RESENE ARMOURX IF 500 SERIES HARDENER

Resene Paints LTD

Version No: **3.5**
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: **22/09/2023**
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L.GHS.NZL.EN

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

Product Identifier

Product name	RESENE ARMOURX IF 500 SERIES HARDENER
Synonyms	Not Available
Proper shipping name	PAINT RELATED MATERIAL (including paint thinning or reducing compound); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
Other means of identification	Not Available

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

Relevant identified uses	11338

Details of the manufacturer or supplier of the safety data sheet

Registered company name	**Resene Paints LTD**
Address	32-50 Vogel Street Wellington 5011 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 7days)**	**CHEMWATCH EMERGENCY RESPONSE (24/7)**
Emergency telephone numbers	**0800 764766**	**+64 800 700 112**
Other emergency telephone numbers	**Not Available**	**+61 3 9573 3188**

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

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification [1]	Flammable Liquids Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2, Acute Toxicity (Inhalation) Category 4, Hazardous to the Aquatic Environment Long-Term 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 (dermal), 6.1D (inhalation), 6.1D (oral), 6.4A, 6.5B (contact), 9.1C

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

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Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

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

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures
Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017, EPA consolidation 30 April 2021 to be identified:

Mixtures

CAS No	%[weight]	Name
2530-83-8	12	gamma-glycidoxypropyltrimethoxysilane
123-86-4	43.8	n-butyl acetate
141-32-2	0.8	butyl acrylate
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available*	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ 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	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.

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Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. ▸ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5 Firefighting measures

Extinguishing media

▸ Alcohol stable 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

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	▸ Liquid and vapour are highly flammable. Combustion products include: carbon dioxide (CO_2) formaldehyde silicon dioxide (SiO_2) 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	Remove all ignition sources. Contain spill with inert non- combustible absorbent then place in suitable, labelled container for waste disposal. Wipe up. Clean area with large quantity of water to complete clean- up.
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	▸ Containers, even those that have been emptied, may contain explosive vapours. ▸ Avoid unnecessary personal contact, including inhalation. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	▸ Store in original containers in approved flame-proof area.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Packing as supplied by manufacturer.
Storage incompatibility	n-Butyl acetate: ▸ reacts with water on standing to form acetic acid and n-butyl alcohol ▸ reacts violently with strong oxidisers and potassium tert-butoxide ▸ is incompatible with caustics, strong acids and nitrates ▸ dissolves rubber, many plastics, resins and some coatings ▸ Contact with water liberates highly flammable gases Epoxides: ▸ are highly reactive with acids, bases, and oxidising and reducing agents. ▸ Esters react with acids to liberate heat along with alcohols and acids. ▸ Avoid strong acids, bases.

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SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	n-butyl acetate	n-Butyl acetate	150 ppm / 713 mg/m3	950 mg/m3 / 200 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	butyl acrylate	n-Butyl acrylate	2 ppm / 11 mg/m3	22 mg/m3 / 4 ppm	Not Available	(dsen) - Dermal sensitiser

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
gamma-glycidoxypropyltrimethoxysilane	9.3 mg/m3	100 mg/m3	230 mg/m3
n-butyl acetate	Not Available	Not Available	Not Available
butyl acrylate	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
gamma-glycidoxypropyltrimethoxysilane	Not Available	Not Available
n-butyl acetate	1,700 ppm	Not Available
butyl acrylate	Not Available	113 ppm

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
gamma-glycidoxypropyltrimethoxysilane	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

MATERIAL DATA

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

Exposed individuals are **NOT** reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.
For 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 butyl acrylate:
Odour Threshold Value: 0.00029 ppm (detection), 0.0027 ppm (recognition)
The recommended TLV-TWA takes into account the value cited for methyl methacrylate because of a similarity of toxic response by inhalation, skin and eyes.
NOTE D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Individual protection measures, such as personal protective equipment	
Eye and face protection	‣ Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. For esters: ‣ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials. 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	Overalls
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. Recommended filter type: Type A filter (organic vapour).

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SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear colourless liquid with strong acetate odour

Physical state	Liquid	**Relative density (Water = 1)**	0.99-1.01
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 (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	126	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	22	**Taste**	Not Available
Evaporation rate	Not Available BuAC = 1	**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)**	45
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**	448

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
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	Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. Inhalation of vapours may cause drowsiness and dizziness. The main effects of simple aliphatic esters are narcosis and irritation and anaesthesia at higher concentrations.
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	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, puncture wounds or lesions, may produce systemic injury with harmful effects. The material may produce moderate skin irritation; limited evidence or practical experience suggests, that the material either: ▸ 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	Methanol is a mild to moderate eye irritant. Limited evidence or practical experience suggests, 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.
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure.

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	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. There is sufficient evidence to provide a strong presumption that human exposure to the material may result in developmental toxicity, generally on the basis of: - clear results in appropriate animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects. Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body 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. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

RESENE ARMOURX IF 500 SERIES HARDENER	**TOXICITY**	**IRRITATION**
	Not Available	Not Available

gamma-glycidoxypropyltrimethoxysilane	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 4247.9 mg/kg[2]	Not Available
	Inhalation(Rat) LC50: >5.3 mg/l4h[1]	
	Oral (Rat) LD50: 7010 mg/kg[2]	

n-butyl acetate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 3200 mg/kg[2]	Eye (human): 300 mg * [PPG]
	Inhalation(Rat) LC50: 0.74 mg/l4h[2]	Eye (rabbit): 20 mg (open)-SEVERE
	Oral (Rabbit) LD50; 3200 mg/kg[2]	Eye (rabbit): 20 mg/24h - moderate
		Eye: no adverse effect observed (not irritating)[1]
		Skin (rabbit): 500 mg/24h-moderate
		Skin: no adverse effect observed (not irritating)[1]

butyl acrylate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 750 mg/kg[2]	Eye (rabbit) 50 mg - mild
	Inhalation(Rat) LC50: >5.24 mg/l4h[1]	Eye: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: 900 mg/kg[2]	Skin (rabbit) 10 mg/24h open mild
		Skin (rabbit) 500 mg open - mild
		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*

RESENE ARMOURX IF 500 SERIES HARDENER	Exposure to the material may result in a possible risk of irreversible effects.
GAMMA-GLYCIDOXYPROPYLTRIMETHOXYSILANE	For gamma-glycidopropyltrimethoxysilane (GPTMS) GPTMS is subject to rapid hydrolysis, and the observed toxicity is expected to be due primarily to methanol and silanetriols.
N-BUTYL ACETATE	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 a contact dermatitis (nonallergic).
BUTYL ACRYLATE	Where no 'official' classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. for n-butyl acrylate **Acute toxicity:** After oral administration, n-butyl acrylate is rapidly absorbed and metabolized in male rats (75% was eliminated as CO2, approximately 10% via urine and 2% via feces). The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer *de facto* carcinogens.
RESENE ARMOURX IF 500 SERIES HARDENER & BUTYL ACRYLATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. The following information refers to contact allergens as a group and may not be specific to this product.
RESENE ARMOURX IF 500 SERIES HARDENER & N-BUTYL ACETATE	Generally,linear and branched-chain alkyl esters are hydrolysed to their component alcohols and carboxylic acids in the intestinal tract, blood and most tissues throughout the body.
RESENE ARMOURX IF 500 SERIES HARDENER & GAMMA-GLYCIDOXYPROPYLTRIMETHOXYSILANE	For alkoxysilanes: Low molecular weight alkoxysilanes (including alkyl orthosilicates) are a known concern for lung toxicity, due to inhalation of vapours or aerosols causing irreversible lung damage at low doses. Alkoxysilane groups that rapidly hydrolyse when in contact with water, result in metabolites that may only cause mild skin irritation.

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	Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit many common characteristics with respect to animal toxicology. for 1,2-butylene oxide (ethyloxirane): Ethyloxirane increased the incidence of tumours of the respiratory system in male and female rats exposed via inhalation.

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

Legend: ✘ *– Data either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

RESENE ARMOURX IF 500 SERIES HARDENER

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

gamma-glycidoxypropyltrimethoxysilane

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>420mg/l	2
EC50	48h	Crustacea	473mg/l	2
EC50	96h	Algae or other aquatic plants	250mg/l	2
NOEC(ECx)	96h	Fish	1.5mg/l	2
LC50	96h	Fish	4.9mg/l	2

n-butyl acetate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	246mg/l	2
EC50	48h	Crustacea	32mg/l	1
LC50	96h	Fish	17-19mg/l	4
EC50(ECx)	96h	Fish	18mg/l	2

butyl acrylate

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	1.71mg/l	2
EC50	48h	Crustacea	1.3mg/l	2
EC50	96h	Algae or other aquatic plants	2.65mg/l	2
LC50	96h	Fish	1.1mg/l	2
NOEC(ECx)	504h	Crustacea	0.136mg/l	2

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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.
Alkoxysilanes are highly toxic to algae and moderately toxic to aquatic invertebrates.
For gamma-glycidopropyltrimethoxysilane (GPTMS)
Environmental fate;
The melting point of GPTMS is < -70 C, the boiling point is 290 C at 1013 hPa, and the vapor pressure is 0.003 hPa at 20 C. Because GPTMS is hydrolytically unstable, the water solubility was not measured.
Significant environmental findings are limited.
For 1,2-Butylene oxide (Ethyloxirane):
log Kow values of 0.68 and 0.86.
For n-Butyl Acetate:
Koc: ~200;
log Kow: 1.78;
Half-life (hr) air: 144;
Half-life (hr) H2O surface water: 178 - 27156;
Henry's atm: m3 /mol: 3.20E-04
BOD 5 if unstated: 0.15-1.02,7%;
COD: 78%;
ThOD: 2.207;
BCF : 4-14.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
gamma-	HIGH	HIGH

Continued...

Ingredient	Persistence: Water/Soil	Persistence: Air
glycidoxypropyltrimethoxysilane		
n-butyl acetate	LOW	LOW
butyl acrylate	LOW (Half-life = 14 days)	LOW (Half-life = 0.96 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
gamma-glycidoxypropyltrimethoxysilane	LOW (LogKOW = -0.9152)
n-butyl acetate	LOW (BCF = 14)
butyl acrylate	LOW (LogKOW = 2.36)

Mobility in soil

Ingredient	Mobility
gamma-glycidoxypropyltrimethoxysilane	LOW (KOC = 90.22)
n-butyl acetate	LOW (KOC = 20.86)
butyl acrylate	LOW (KOC = 40.3)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ 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.

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.
Do not allow product or wash water from cleaning or process equipment to enter drains or watercourses. It may be necessary to collect all wash water for treatment before disposal.
The generation of waste should be avoided or minimised wherever possible.
Disposal of this product should comply with Hazard Substances (Disposal) Notice 2017 (EPA Consolidation 30 April 2021) and local regulations.
Flammable substance can be disposed of if the substance is treated by using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance, or exporting the substance from New Zealand as waste.

For treating and discharging processes contact your local authority.

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

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

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO
HAZCHEM	•3YE

Land transport (UN)

14.1. **UN number or ID number**	1263
14.2. **UN proper shipping name**	PAINT RELATED MATERIAL (including paint thinning or reducing compound); PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3. **Transport hazard class(es)**	Class: 3 Subsidiary risk: Not Applicable
14.4. **Packing group**	II
14.5. **Environmental hazard**	Not Applicable

Continued...

14.6. **Special precautions for user**	Special provisions: 163; 367 Limited quantity: 5 L

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1263
14.2. **UN proper shipping name**	Paint related material (including paint thinning or reducing compounds); Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 3 ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: 3L
14.4. **Packing group**	II
14.5. **Environmental hazard**	Not Applicable
14.6. **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)

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

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

Not Applicable

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

Product name	Group
gamma-glycidoxypropyltrimethoxysilane	Not Available
n-butyl acetate	Not Available
butyl acrylate	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
gamma-glycidoxypropyltrimethoxysilane	Not Available
n-butyl acetate	Not Available
butyl acrylate	Not Available

SECTION 15 Regulatory information

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

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

HSR Number	Group Standard
HSR002662	Surface Coatings and Colourants Flammable Group Standard 2020

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

gamma-glycidoxypropyltrimethoxysilane is found on the following regulatory lists

Continued...

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

n-butyl acetate is found on the following regulatory lists

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

butyl acrylate is found on the following regulatory lists

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

Hazardous Substance Location

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

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
3.1B	100 L in containers more than 5 L	50 L
3.1B	250 L in containers up to and including 5 L	50 L

Certified Handler

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

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
6.5A or 6.5B	120	1	3	
3.1B				1 L

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
New Zealand - NZIoC	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	22/09/2023
Initial Date	25/03/2018

SDS Version Summary

Version	Date of Update	Sections Updated
2.5	21/09/2023	Hazards identification - Classification, Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard

Continued...

OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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end of SDS