



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Marine Adhesive Sealant Fast Cure 5200, White; PN 06520 , 05220, 06534, 06535

#### Product Identification Numbers

60-9800-4557-3      60-9800-4558-1

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Adhesive Sealant, Sealant.

For Industrial or Professional use only

#### 1.3. Supplier's details

**Address:** 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland  
**Telephone:** (09) 477 4040  
**E Mail:** innovation@nz.mmm.com  
**Website:** 3m.co.nz

#### 1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

### SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

#### 2.1. Classification of the substance or mixture

Respiratory Sensitiser: Category 1

Skin Sensitiser: Category 1

Specific Target Organ Toxicity (repeated exposure): Category 2

Chronic Aquatic Toxicity: Category 2

#### 2.2. Label elements

**SIGNAL WORD**

Danger

**Symbols:**

Health Hazard | Environment |

**Pictograms**



**HAZARD STATEMENTS:**

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.
H411	Toxic to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS**

**General**

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

**Prevention**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280E	Wear protective gloves.
P284	Wear respiratory protection.

**Response**

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P314	Get medical advice/attention if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

**Disposal**

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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**2.3. Other hazards**

Although titanium dioxide is classified as a carcinogen, exposures associated with this health effect are not expected during normal, intended use of this product. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

**SECTION 3: Composition/information on ingredients**

Ingredient	CAS Nbr	% by Weight
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Urethane Polymer	51447-37-1	40 - 70
Titanium dioxide	13463-67-7	10 - 30
Fumed silica	112945-52-5	1 - 5
p,p'-Methylenebis(Phenyl Isocyanate)	101-68-8	< 2.4
Zinc oxide	1314-13-2	< 2.3
Alkyl Isocyanate Silane	85702-90-5	< 2
Aluminium hydroxide	21645-51-2	< 2
2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	< 2.0
Fumed silica	7631-86-9	0.5 - 1.5
Heptane	142-82-5	< 0.3
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	< 0.2

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

#### Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

#### Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

#### If swallowed

Rinse mouth. If you feel unwell, get medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

The most important symptoms and effects based on the CLP classification include:

### 4.3. Indication of any immediate medical attention and special treatment required

Not applicable

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

### Hazardous Decomposition or By-Products

#### Substance

Isocyanates  
Carbon monoxide.  
Carbon dioxide.  
Hydrogen cyanide.  
Oxides of nitrogen.  
Oxides of sulphur.  
Toxic vapour, gas, particulate.

#### Condition

During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.

**5.3. Special protective actions for fire-fighters**

No special protective actions for fire-fighters are anticipated.

**5.4. Hazchem code:** 2Z

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**

Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

**SECTION 7: Handling and storage**

Refer to Section 15 - Controls for more information

**7.1. Precautions for safe handling**

Keep out of reach of children. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage including any incompatibilities**

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from amines.

**7.3. Certified handler**

Not required

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
Free isocyanates	101-68-8	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m <sup>3</sup> ;STEL(as NCO)(15	Capable of csng resp/skin sens, Dermal

			minutes):0.07 mg/m3	sensitiser, Respiratory sensitiser
p,p'-Methylenebis(Phenyl Isocyanate)	101-68-8	ACGIH	TWA:0.005 ppm	
Zinc oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m3;STEL(respirable fraction):10 mg/m3	
Zinc oxide	1314-13-2	New Zealand WES	TWA(respirable)(8 hours):0.1 mg/m3;TWA(8 hours):2 mg/m3;STEL(respirable)(15 minutes):0.5 mg/m3;STEL(15 minutes):5 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m <sup>3</sup>	A4: Not class. as human carcinogen
Titanium dioxide	13463-67-7	New Zealand WES	TWA(8 hours):10 mg/m3	
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Heptane	142-82-5	New Zealand WES	TWA(8 hours):1640 mg/m3(400 ppm);STEL(15 minutes):2050 mg/m3(500 ppm)	
Aluminum, insoluble compounds	21645-51-2	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcinogen
Dust, inert or nuisance	21645-51-2	New Zealand WES	TWA(as respirable dust)(8 hours):3 mg/m3;TWA(as inhalable dust)(8 hours):10 mg/m3	
Dust, inert or nuisance	7631-86-9	New Zealand WES	TWA(as respirable dust)(8 hours):3 mg/m3;TWA(as inhalable dust)(8 hours):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

New Zealand WES : New Zealand Workplace Exposure Standards.

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m<sup>3</sup>: milligrams per cubic metre

CEIL: Ceiling

## 8.2. Exposure controls

### 8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

### 8.2.2. Personal protective equipment (PPE)

#### Eye/face protection

None required.

#### Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

### Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Specific Physical Form:</b>	Paste
<b>Colour</b>	White
<b>Odour</b>	Slight Urethane
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	<i>Not applicable.</i>
<b>Flash point</b>	No flash point
<b>Evaporation rate</b>	<i>No data available.</i>
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	<i>No data available.</i>
<b>Vapor Density and/or Relative Vapor Density</b>	<i>No data available.</i>
<b>Density</b>	1.3 g/ml
<b>Relative density</b>	1.3 [Ref Std: WATER=1]
<b>Water solubility</b>	Nil
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	100,000 - 500,000 mPa-s
<b>Volatile organic compounds (VOC)</b>	38 g/l [Test Method: tested per EPA method 24] [Details: EU VOC content]
<b>Percent volatile</b>	2.83 % weight
<b>VOC less H<sub>2</sub>O &amp; exempt solvents</b>	38 g/l [Test Method: tested per EPA method 24]
<b>Molecular weight</b>	<i>No data available.</i>

### Nanoparticles

This material contains nanoparticles.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

None known.

### 10.5 Incompatible materials

Amines.

Alcohols.

Water

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1 Information on Toxicological effects

#### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

#### Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

#### Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

#### Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

**Additional Health Effects:****Prolonged or repeated exposure may cause target organ effects:**

Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

**Additional information:**

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

**Toxicological Data**

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Urethane Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Urethane Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Fumed silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Fumed silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Fumed silica	Ingestion	Rat	LD50 > 5,110 mg/kg
p,p'-Methylenebis(Phenyl Isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
p,p'-Methylenebis(Phenyl Isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
p,p'-Methylenebis(Phenyl Isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
Zinc oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Zinc oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
2-(2-Ethoxyethoxy)ethyl acetate	Dermal	Rabbit	LD50 15,000 mg/kg
2-(2-Ethoxyethoxy)ethyl acetate	Ingestion	Rat	LD50 11,000 mg/kg
Fumed silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Fumed silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Fumed silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Aluminium hydroxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium hydroxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Heptane	Dermal	Rabbit	LD50 3,000 mg/kg
Heptane	Inhalation-Vapor (4 hours)	Rat	LC50 103 mg/l
Heptane	Ingestion	Rat	LD50 > 15,000 mg/kg
(Gamma-mercaptopropyl)trimethoxysilane	Dermal	Rabbit	LD50 2,270 mg/kg
(Gamma-mercaptopropyl)trimethoxysilane	Ingestion	Rat	LD50 770 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
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Titanium dioxide	Rabbit	No significant irritation
Fumed silica	Rabbit	No significant irritation
p,p'-Methylenebis(Phenyl Isocyanate)	official classification	Irritant
Zinc oxide	Human and animal	No significant irritation
2-(2-Ethoxyethoxy)ethyl acetate	Human and animal	Minimal irritation
Fumed silica	Rabbit	No significant irritation
Aluminium hydroxide	Rabbit	No significant irritation
Heptane	Human	Mild irritant
(Gamma-mercaptopropyl)trimethoxysilane	Rabbit	No significant irritation

### Serious Eye Damage/Irritation

Name	Species	Value
Titanium dioxide	Rabbit	No significant irritation
Fumed silica	Rabbit	No significant irritation
p,p'-Methylenebis(Phenyl Isocyanate)	official classification	Severe irritant
Zinc oxide	Rabbit	Mild irritant
2-(2-Ethoxyethoxy)ethyl acetate	Rabbit	Severe irritant
Fumed silica	Rabbit	No significant irritation
Aluminium hydroxide	Rabbit	No significant irritation
Heptane	Professional judgement	Moderate irritant
(Gamma-mercaptopropyl)trimethoxysilane	Rabbit	No significant irritation

### Sensitisation:

#### Skin Sensitisation

Name	Species	Value
Titanium dioxide	Human and animal	Not classified
Fumed silica	Human and animal	Not classified
p,p'-Methylenebis(Phenyl Isocyanate)	official classification	Sensitising
Zinc oxide	Guinea pig	Not classified
2-(2-Ethoxyethoxy)ethyl acetate	Human and animal	Not classified
Fumed silica	Human and animal	Not classified
Aluminium hydroxide	Guinea pig	Not classified
(Gamma-mercaptopropyl)trimethoxysilane	Guinea pig	Sensitising

#### Respiratory Sensitisation

Name	Species	Value
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p,p'-Methylenebis(Phenyl Isocyanate)	Human	Sensitising

### Germ Cell Mutagenicity

Name	Route	Value
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Fumed silica	In Vitro	Not mutagenic
p,p'-Methylenebis(Phenyl Isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
2-(2-Ethoxyethoxy)ethyl acetate	In Vitro	Not mutagenic
Fumed silica	In Vitro	Not mutagenic
Heptane	In Vitro	Not mutagenic
(Gamma-mercaptopropyl)trimethoxysilane	In Vitro	Not mutagenic

### Carcinogenicity

Name	Route	Species	Value
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Fumed silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
p,p'-Methylenebis(Phenyl Isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Fumed silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Aluminium hydroxide	Not specified.	Multiple animal species	Not carcinogenic

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Fumed silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Fumed silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Fumed silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
p,p'-Methylenebis(Phenyl Isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
Fumed silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Fumed silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Fumed silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Aluminium hydroxide	Ingestion	Not classified for development	Rat	NOAEL 768 mg/kg/day	during organogenesis

### Target Organ(s)

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
p,p'-Methylenebis(Phenyl Isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
2-(2-Ethoxyethoxy)ethyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	not applicable
2-(2-Ethoxyethoxy)ethyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not applicable
Heptane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Heptane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Heptane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Fumed silica	Inhalation	respiratory system   silicosis	Not classified	Human	NOAEL Not available	occupational exposure
p,p'-Methylenebis(Phenyl Isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Zinc oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc oxide	Ingestion	endocrine system   hematopoietic system   kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
2-(2-Ethoxyethoxy)ethyl acetate	Inhalation	respiratory system   liver   immune system   kidney and/or bladder	Not classified	Rat	NOAEL 0.48 mg/l	2 weeks
Fumed silica	Inhalation	respiratory system   silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Heptane	Inhalation	liver   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/l	26 weeks

**Aspiration Hazard**

Name	Value
Heptane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**SECTION 12: Ecological information**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

**12.1. Toxicity****Ecotoxic to the aquatic environment.**

Acute Aquatic Toxicity: Category 2 (HSNO 9.1D Aquatic toxicity)

Chronic Aquatic Toxicity: Category 2 (HSNO 9.1B Aquatic toxicity)

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Urethane Polymer	51447-37-1		Data not available or insufficient for classification			N/A
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Fumed silica	112945-52-5	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Fumed silica	112945-52-5	Water flea	Experimental	24 hours	EC50	>100 mg/l
Fumed silica	112945-52-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Fumed silica	112945-52-5	Green Algae	Experimental	72 hours	NOEC	60 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
p,p'-Methylenebis(P henyl Isocyanate)	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
Zinc oxide	1314-13-2	Activated sludge	Estimated	3 hours	EC50	6.5 mg/l
Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	EC50	0.052 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l

Zinc oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	NOEC	0.006 mg/l
Zinc oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l
Alkyl Isocyanate Silane	85702-90-5		Data not available or insufficient for classification			N/A
Aluminium hydroxide	21645-51-2	Fish other	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	Fathead minnow	Experimental	96 hours	LC50	110 mg/l
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	Green algae	Experimental	72 hours	EC50	>100 mg/l
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	Green algae	Experimental	72 hours	NOEC	100 mg/l
Fumed silica	7631-86-9		Data not available or insufficient for classification			N/A
Heptane	142-82-5	Water flea	Experimental	48 hours	EC50	1.5 mg/l
Heptane	142-82-5	Water flea	Estimated	21 days	NOEC	0.17 mg/l
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Green algae	Experimental	72 hours	EC50	267 mg/l
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Water flea	Experimental	48 hours	EC50	6.7 mg/l
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Zebra Fish	Experimental	96 hours	LC50	439 mg/l

## 12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	51447-37-1	Data not availbl-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not availbl-			N/A	

		insufficient				
Fumed silica	112945-52-5	Data not available or insufficient			N/A	
p,p'-Methylenebis(Phenyl Isocyanate)	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	Non-standard method
Zinc oxide	1314-13-2	Data not available or insufficient			N/A	
Alkyl Isocyanate Silane	85702-90-5	Data not available or insufficient			N/A	
Aluminium hydroxide	21645-51-2	Data not available or insufficient			N/A	
2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	Experimental Biodegradation	28 days	BOD	100 % BOD/ThBOD	OECD 301C - MITI test (I)
Fumed silica	7631-86-9	Data not available or insufficient			N/A	
Heptane	142-82-5	Experimental Photolysis		Photolytic half-life (in air)	4.24 days (t 1/2)	Non-standard method
Heptane	142-82-5	Experimental Biodegradation	28 days	BOD	101 % BOD/ThBOD	OECD 301C - MITI test (I)
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Estimated Hydrolysis		Hydrolytic half-life	53.3 minutes (t 1/2)	Non-standard method

### 12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	51447-37-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Non-standard method
Fumed silica	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
p,p'-Methylenebis(Phenyl Isocyanate)	101-68-8	Experimental BCF-Carp	28 days	Bioaccumulation factor	200	OECD 305E - Bioaccumulation flow-through fish test
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
Alkyl Isocyanate Silane	85702-90-5	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
Aluminium hydroxide	21645-51-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	Experimental Bioconcentration		Log Kow	0.74	Non-standard method
Fumed silica	7631-86-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Heptane	142-82-5	Estimated Bioconcentration		Bioaccumulation factor	105	Estimated: Bioconcentration factor
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Estimated Bioconcentration		Log Kow	0.25	Estimated: Octanol-water partition coefficient

#### 12.4. Mobility in soil

Please contact manufacturer for more details

#### 12.5 Other adverse effects

Material	CAS Number	Ozone Depletion Potential	Cure activator
(gamma-mercaptopropyl)trimethoxysilane	4420-74-0	0	

## SECTION 13: Disposal considerations

#### 13.1. Disposal methods

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

## SECTION 14: Transport Information

#### New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport

UN No.: UN3077

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ( ZINC OXIDE, (GAMMA-MERCAPTOPROPYL)TRIMETHOXSILANE )

**Class/Division:** 9

**Sub Risk:** Not applicable.

**Packing Group:** III

**Special Instructions:**Not restricted, environmentally hazardous substance exception.

**Hazchem Code:** 2Z

**IERG:** 47

#### **International Air Transport Association (IATA) - Air Transport**

**UN No.:** UN3077

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ( ZINC OXIDE, (GAMMA-MERCAPTOPROPYL)TRIMETHOXY SILANE )

**Class/Division:** 9

**Sub Risk:** Not applicable.

**Packing Group:** III

**Special Instructions:**Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

#### **International Maritime Dangerous Goods Code (IMDG) - Marine Transport**

**UN No.:** UN3077

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ( ZINC OXIDE, (GAMMA-MERCAPTOPROPYL)TRIMETHOXY SILANE )

**Class/Division:** 9

**Sub Risk:** Not applicable.

**Packing Group:** III

**Marine Pollutant:** Zinc Oxide, (Gamma-mercaptopropyl)trimethoxysilane

**Special Instructions:**Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

## **SECTION 15: Regulatory information**

HSNO Approval number	HSR002670
Group standard name	Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020
HSNO Hazard classification	Refer to Section 2: Hazard identification

#### **NZ Inventory of Chemicals (NZIoC) Status**

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

#### **Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017**

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 substances)
Secondary containment	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 substances)



Tracking  
Warning signage

Not required  
100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Serious eye damage Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Acute toxicity Category 4 or Hazardous to the aquatic environment Category 4 substances)

## SECTION 16: Other information

### Revision information:

Complete document review.

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### Key to abbreviations and acronyms

**GHS** refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017

**HSNO** means Hazardous Substances and New Organisms Act 1996

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