Safety Data Sheet

Document Group:	27-1614-0	**Version Number:**	2.00
Issue Date:	20/08/2023	**Supercedes Date:**	28/08/2018

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(TM) Sealant 730 UV, Clear

Product Identification Numbers
62-5292-5230-6

1.2. Recommended use and restrictions on use

Recommended use
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
Serious Eye Damage/Irritation: Category 2.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms

Hazard Statements:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

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

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Polyether	Trade Secret	50 - 70
Plasticizer	Trade Secret	20 - 40
CALCIUM CARBONATE	471-34-1	15 - 25
Fumed Silica	68611-44-9	10 - 20
Organofunctional Silane Ester	Trade Secret	1 - 20
Organosilane	Trade Secret	1 - 10
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	0.5 - 2
Dibutyltin Oxide	818-08-6	0.1 - 1
Hindered Amine	63843-89-0	< 0.2

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

Eye Contact:
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Irritant Vapors or Gases	During Combustion
Oxides of Nitrogen	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
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Do not breathe 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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from oxidizing agents.

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	C.A.S. No.	Agency	Limit type	Additional Comments
Limestone	471-34-1	Malaysia OELs	TWA (proposed)(8 hours):10 mg/m3	
TIN, ORGANIC COMPOUNDS	818-08-6	ACGIH	TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3	A4: Not class. as human carcin, SKIN
TIN, ORGANIC COMPOUNDS	818-08-6	Malaysia OELs	TWA(as Sn)(8 hours):0.1 mg/m3	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:
Full Face Shield
Indirect Vented Goggles

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

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Paste
Color	Yellow
Odor	Mild Odor, Sweet Odor
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	> 93.3 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density and/or Relative Vapor Density	*No Data Available*
Density	1.05 g/ml
Relative Density	1.05
Water solubility	Slight (less than 10%)
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	450,000 mPa-s
Volatile Organic Compounds	1 % [*Test Method:*tested per EPA method 24]
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	11 g/l [*Test Method:*tested per EPA method 24]
Molecular weight	*No Data Available*

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
None known.

10.5. Incompatible materials
Strong acids
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
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 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.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Polyether	Dermal		LD50 estimated to be > 5,000 mg/kg
Polyether	Ingestion	Rat	LD50 5,000 mg/kg
CALCIUM CARBONATE	Dermal	Rat	LD50 > 2,000 mg/kg
CALCIUM CARBONATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
CALCIUM CARBONATE	Ingestion	Rat	LD50 6,450 mg/kg
Fumed Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Organofunctional Silane Ester	Dermal	Rabbit	LD50 11,605 mg/kg
Fumed Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Fumed Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Organofunctional Silane Ester	Ingestion	Rat	LD50 3,030 mg/kg
Organosilane	Dermal	Rabbit	LD50 > 9,500 mg/kg
Organosilane	Inhalation-Vapor (4 hours)	Rat	LC50 > 51 mg/l
Organosilane	Ingestion	Rat	LD50 11,685 mg/kg
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Inhalation-Dust/Mist (4 hours)	Rat	LC50 >1.49, <2.44 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Ingestion	Rat	LD50 1,897 mg/kg
Dibutyltin Oxide	Dermal	Rat	LD50 > 2,000 mg/kg
Dibutyltin Oxide	Ingestion	Rat	LD50 164 mg/kg
Hindered Amine	Dermal	Rat	LD50 > 3,170 mg/kg
Hindered Amine	Ingestion	Rat	LD50 1,490 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
CALCIUM CARBONATE	Rabbit	No significant irritation
Fumed Silica	Rabbit	No significant irritation
Organofunctional Silane Ester	Rabbit	Irritant
Organosilane	Rabbit	No significant irritation
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Rabbit	Mild irritant
Dibutyltin Oxide	Rabbit	Irritant
Hindered Amine	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
CALCIUM CARBONATE	Rabbit	No significant irritation
Fumed Silica	Rabbit	No significant irritation
Organofunctional Silane Ester	similar compounds	Corrosive
Organosilane	Rabbit	Mild irritant
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Rabbit	Corrosive
Dibutyltin Oxide	Rabbit	Corrosive

Hindered Amine	Rabbit	Mild irritant

Sensitization:

Skin Sensitization

Name	Species	Value
Fumed Silica	Human and animal	Not classified
Organofunctional Silane Ester	Guinea pig	Not classified
Organosilane	Guinea pig	Not classified
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Multiple animal species	Sensitizing
Dibutyltin Oxide	Guinea pig	Sensitizing
Hindered Amine	Guinea pig	Not classified

Photosensitization

Name	Species	Value
Hindered Amine	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Fumed Silica	In Vitro	Not mutagenic
Organofunctional Silane Ester	In Vitro	Not mutagenic
Organosilane	In vivo	Not mutagenic
Organosilane	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	In Vitro	Not mutagenic
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	In vivo	Not mutagenic
Dibutyltin Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dibutyltin Oxide	In vivo	Mutagenic
Hindered Amine	In vivo	Not mutagenic
Hindered Amine	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Fumed Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	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	1 generation

				mg/kg/day	
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
Organofunctional Silane Ester	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Organosilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Organosilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
Organosilane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	28 days
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during gestation
Dibutyltin Oxide	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	premating into lactation
Dibutyltin Oxide	Ingestion	Toxic to development	Rat	NOAEL 2.5 mg/kg/day	during gestation
Hindered Amine	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	premating into lactation
Hindered Amine	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	36 days
Hindered Amine	Ingestion	Not classified for development	Rat	NOAEL 10 mg/kg/day	premating into lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Organofunctional Silane Ester	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Dibutyltin Oxide	Ingestion	immune system	Causes damage to organs	Rat	LOAEL 5 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Fumed Silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Organofunctional Silane Ester	Ingestion	gastrointestinal tract | hematopoietic system | liver | immune system | respiratory system | nervous system | eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Organosilane	Inhalation	kidney and/or	Some positive data exist, but the	Rat	NOAEL 0.56	13 weeks

		bladder	data are not sufficient for classification		mg/l	
Organosilane	Inhalation	endocrine system | hematopoietic system | liver | nervous system | eyes | respiratory system	Not classified	Rat	NOAEL 8.9 mg/l	13 weeks
Organosilane	Ingestion	endocrine system | hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	28 days
Organosilane	Ingestion	gastrointestinal tract | liver | immune system | heart | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Dermal	skin | endocrine system | hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.015 mg/l	90 days
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Inhalation	hematopoietic system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 0.044 mg/l	90 days
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	Ingestion	hematopoietic system | nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
Dibutyltin Oxide	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	2 weeks
Dibutyltin Oxide	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 mg/kg/day	28 days
Hindered Amine	Ingestion	gastrointestinal tract | hematopoietic system | liver | immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	36 days

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

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:
Not acutely toxic to aquatic life by GHS criteria.

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
Polyether	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Plasticizer	Trade Secret	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Plasticizer	Trade Secret	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Plasticizer	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
Plasticizer	Trade Secret	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Plasticizer	Trade Secret	Green algae	Experimental	72 hours	NOEC	25 mg/l
Plasticizer	Trade Secret	Water flea	Experimental	21 days	NOEC	>1 mg/l
CALCIUM CARBONATE	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Rainbow Trout	Experimental	96 hours	LC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Green algae	Experimental	72 hours	EC10	100 mg/l
Fumed Silica	68611-44-9	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Organofunctional Silane Ester	Trade Secret	Green algae	Analogous Compound	72 hours	EbC50	603 mg/l
Organofunctional Silane Ester	Trade Secret	Water flea	Analogous Compound	48 hours	EC50	331 mg/l
Organofunctional Silane Ester	Trade Secret	Zebra Fish	Analogous Compound	96 hours	LC50	>=934 mg/l
Organofunctional Silane Ester	Trade Secret	Green algae	Analogous Compound	72 hours	NOEC	1.3 mg/l
Organosilane	Trade Secret	Activated sludge	Experimental	3 hours	EC10	>100 mg/l
Organosilane	Trade Secret	Fathead Minnow	Experimental	96 hours	LC50	>110 mg/l
Organosilane	Trade Secret	Green algae	Experimental	72 hours	EC50	>120 mg/l
Organosilane	Trade Secret	Water flea	Experimental	48 hours	EC50	>122 mg/l
Organosilane	Trade Secret	Green algae	Experimental	72 hours	NOEC	120 mg/l
Organosilane	Trade Secret	Water flea	Experimental	21 days	NOEC	100 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Bacteria	Experimental	16 hours	EC50	67 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Fathead Minnow	Experimental	96 hours	LC50	168 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Green algae	Experimental	72 hours	ErC50	8.8 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Water flea	Experimental	48 hours	EC50	81 mg/l
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Green algae	Experimental	72 hours	NOEC	3.1 mg/l
Dibutyltin Oxide	818-08-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Hindered Amine	63843-89-0	Activated sludge	Experimental	3 hours	IC20	>100 mg/l
Hindered Amine	63843-89-0	Water flea	Experimental	21 days	NOEC	0.002 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Polyether	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Plasticizer	Trade Secret	Experimental Biodegradation	28 days	Carbon dioxide evolution	80-90 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
CALCIUM CARBONATE	471-34-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Fumed Silica	68611-44-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Organofunctional Silane Ester	Trade Secret	Analogous Compound Biodegradation	28 days	Dissolv. Organic Carbon Deplet	67 %removal of DOC	EC C.4.A. DOC Die-Away Test
Organofunctional Silane Ester	Trade Secret	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	8.4 hours (t 1/2)	
Organosilane	Trade Secret	Experimental Hydrolysis		Hydrolytic half-life	2.2 hours (t 1/2)	
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	39 %removal of DOC	EC C.4.A. DOC Die-Away Test
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	1.5 minutes (t 1/2)	
Dibutyltin Oxide	818-08-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 %BOD/ThOD	OECD 301F - Manometric Respiro
Hindered Amine	63843-89-0	Experimental Biodegradation	28 days	Carbon dioxide evolution	2 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Polyether	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Plasticizer	Trade Secret	Modeled Bioconcentration		Bioaccumulation Factor	166	Catalogic™
Plasticizer	Trade Secret	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	>6	EC A.8 Partition Coefficient
CALCIUM CARBONATE	471-34-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Fumed Silica	68611-44-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Organofunctional Silane Ester	Trade Secret	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	-1.16	Episuite™
Organosilane	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-	1760-24-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dibutyltin Oxide	818-08-6	Experimental BCF - Fish	56 days	Bioaccumulation Factor	≤69	OECD305-Bioconcentration
Hindered Amine	63843-89-0	Experimental BCF - Fish	60 days	Bioaccumulation Factor	≤437.1	OECD305-Bioconcentration

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 3M 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 material are in compliance with the provisions of Japan Chemical Substance Control Law. 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 in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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