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(TM) Fire Barrier Sealant FD 150+, Limestone

Product Identification Numbers

98-0400-5458-1	98-0400-5459-9	98-0400-5460-7	98-0400-5461-5	98-0400-5641-2
98-0400-5642-0	98-0400-5643-8	98-0400-5644-6	JE-6000-0317-0	JE-6000-0323-8
JE-6000-0327-9	KE-9999-5950-2	KE-9999-5977-5	KE-9999-5978-3	XE-1014-9585-3
XF-0038-6996-3				

1.2. Recommended use and restrictions on use

Recommended use
Passive Fire Protection

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
Skin Corrosion/Irritation: Category 2.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 2.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms

Hazard Statements:

H315	Causes skin irritation.
H350	May cause cancer.
H371	May cause damage to organs: cardiovascular system | kidney/urinary tract | nervous system | respiratory system.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements
General:

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

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P281	Use personal protective equipment as required.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Storage:

P405	Store locked up.

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
Calcium Carbonate	1317-65-3	30 - 60
Polymer NJTS Reg. No. 04499600-7186	Trade Secret	10 - 30
Acrylic Emulsion	70677-00-8	5 - 10
Mineral Spirits	64742-88-7	5 - 10
Water	7732-18-5	5 - 10
Ethylene Glycol	107-21-1	1 - 5

Plasticizer	27138-31-4	1 - 5
Titanium Dioxide	13463-67-7	1 - 5
Surfactant	Trade Secret	< 2
Ethyl Hydroxyethyl Cellulose	9004-58-4	0.5 - 1.5
2-Aminoisobutanol	124-68-5	< 1
Quartz Silica	14808-60-7	< 0.2

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

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

Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	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
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/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. Avoid release to the environment. 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
Keep cool. Store away from oxidizing agents. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

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
Ethylene Glycol	107-21-1	ACGIH	TWA(Vapor fraction):25 ppm;STEL(Vapor fraction):50 ppm;STEL(Inhalable aerosol):10 mg/m3	A4: Not class. as human carcin
Ethylene Glycol	107-21-1	Malaysia OELs	CEIL(as aerosol):100 mg/m3(39.4 ppm)	
Calcium Carbonate	1317-65-3	Malaysia OELs	TWA (proposed)(8 hours):10 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	Malaysia OELs	TWA(8 hours):10 mg/m3	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	Malaysia OELs	TWA(respirable fraction)(8 hours):0.1 mg/m3	
Kerosine (petroleum)	64742-88-7	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Naphtha	64742-88-7	Malaysia OELs	TWA(8 hours):1590 mg/m3(400 ppm)	

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: Nitrile Rubber

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	Gray
Odor	Low Odor
Odor threshold	*No Data Available*
pH	8 - 9
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	Flash point > 93 °C (200 °F) [*Test Method:*Closed Cup]
Evaporation rate	1 [*Ref Std:*BUOAC=1]
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	24 Pa
Vapor Density and/or Relative Vapor Density	[*Details:*Lighter than air]*No Data Available*
Density	1.45 g/cm3
Relative Density	1.45 [*Ref Std:*WATER=1]
Water solubility	Miscible [*Details:*Miscible in wet stage]
Solubility- non-water	*No Data Available*

Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	< 15 % weight
Percent volatile	
VOC Less H2O & Exempt Solvents	< 250 g/l
Molecular weight	*No Data Available*

Nanoparticles
This material contains nanoparticles.

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

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 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.

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.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

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.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

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

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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
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
Polymer NJTS Reg. No. 04499600-7186	Dermal		LD50 estimated to be > 5,000 mg/kg
Polymer NJTS Reg. No. 04499600-7186	Ingestion	Rat	LD50 > 2,000 mg/kg
Mineral Spirits	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Mineral Spirits	Dermal	Rabbit	LD50 > 3,000 mg/kg
Mineral Spirits	Ingestion	Rat	LD50 > 5,000 mg/kg
Plasticizer	Dermal	Rat	LD50 > 2,000 mg/kg
Plasticizer	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 200 mg/l

Plasticizer	Ingestion	Rat	LD50 3,295 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Ethylene Glycol	Ingestion	Human	LD50 1,600 mg/kg
Ethylene Glycol	Inhalation-Dust/Mist (4 hours)	Other	LC50 estimated to be 5 - 12.5 mg/l
Ethylene Glycol	Dermal	Rabbit	9,530 mg/kg
Ethyl Hydroxyethyl Cellulose	Dermal		LD50 estimated to be > 5,000 mg/kg
Ethyl Hydroxyethyl Cellulose	Ingestion	Rat	LD50 > 10,000 mg/kg
2-Aminoisobutanol	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-Aminoisobutanol	Ingestion	Rat	LD50 2,900 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
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7186	Rabbit	Minimal irritation
Mineral Spirits	Rabbit	Irritant
Plasticizer	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Ethylene Glycol	Rabbit	Minimal irritation
Ethyl Hydroxyethyl Cellulose	Professional judgement	Minimal irritation
2-Aminoisobutanol	Rabbit	Irritant
Quartz Silica	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7186	Professional judgement	Mild irritant
Mineral Spirits	Rabbit	No significant irritation
Plasticizer	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Ethylene Glycol	Rabbit	Mild irritant
Ethyl Hydroxyethyl Cellulose	Professional judgement	Mild irritant
2-Aminoisobutanol	Rabbit	Corrosive

Sensitization:

Skin Sensitization

Name	Species	Value
Mineral Spirits	Guinea pig	Not classified

Plasticizer	Guinea pig	Not classified
Titanium Dioxide	Human and animal	Not classified
Ethylene Glycol	Human	Not classified
2-Aminoisobutanol	Guinea pig	Not classified

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
Mineral Spirits	In vivo	Not mutagenic
Mineral Spirits	In Vitro	Some positive data exist, but the data are not sufficient for classification
Plasticizer	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Ethylene Glycol	In Vitro	Not mutagenic
Ethylene Glycol	In vivo	Not mutagenic
2-Aminoisobutanol	In Vitro	Not mutagenic
2-Aminoisobutanol	In vivo	Not mutagenic
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
Mineral Spirits	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Mineral Spirits	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Ethylene Glycol	Ingestion	Multiple animal species	Not carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic

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
Mineral Spirits	Inhalation	Not classified for development	Rat	NOAEL 2.4 mg/l	during organogenesis
Plasticizer	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
Plasticizer	Ingestion	Not classified for male reproduction	Rat	NOAEL 400 mg/kg/day	2 generation
Plasticizer	Ingestion	Not classified for development	Rat	NOAEL 1,000	during gestation

				mg/kg/day	
Ethylene Glycol	Dermal	Not classified for development	Mouse	NOAEL 3,549 mg/kg/day	during organogenesis
Ethylene Glycol	Ingestion	Not classified for development	Mouse	LOAEL 750 mg/kg/day	during organogenesis
Ethylene Glycol	Inhalation	Not classified for development	Mouse	NOAEL 1,000 mg/kg/day	during organogenesis
2-Aminoisobutanol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
2-Aminoisobutanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	37 days
2-Aminoisobutanol	Dermal	Not classified for development	Rat	NOAEL 300 mg/kg/day	during gestation
2-Aminoisobutanol	Ingestion	Toxic to development	Rat	NOAEL 100 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
Mineral Spirits	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Mineral Spirits	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Mineral Spirits	Inhalation	nervous system	Not classified	Dog	NOAEL 6.5 mg/l	4 hours
Mineral Spirits	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylene Glycol	Ingestion	heart | nervous system | kidney and/or bladder | respiratory system	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Ethylene Glycol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Ethylene Glycol	Ingestion	liver	Not classified	Human	NOAEL Not available	poisoning and/or abuse
2-Aminoisobutanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	

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
Mineral Spirits	Inhalation	nervous system	Not classified	Rat	LOAEL 4.6 mg/l	6 months
Mineral Spirits	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.9 mg/l	13 weeks
Mineral Spirits	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.6 mg/l	90 days
Mineral Spirits	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks

Mineral Spirits	Inhalation	heart	Not classified	Multiple animal species	NOAEL 1.3 mg/l	90 days
Plasticizer	Ingestion	hematopoietic system | liver	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Ethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene Glycol	Ingestion	vascular system	Not classified	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene Glycol	Ingestion	heart | hematopoietic system | liver | immune system | muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene Glycol	Ingestion	respiratory system	Not classified	Mouse	NOAEL 12,000 mg/kg/day	2 years
Ethylene Glycol	Ingestion	skin | endocrine system | bone, teeth, nails, and/or hair | nervous system | eyes	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
2-Aminoisobutanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 23 mg/kg/day	90 days
2-Aminoisobutanol	Ingestion	blood | eyes | kidney and/or bladder	Not classified	Dog	NOAEL 2.8 mg/kg/day	1 years
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
Mineral Spirits	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

Material	Organism	Type	Exposure	Test Endpoint	Test Result
3M(TM) Fire	Water flea	Experimental	48 hours	EL50	96.5 mg/l

Barrier Sealant FD 150+, Limestone					

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Calcium Carbonate	1317-65-3	Green algae	Estimated	72 hours	EC10	>100 mg/l
Mineral Spirits	64742-88-7	Green Algae	Estimated	72 hours	NOEL	4 mg/l
Mineral Spirits	64742-88-7	Water flea	Estimated	21 days	NOEL	0.48 mg/l
Ethylene Glycol	107-21-1	Green Algae	Experimental	72 hours	NOEC	1,000 mg/l
Ethylene Glycol	107-21-1	Water flea	Experimental	21 days	NOEC	100 mg/l
Plasticizer	27138-31-4	Green Algae	Experimental	72 hours	EC10	0.89 mg/l
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Quartz Silica	14808-60-7	Green Algae	Estimated	72 hours	NOEC	60 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Calcium Carbonate	1317-65-3	Data not availbl-insufficient			N/A	
Polymer NJTS Reg. No. 04499600-7186	Trade Secret	Data not availbl-insufficient			N/A	
Acrylic Emulsion	70677-00-8	Data not availbl-insufficient			N/A	
Mineral Spirits	64742-88-7	Experimental Biodegradation	28 days	Carbon dioxide evolution	55 % weight	OECD 301B - Mod. Sturm or CO2
Ethylene Glycol	107-21-1	Experimental Biodegradation	14 days	Biological Oxygen Demand	90 % BOD/ThBOD	OECD 301C - MITI (I)
Plasticizer	27138-31-4	Experimental Biodegradation	28 days	Carbon dioxide evolution	85 % weight	OECD 301B - Mod. Sturm or CO2
Titanium Dioxide	13463-67-7	Data not availbl-insufficient			N/A	
Ethyl Hydroxyethyl Cellulose	9004-58-4	Data not availbl-insufficient			N/A	
2-Aminoisobutanol	124-68-5	Experimental Biodegradation	28 days	Biological Oxygen Demand	89.3 % BOD/ThBOD	OECD 301F - Manometric Respiro
Quartz Silica	14808-60-7	Data not availbl-insufficient			N/A	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Calcium	1317-65-3	Data not	N/A	N/A	N/A	N/A

Carbonate		available or insufficient for classification				
Polymer NJTS Reg. No. 04499600-7186	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Acrylic Emulsion	70677-00-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Mineral Spirits	64742-88-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethylene Glycol	107-21-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-1.36	Non-standard method
Plasticizer	27138-31-4	Estimated Bioconcentration		Bioaccumulation Factor	8	Est: Bioconcentration factor
Titanium Dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	9.6	Non-standard method
Ethyl Hydroxyethyl Cellulose	9004-58-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Aminoisobutanol	124-68-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.63	Non-standard method
Quartz Silica	14808-60-7	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 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. 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