



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 5200 Black PN 06504, PN 05205

Product Identification Numbers

60-9801-0935-3

1.2. Recommended use and restrictions on use

Recommended use

Adhesive Sealant for Marine Applications, Marine

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

Acute Toxicity (inhalation): Category 4

Respiratory Sensitizer: Category 1A.

Skin Sensitizer: Category 1A.

Carcinogenicity: Category 1

2.2. Label elements

SIGNAL WORD

Danger

Symbols:

Exclamation mark |Health Hazard |

Pictograms



HAZARD STATEMENTS:

H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H350	May cause cancer.

PRECAUTIONARY STATEMENTS

General

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

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTRE or doctor/physician 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.

Storage

P405	Store locked up.
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Disposal

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

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	68611-34-7	40 - 70
Limestone	1317-65-3	10 - 30
Carbon black	1333-86-4	5 - 10
2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	1 - 5
Fumed silica	112945-52-5	1 - 5
Alkyl Isocyanate Silane	85702-90-5	0.5 - 1.5
m-tolylidene diisocyanate	26471-62-5	< 1
Heptane	142-82-5	< 0.3
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	< 0.2
Hexamethylene Diisocyanate	822-06-0	< 0.017

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

DO NOT USE WATER 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.
Irritant vapours or gases.
Oxides of nitrogen.

Condition

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: Not applicable.

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 handle until all safety precautions have been read and understood. 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. Use personal protective equipment (eg. gloves, respirators...) as required.

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 heat. 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.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Limestone	1317-65-3	New Zealand WES	TWA(8 hours):10 ppm	
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3	A3: Confirmed animal

Carbon black	1333-86-4	New Zealand WES	mg/m ³ TWA(8 hours): 3 mg/m ³	carcinogen. Class-subclass 6.7, carc HCB
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Heptane	142-82-5	New Zealand WES	TWA(8 hours):1640 mg/m ³ (400 ppm);STEL(15 minutes):2050 mg/m ³ (500 ppm)	
Free isocyanates	26471-62-5	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser
m-tolyldiene diisocyanate	26471-62-5	ACGIH	TWA(inhalable fraction and vapor):0.001 ppm;STEL(inhalable fraction and vapor):0.005 ppm	A3: Confirmed animal carcinogen Dermal/Respiratory Sensitiser
Free isocyanates	68611-34-7	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens
Free isocyanates	822-06-0	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser
Hexamethylene Diisocyanate	822-06-0	ACGIH	TWA:0.005 ppm	

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/m³: 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

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

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

Half facepiece or full facepiece supplied-air respirator.

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

Physical state	Liquid.
Specific Physical Form:	Paste
Colour	Black
Odour	Urethane
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	<i>Not applicable.</i>
Flash point	No flash point
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>No data available.</i>
Vapor Density and/or Relative Vapor Density	<i>No data available.</i>
Density	1.3 g/cm ³
Relative density	1.3 [Ref Std: WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	100,000 - 500,000 mPa-s
Volatile organic compounds (VOC)	2.9 % weight [Test Method: tested per EPA method 24]
Percent volatile	
VOC less H₂O & exempt solvents	40 g/l [Test Method: tested per EPA method 24]
Molecular weight	<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

Heat.

10.5 Incompatible materials

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

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

Harmful if inhaled. 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.

Skin contact

Contact with the skin during product use is not expected to result in significant irritation. 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:**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

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 ATE10 - 20 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Limestone	Dermal	Rat	LD50 > 2,000 mg/kg
Limestone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Limestone	Ingestion	Rat	LD50 6,450 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 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
2-(2-Ethoxyethoxy)ethyl acetate	Dermal	Rabbit	LD50 15,000 mg/kg
2-(2-Ethoxyethoxy)ethyl acetate	Ingestion	Rat	LD50 11,000 mg/kg
m-tolylidene diisocyanate	Inhalation-Vapor (4 hours)	Mouse	LC50 0.12 mg/l
m-tolylidene diisocyanate	Dermal	Rabbit	LD50 > 9,400 mg/kg
m-tolylidene diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.35 mg/l
m-tolylidene diisocyanate	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
Hexamethylene Diisocyanate	Dermal	Rat	LD50 > 7,000 mg/kg
Hexamethylene Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.124 mg/l
Hexamethylene Diisocyanate	Inhalation-Vapor (4 hours)	Rat	LC50 0.124 mg/l
Hexamethylene Diisocyanate	Ingestion	Rat	LD50 710 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
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Limestone	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Fumed silica	Rabbit	No significant irritation
2-(2-Ethoxyethoxy)ethyl acetate	Human and animal	Minimal irritation
m-tolylidene diisocyanate	Rabbit	Irritant
Heptane	Human	Mild irritant
(Gamma-mercaptopropyl)trimethoxysilane	Rabbit	No significant irritation
Hexamethylene Diisocyanate	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Limestone	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Fumed silica	Rabbit	No significant irritation
2-(2-Ethoxyethoxy)ethyl acetate	Rabbit	Severe irritant
m-tolylidene diisocyanate	Rabbit	Corrosive
Heptane	Professional judgement	Moderate irritant
(Gamma-mercaptopropyl)trimethoxysilane	Rabbit	No significant irritation
Hexamethylene Diisocyanate	Rabbit	Corrosive

Sensitisation:

Skin Sensitisation

Name	Species	Value
Fumed silica	Human and animal	Not classified
2-(2-Ethoxyethoxy)ethyl acetate	Human and animal	Not classified
m-tolylidene diisocyanate	Human and animal	Sensitising
(Gamma-mercaptopropyl)trimethoxysilane	Guinea pig	Sensitising
Hexamethylene Diisocyanate	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
m-tolylidene diisocyanate	Human	Sensitising
Hexamethylene Diisocyanate	Human and animal	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Fumed silica	In Vitro	Not mutagenic

2-(2-Ethoxyethoxy)ethyl acetate	In Vitro	Not mutagenic
m-tolylidene diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Heptane	In Vitro	Not mutagenic
(Gamma-mercaptopropyl)trimethoxysilane	In Vitro	Not mutagenic
Hexamethylene Diisocyanate	In Vitro	Not mutagenic
Hexamethylene Diisocyanate	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Fumed silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
m-tolylidene diisocyanate	Inhalation	Human and animal	Not carcinogenic
m-tolylidene diisocyanate	Ingestion	Multiple animal species	Carcinogenic.
Hexamethylene Diisocyanate	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Limestone	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	prematuring & 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
m-tolylidene diisocyanate	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.002 mg/l	2 generation
m-tolylidene diisocyanate	Inhalation	Not classified for male reproduction	Rat	NOAEL 0.002 mg/l	2 generation
m-tolylidene diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Hexamethylene Diisocyanate	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Not classified for male reproduction	Rat	NOAEL 0.014 mg/l	4 weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Limestone	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
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
m-tolylidene diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not	occupational

					available	exposure
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	
Hexamethylene Diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Hexamethylene Diisocyanate	Inhalation	blood	Not classified	Human	NOAEL Not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Limestone	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Fumed silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
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
m-tolylidene diisocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL 0 mg/l	occupational exposure
Heptane	Inhalation	liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/l	26 weeks
Hexamethylene Diisocyanate	Inhalation	liver kidney and/or bladder	Not classified	Rat	NOAEL 0.002 mg/l	3 weeks
Hexamethylene Diisocyanate	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.0014 mg/l	4 weeks
Hexamethylene Diisocyanate	Inhalation	blood	Not classified	Rat	NOAEL 0.0012 mg/l	2 years
Hexamethylene Diisocyanate	Inhalation	nervous system	Not classified	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	heart	Not classified	Rat	NOAEL 0.001 mg/l	90 days

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

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Urethane Polymer	68611-34-7		Data not available or insufficient for classification			N/A
Limestone	1317-65-3	Green algae	Estimated	72 hours	EC50	>100 mg/l
Limestone	1317-65-3	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Limestone	1317-65-3	Water flea	Estimated	48 hours	EC50	>100 mg/l
Limestone	1317-65-3	Green algae	Estimated	72 hours	EC10	>100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	EC50	>=100 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			N/A
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	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
Alkyl Isocyanate Silane	85702-90-5		Data not available or insufficient for classification			N/A
m-tolylidene diisocyanate	26471-62-5	Green Algae	Estimated	96 hours	EC50	9.54 mg/l
m-tolylidene diisocyanate	26471-62-5	Water flea	Estimated	48 hours	EC50	1.6 mg/l
m-tolylidene diisocyanate	26471-62-5	Zebra Fish	Estimated	96 hours	LC50	392 mg/l
m-tolylidene diisocyanate	26471-62-5	Crustacea other	Estimated	14 days	NOEC	0.8 mg/l
m-tolylidene diisocyanate	26471-62-5	Medaka	Estimated	28 days	NOEC	40.3 mg/l
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

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(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Zebra Fish	Experimental	96 hours	LC50	439 mg/l
Hexamethylene Diisocyanate	822-06-0	Green Algae	Estimated	96 hours	EC50	14.8 mg/l
Hexamethylene Diisocyanate	822-06-0	Medaka	Estimated	96 hours	LC50	71 mg/l
Hexamethylene Diisocyanate	822-06-0	Water flea	Estimated	48 hours	EC50	27 mg/l
Hexamethylene Diisocyanate	822-06-0	Activated sludge	Experimental	3 hours	EC50	842 mg/l
Hexamethylene Diisocyanate	822-06-0	Green Algae	Estimated	72 hours	NOEC	10 mg/l
Hexamethylene Diisocyanate	822-06-0	Water flea	Estimated	21 days	NOEC	4.2 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	68611-34-7	Data not available - insufficient			N/A	
Limestone	1317-65-3	Data not available - insufficient			N/A	
Carbon black	1333-86-4	Data not available - 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	112945-52-5	Data not available - insufficient			N/A	
Alkyl Isocyanate Silane	85702-90-5	Data not available - insufficient			N/A	
m-tolylidene diisocyanate	26471-62-5	Experimental Photolysis		Photolytic half-life (in air)	4.27 days (t 1/2)	Non-standard method
m-tolylidene diisocyanate	26471-62-5	Estimated Hydrolysis		Hydrolytic half-life	5 days (t 1/2)	Non-standard method
m-tolylidene diisocyanate	26471-62-5	Estimated Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
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
Hexamethylene	822-06-0	Experimental		Hydrolytic	5 minutes (t	Non-standard method

Diisocyanate		Hydrolysis		half-life	1/2)	
Hexamethylene Diisocyanate	822-06-0	Estimated Biodegradation	28 days	BOD	82 % BOD/ThBOD	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	68611-34-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Limestone	1317-65-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	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	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Alkyl Isocyanate Silane	85702-90-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
m-tolyldiene diisocyanate	26471-62-5	Estimated BCF-Carp	42 days	Bioaccumulation factor	<50	OECD 305C-Bioaccum degree fish
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
Hexamethylene Diisocyanate	822-06-0	Estimated Bioconcentration		Log Kow	0.02	Non-standard method

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)trimethoxy silane	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 waste product in a permitted industrial waste facility. As a disposal alternative, incinerate 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.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Hazchem Code: Not applicable.

IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number	HSR002679
Group standard name	Surface Coatings and Colourants (Carcinogenic) 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 all other 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 all other substances)
Tracking	Not required
Warning signage	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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