

RESENE QRISTAL CLEARFLOOR 2K SATIN HARDENER

Resene Paints Ltd

Version No: 2.4
Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 3

Issue Date: 28/09/2015
Print Date: 28/09/2015
Initial Date: 15/01/2015
L.GHS.NZL.EN

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

Product Identifier

Product name	RESENE QRISTAL CLEARFLOOR 2K SATIN HARDENER
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	8109
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Details of the supplier of the safety data sheet

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

Emergency telephone number

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

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

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


SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.

GHS Classification [1]	Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Respiratory Sensitizer Category 1, Chronic Aquatic Hazard Category 3, Serious Eye Damage Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.5B (contact), 9.1C, 8.3A, 6.3A, 6.5A (respiratory)

Label elements

GHS label elements	
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SIGNAL WORD **DANGER**

Continued...

RESENE QRISTAL CLEARFLOOR 2K SATIN HARDENER

Hazard statement(s)

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H412	Harmful to aquatic life with long lasting effects
H318	Causes serious eye damage

Precautionary statement(s) Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
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Precautionary statement(s) Response

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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Precautionary statement(s) Storage

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

Mixtures

CAS No	%[weight]	Name
53880-05-0	2-6	<u>isophorone diisocyanate homopolymer</u>
28182-81-2	2-6	<u>hexamethylene diisocyanate polymer</u>

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

SECTION 4 FIRST AID MEASURES

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

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with 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. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p>
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

For sub-chronic and chronic exposures to isocyanates:

- ▶ This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- ▶ Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- ▶ Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- ▶ Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- ▶ Some cross-sensitivity occurs between different isocyanates.
- ▶ Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- ▶ Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- ▶ Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- ▶ Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- ▶ There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV₁, may not represent sensitivity.

[Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

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Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ 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.

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 | ▶ Combustible. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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|---------------------|--|
| Minor Spills | ▶ Remove all ignition sources. |
| Major Spills | Chemical Class: cyanates and isocyanates
For release onto land: recommended sorbents listed in order of priority. |

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

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|--------------------------|--|
| Safe handling | ▶ DO NOT allow clothing wet with material to stay in contact with skin
▶ Avoid all personal contact, including inhalation. |
| Other information | for commercial quantities of isocyanates:
▶ Isocyanates should be stored in adequately bunded areas. |

Conditions for safe storage, including any incompatibilities

- | | |
|--------------------------------|--|
| Suitable container | ▶ Metal can or drum
▶ Packaging as recommended by manufacturer. |
| Storage incompatibility | ▶ Avoid reaction with water, alcohols and detergent solutions. |

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)	isophorone diisocyanate homopolymer	Isocyanates, all, (as -NCO)	0.02 mg/m3	0.07 mg/m3	Not Available	Sensitiser; 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 polymer	Isocyanates, all, (as -NCO)	0.02 mg/m3	0.07 mg/m3	Not Available	Sensitiser; These values apply to all isocyanates, including prepolymers, present in the workplace air as vapours, mist or dust.

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
isophorone diisocyanate homopolymer	Isocyanate-bearing waste (as CNs N.O.S.)	8.3 mg/m3	8.3 mg/m3	50 mg/m3
hexamethylene diisocyanate polymer	Hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3

Ingredient	Original IDLH	Revised IDLH
isophorone diisocyanate homopolymer	Not Available	Not Available
hexamethylene diisocyanate polymer	Not Available	Not Available

MATERIAL DATA


Continued...

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for isocyanates:

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

Exposure controls

Appropriate engineering controls	▶ All processes in which isocyanates are used should be enclosed wherever possible.
Personal protection	
Eye and face protection	▶ Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	NOTE: ▶ The material may produce skin sensitisation in predisposed individuals.
Body protection	See Other protection below
Other protection	All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health.
Thermal hazards	Not Available

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:

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Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NATURAL RUBBER	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
TEFLON	C
VITON/BUTYL	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 AK 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	AK-AUS / Class 1	-	AK-PAPR-AUS / Class 1
up to 25 x ES	Air-line*	AK-2	AK-PAPR-2
up to 50 x ES	-	AK-3	-
50+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand

^ - 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	Yellowish almost odourless liquid		
Physical state	Liquid	Relative density (Water = 1)	1.14
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

Continued...

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Initial boiling point and boiling range (°C)	>200	Molecular weight (g/mol)	Not Available
Flash point (°C)	167	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	9.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	0.9	Volatile Component (%vol)	2
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	>1	VOC g/L	20

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► Unstable in the presence of incompatible materials.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion".
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis.
Eye	When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
Chronic	Practical evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a substantial number of individuals at a greater frequency than would be expected from the response of a normal population.




RESENE QRISTAL CLEARFLOOR 2K SATIN HARDENER	TOXICITY	IRRITATION
	Not Available	Not Available
isophorone diisocyanate homopolymer	TOXICITY	IRRITATION
	Not Available	Not Available
hexamethylene diisocyanate polymer	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[2]	Skin (rabbit): 500 mg - moderate
	Inhalation (rat) LC50: 18.5 mg/L/1he ^[2]	
	Oral (rat) LD50: >10000 mg/kg ^[2]	
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	

HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS
RESENE QRISTAL CLEARFLOOR 2K SATIN HARDENER & ISOPHORONE DIISOCYANATE HOMOPOLYMER & HEXAMETHYLENE DIISOCYANATE POLYMER	The following information refers to contact allergens as a group and may not be specific to this product.

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

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Mutagenicity Aspiration Hazard 

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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
isophorone diisocyanate homopolymer	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
hexamethylene diisocyanate polymer	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

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

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
isophorone diisocyanate homopolymer	HIGH	HIGH
hexamethylene diisocyanate polymer	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
isophorone diisocyanate homopolymer	MEDIUM (LogKOW = 4.2608)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)

Mobility in soil

Ingredient	Mobility
isophorone diisocyanate homopolymer	LOW (KOC = 19770)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)

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

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (Not Applicable): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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
HSR002670	Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2006

ISOPHORONE DIISOCYANATE HOMOPOLYMER(53880-05-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...

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New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

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 Workplace Exposure Standards (WES)

New Zealand Inventory of Chemicals (NZIoC)

Location Test Certificate

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

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
Not Applicable	Not Applicable	Not Applicable

Approved Handler

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

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

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

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

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

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

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