



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M™ OEM Polyurethane Glass Adhesive Sealant 590, Black

Product Identification Numbers

62-5567-3930-8	62-5567-5230-1	62-5567-5235-0	62-5567-9530-0	DE-2729-2799-2
DE-2729-2800-8	DE-2729-2801-6	FI-3000-0082-0	FI-3000-0083-8	FI-3000-0088-7
FI-3000-0306-3	FI-3000-0420-2	GT-5000-9023-5	XT-0007-2011-7	

1.2. Recommended use and restrictions on use

Recommended use

Fast curing adhesive for permanent bonding., Sealant

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301
Petaling, Jaya, Selangor

Telephone: 03-7884 2888

E Mail: 3mmyehsr@mmm.com

Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Chronic Aquatic Toxicity: Category 3.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

3M™ OEM Polyurethane Glass Adhesive Sealant 590, Black

Not applicable

Hazard Statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

General:

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

Disposal:

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

2.3. Other hazards

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Urethane Polymer	Trade Secret	30 - 60
Carbon Black (nanomaterial)	1333-86-4	10 - 30
Plasticizer	Trade Secret	15 - 30
NUC - Kaolin, calcined	92704-41-1	7 - 13
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	< 3
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	< 1
Quartz Silica	14808-60-7	< 1
DIBUTYLTIN DICHLORIDE	683-18-1	< 0.1

Any remaining components do not contribute to the hazards of this material.

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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide
Hydrogen Cyanide
Irritant Vapors or Gases
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. 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

Avoid breathing dust/fume/gas/mist/vapors/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 heat. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

3M™ OEM Polyurethane Glass Adhesive Sealant 590, Black**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	C.A.S. No.	Agency	Limit type	Additional Comments
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	ACGIH	TWA:0.005 ppm	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	Malaysia OELs	TWA(8 hours):0.051 mg/m ³ (0.005 ppm)	
Carbon Black (nanomaterial)	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m ³	A3: Confirmed animal carcin.
Carbon Black (nanomaterial)	1333-86-4	Malaysia OELs	TWA(8 hours):3.5 mg/m ³	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m ³	A2: Suspected human carcin.
Quartz Silica	14808-60-7	Malaysia OELs	TWA(respirable fraction)(8 hours):0.1 mg/m ³	
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m ³	A3: Confirmed animal carcin., SKIN
TIN, ORGANIC COMPOUNDS	683-18-1	ACGIH	TWA(as Sn):0.1 mg/m ³ ;STEL(as Sn):0.2 mg/m ³	A4: Not class. as human carcin, Danger of cutaneous absorption
TIN, ORGANIC COMPOUNDS	683-18-1	Malaysia OELs	TWA(as Sn)(8 hours):0.1 mg/m ³	SKIN

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

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/vapors/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

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.

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

Nitrile Rubber

Natural Rubber

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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 - Neoprene
Apron – Nitrile

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Paste
Color	Black
Odor	Slight Urethane
Odor threshold	<i>No Data Available</i>
pH	[<i>Ref Std:PH_NONSOL</i>] <i>Not Applicable</i>
Melting point/Freezing point	<i>No Data Available</i>
Boiling point/Initial boiling point/Boiling range	192 - 200 °C
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Density and/or Relative Vapor Density	<i>No Data Available</i>
Density	1.2 g/cm ³
Relative Density	1.2 [<i>Ref Std:WATER=1</i>]
Water solubility	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	> 200 °C
Decomposition temperature	<i>No Data Available</i>
Viscosity/Kinematic Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	19 g/l [<i>Test Method:tested per EPA method 24</i>] [<i>Details:EU VOC content</i>]
Percent volatile	
VOC Less H₂O & Exempt Solvents	19 g/l [<i>Test Method:tested per EPA method 24</i>]
VOC Less H₂O & Exempt Solvents	1.6 % [<i>Test Method:tested per EPA method 24</i>]
VOC Less H₂O & Exempt Solvents	0.16 lb/gal [<i>Test Method:tested per EPA method 24</i>]
Molecular weight	<i>No Data Available</i>
Solids Content	> 95 %

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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Alcohols

Amines

Water

10.6. Hazardous decomposition products

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

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 diarrhea.

Additional Information:

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Persons previously sensitized to isocyanates may develop a cross-sensitization 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	Dermal		No data available; calculated ATE >5,000 mg/kg
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
Plasticizer	Dermal	Rat	LD50 > 1,000 mg/kg
Plasticizer	Ingestion	Rat	LD50 > 5,000 mg/kg
Carbon Black (nanomaterial)	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon Black (nanomaterial)	Ingestion	Rat	LD50 > 8,000 mg/kg
NUC - Kaolin, calcined	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
NUC - Kaolin, calcined	Ingestion	Rat	LD50 > 2,000 mg/kg
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation-Vapor	Professional judgement	LC50 estimated to be 20 - 50 mg/l
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Dermal	Rabbit	LD50 > 5,000 mg/kg
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Ingestion	Rat	LD50 > 5,000 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
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Carbon Black (nanomaterial)	Rabbit	No significant irritation
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official classification	Irritant
Quartz Silica	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Carbon Black (nanomaterial)	Rabbit	No significant irritation
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official classification	Severe irritant

Sensitization:

Skin Sensitization

Name	Species	Value
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Guinea	Not classified

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P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	pig official classification	Sensitizing
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Respiratory Sensitization

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Carbon Black (nanomaterial)	In Vitro	Not mutagenic
Carbon Black (nanomaterial)	In vivo	Some positive data exist, but the data are not sufficient for classification
HYDROTREATED LIGHT PETROLEUM DISTILLATES	In Vitro	Not mutagenic
HYDROTREATED LIGHT PETROLEUM DISTILLATES	In vivo	Not mutagenic
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Carbon Black (nanomaterial)	Dermal	Mouse	Not carcinogenic
Carbon Black (nanomaterial)	Ingestion	Mouse	Not carcinogenic
Carbon Black (nanomaterial)	Inhalation	Rat	Carcinogenic
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Not Specified	Not available	Not carcinogenic
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Not Specified	Not classified for female reproduction	Rat	NOAEL Not available	1 generation
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Not Specified	Not classified for male reproduction	Rat	NOAEL Not available	1 generation
HYDROTREATED LIGHT PETROLEUM DISTILLATES	Not Specified	Not classified for development	Rat	NOAEL Not available	1 generation
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	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	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
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						Duration
Carbon Black (nanomaterial)	Inhalation	pneumoconiosis	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
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
HYDROTREATED LIGHT PETROLEUM DISTILLATES	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 labeling, 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:**

GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:

GHS Chronic 3: Harmful to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Urethane Polymer	Trade Secret		Data not available or insufficient for classification			NA
Carbon Black (nanomaterial)	1333-86-4	Activated sludge	Experimental	3 hours	Effect Concentration 50%	>=100 mg/l
Carbon Black (nanomaterial)	1333-86-4		Data not available or insufficient for classification			N/A
Plasticizer	Trade Secret	Water flea	Estimated	48 hours	Effect Concentration 50%	>100 mg/l
Plasticizer	Trade Secret	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	>100 mg/l
Plasticizer	Trade Secret	Green algae	Estimated	72 hours	Effect Concentration 0%	>100 mg/l
NUC - Kaolin,	92704-41-1	Bacteria	Estimated	16 hours	Effect	1,400 mg/l

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calcined					Concentration 10%	
NUC - Kaolin, calcined	92704-41-1	Green algae	Estimated	72 hours	Effect Concentration 50%	2,500 mg/l
NUC - Kaolin, calcined	92704-41-1	Water flea	Estimated	48 hours	Effect Concentration 50%	>100 mg/l
NUC - Kaolin, calcined	92704-41-1	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	>100 mg/l
NUC - Kaolin, calcined	92704-41-1	Green algae	Estimated	72 hours	Effect Concentration 10%	41 mg/l
NUC - Kaolin, calcined	92704-41-1	Rainbow Trout	Estimated	30 days	No obs Effect Conc	>100 mg/l
HYDROTREA TED LIGHT PETROLEUM DISTILLATES	64742-47-8	Green Algae	Experimental	72 hours	Effect Level 50%	>1,000 mg/l
HYDROTREA TED LIGHT PETROLEUM DISTILLATES	64742-47-8	Rainbow Trout	Experimental	96 hours	Lethal Level 50%	>1,000 mg/l
HYDROTREA TED LIGHT PETROLEUM DISTILLATES	64742-47-8	Water flea	Experimental	48 hours	Effect Level 50%	>1,000 mg/l
HYDROTREA TED LIGHT PETROLEUM DISTILLATES	64742-47-8	Green Algae	Experimental	72 hours	No obs Effect Level	1,000 mg/l
P,P'- METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Activated sludge	Estimated	3 hours	Effect Concentration 50%	>100 mg/l
P,P'- METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Green algae	Estimated	72 hours	Effect Concentration 50%	>1,640 mg/l
P,P'- METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Water flea	Estimated	24 hours	Effect Concentration 50%	>1,000 mg/l
P,P'- METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	>1,000 mg/l
P,P'- METHYLENE BIS(PHENYL	101-68-8	Green algae	Estimated	72 hours	No obs Effect Conc	1,640 mg/l

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ISOCYANAT E)						
P,P'-METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Water flea	Estimated	21 days	No obs Effect Conc	10 mg/l
Quartz Silica	14808-60-7	Green Algae	Estimated	72 hours	Effect Concentration 50%	440 mg/l
Quartz Silica	14808-60-7	Water flea	Estimated	48 hours	Effect Concentration 50%	7,600 mg/l
Quartz Silica	14808-60-7	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	5,000 mg/l
Quartz Silica	14808-60-7	Green Algae	Estimated	72 hours	No obs Effect Conc	60 mg/l
DIBUTYLTIN DICHLORIDE	683-18-1	Algae	Experimental	96 hours	Effect Concentration 50%	0.043 mg/l
DIBUTYLTIN DICHLORIDE	683-18-1	Water flea	Experimental	48 hours	Effect Concentration 50%	0.84 mg/l
DIBUTYLTIN DICHLORIDE	683-18-1	Medaka	Experimental	28 days	No obs Effect Conc	1.8 mg/l
DIBUTYLTIN DICHLORIDE	683-18-1	Water flea	Experimental	21 days	No obs Effect Conc	0.015 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Urethane Polymer	Trade Secret	Data not availbl-insufficient			N/A	
Carbon Black (nanomaterial)	1333-86-4	Data not availbl-insufficient			N/A	
Plasticizer	Trade Secret	Experimental Biodegradation	28 days	Biological Oxygen Demand	49 % weight	
NUC - Kaolin, calcined	92704-41-1	Data not availbl-insufficient			N/A	
HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	Estimated Biodegradation	28 days	Biological Oxygen Demand	69 % BOD/ThBOD	OECD 301F - Manometric Respiro
P,P'-METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	Non-standard method
Quartz Silica	14808-60-7	Data not availbl-			N/A	

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		insufficient				
DIBUTYLTIN DICHLORIDE	683-18-1	Modeled Photolysis		Photolytic half- life (in air)	12.7 hours (t 1/2)	Non-standard method
DIBUTYLTIN DICHLORIDE	683-18-1	Experimental Biodegradation	28 days	Carbon dioxide evolution	5.5 % weight	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Urethane Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon Black (nanomaterial)	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Plasticizer	Trade Secret	Experimental BCF-Carp	36 days	Bioaccumulatio n Factor	212	
NUC - Kaolin, calcined	92704-41-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
HYDROTREA TED LIGHT PETROLEUM DISTILLATES	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
P,P'- METHYLENE BIS(PHENYL ISOCYANAT E)	101-68-8	Experimental BCF-Carp	28 days	Bioaccumulatio n Factor	200	OECD 305E-Bioaccum F1-thru fis
Quartz Silica	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DIBUTYLTIN DICHLORIDE	683-18-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations**13.1. Disposal methods**

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Not hazardous for transportation.

Marine Transport (IMDG)

UN Number:None assigned.

Proper Shipping Name:None assigned.

Technical Name:None assigned.

Hazard Class/Division:None assigned.

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:None assigned.

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number:None assigned.

Proper Shipping Name:None assigned.

Technical Name:None assigned.

Hazard Class/Division:None assigned.

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:None assigned.

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

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

Global inventory status

Contact manufacturer for more information The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

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 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.

3M Malaysia SDSs are available at www.3M.com.my