Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

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 Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets 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 1B.

2.2. Label elements

The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

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:

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 CENTRE or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage:

P405	Store locked up.

Disposal:

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

2.3. Other assigned/identified product hazards
Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

2.4. Other hazards which do not result in classification
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
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 Diisocynate	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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching).

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	Condition
Isocyanates	During combustion.

Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Irritant vapours or gases.	During combustion.
Oxides of nitrogen.	During combustion.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

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

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.

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
Silicon dioxide	112945-52-5	Australia OELs	TWA(respirable fraction)(8 hours):2 mg/m3	

Limestone	1317-65-3	Australia OELs	TWA(Inspirable dust)(8 hours):10 mg/m3	
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcinogen.
Carbon black	1333-86-4	Australia OELs	TWA(8 hours): 3 mg/m3	
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Heptane	142-82-5	Australia OELs	TWA(8 hours):1640 mg/m3(400 ppm);STEL(15 minutes):2050 mg/m3(500 ppm)	
Free isocyanates	26471-62-5	Australia OELs	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	
m-tolylidene diisocyanate	26471-62-5	ACGIH	TWA(inhalable fraction and vapor):0.001 ppm;STEL(inhalable fraction and vapor):0.005 ppm	A3: Confirmed animal carcin., Dermal/Respiratory Sensitizer
Free isocyanates	68611-34-7	Australia OELs	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	
Hexamethylene Diisocynate	822-06-0	ACGIH	TWA:0.005 ppm	
Hexamethylene Diisocynate	822-06-0	Australia OELs	TWA(8 hours):0.02 mg/m3;STEL(15 minutes):0.07 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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

Select and use gloves according to AS/NZ 2161.

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 vapours and particulates
Half facepiece or full facepiece supplied-air respirator.

For questions about suitability for a specific application, consult with your respirator manufacturer.
Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

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	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	No flash point
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	1.3 g/cm3
Relative density	1.3 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
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	*No data available.*

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. Conditions to avoid
Heat.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

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

Substance	Condition
None known.	

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-Vapour(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-Vapour (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-Vapour (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 Diisocynate	Dermal	Rat	LD50 > 7,000 mg/kg
Hexamethylene Diisocynate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.124 mg/l
Hexamethylene Diisocynate	Inhalation-Vapour (4 hours)	Rat	LC50 0.124 mg/l
Hexamethylene Diisocynate	Ingestion	Rat	LD50 710 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/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	Human and animal	Minimal irritation
m-tolylidene diisocyanate	Rabbit	Irritant
Heptane	Human	Mild irritant
(Gamma-mercaptopropyl)trimethoxysilane	Rabbit	No significant irritation
Hexamethylene Diisocynate	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 Diisocynate	Rabbit	Corrosive

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 Diisocynate	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
m-tolylidene diisocyanate	Human	Sensitising
Hexamethylene Diisocynate	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 Diisocynate	In Vitro	Not mutagenic
Hexamethylene Diisocynate	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 Diisocynate	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	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
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 Diisocynate	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocynate	Inhalation	Not classified for development	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocynate	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 available	occupational 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	
Hexamethylen	Inhalation	respiratory	May cause	Human and	NOAEL Not	

e Diisocynate		irritation	respiratory irritation	animal	available	
Hexamethylene Diisocynate	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 Diisocynate	Inhalation	liver | kidney and/or bladder	Not classified	Rat	NOAEL 0.002 mg/l	3 weeks
Hexamethylene Diisocynate	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.0014 mg/l	4 weeks
Hexamethylene Diisocynate	Inhalation	blood	Not classified	Rat	NOAEL 0.0012 mg/l	2 years
Hexamethylene Diisocynate	Inhalation	nervous system	Not classified	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocynate	Inhalation	heart	Not classified	Rat	NOAEL 0.001 mg/l	90 days

Aspiration Hazard

Name	Value
Heptane	Aspiration hazard

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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

Acute aquatic hazard:

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

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	Crustecea 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
(Gamma-mercaptopropyl)trimethoxysilane	4420-74-0	Zebra Fish	Experimental	96 hours	LC50	439 mg/l
Hexamethylene Diisocynate	822-06-0	Green Algae	Estimated	96 hours	EC50	14.8 mg/l
Hexamethylene Diisocynate	822-06-0	Medaka	Estimated	96 hours	LC50	71 mg/l
Hexamethylene Diisocynate	822-06-0	Water flea	Estimated	48 hours	EC50	27 mg/l
Hexamethylene Diisocynate	822-06-0	Activated sludge	Experimental	3 hours	EC50	842 mg/l
Hexamethylene Diisocynate	822-06-0	Green Algae	Estimated	72 hours	NOEC	10 mg/l
Hexamethylene Diisocynate	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 Diisocynate	822-06-0	Experimental Hydrolysis		Hydrolytic half-life	5 minutes (t 1/2)	Non-standard method
Hexamethylene Diisocynate	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-tolylidene 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 Diisocynate	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	Global Warming Potential
(gamma-mercaptopropyl)trimethoxysilane	4420-74-0	0	

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - 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

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

Australian Inventory Status:
An ingredient(s) in this product is being introduced under the no unreasonable risk non-cosmetic (<100 Kg) exemption provisions specified in Section 21(4) of the Industrial Chemicals (Notification and Assessment) Act 1989 as amended.

SECTION 16: Other information

Revision information:
Complete document review.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our

knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au