HSR Number	Group Standard
HSR002669	Surface Coatings and Colourants (Flammable, Toxic [6.7]) Group Standard 2017

NAPHTHALENE, MOLTEN(91-20-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles	International Maritime Dangerous Goods Requirements (IMDG Code)
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
IMO Provisional Categorization of Liquid Substances - List 1: Pure or technically pure products	New Zealand Inventory of Chemicals (NZIoC)
IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO	New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities
IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards	New Zealand Land Transport Rule; Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	New Zealand Workplace Exposure Standards (WES)
International Air Transport Association (IATA) Dangerous Goods Regulations	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft	

XYLENE(1330-20-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

ETHYLBENZENE(100-41-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

NAPHTHA PETROLEUM, LIGHT AROMATIC SOLVENT(64742-95-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

RALI MARINE SHIELD ULTRAPREP

GESAMP/EHS Composite List - GESAMP Hazard Profiles	International Maritime Dangerous Goods Requirements (IMDG Code)
IMO IBC Code Chapter 17: Summary of minimum requirements	New Zealand Inventory of Chemicals (NZIoC)
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk	New Zealand Land Transport Rule; Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities
IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
International Air Transport Association (IATA) Dangerous Goods Regulations	

SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC(64742-94-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations	New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits
International Maritime Dangerous Goods Requirements (IMDG Code)	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
New Zealand Inventory of Chemicals (NZIoC)	

Hazardous Substance Location

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

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

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (naphtha petroleum, light aromatic solvent; xylene; ethylbenzene; naphthalene, molten; solvent naphtha petroleum, heavy aromatic)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (solvent naphtha petroleum, heavy aromatic)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Thailand - TECI	No (naphtha petroleum, light aromatic solvent; solvent naphtha petroleum, heavy aromatic)
Legend:	Yes = All ingredients are on the inventory No = 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

Revision Date	04/04/2019
Initial Date	04/04/2019

Other information**Ingredients with multiple cas numbers**

Name	CAS No
naphtha petroleum, light aromatic solvent	64742-95-6, 25550-14-5
solvent naphtha petroleum, heavy aromatic	64742-94-5, 1189173-42-9

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

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

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