Safety Data Sheet

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Issue Date:	31/10/2019	**Supercedes Date:**	26/02/2019

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.

IDENTIFICATION

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Structural Adhesive 7240 B/A (FRANCE)

Product Identification Numbers
FS-9100-3210-1 HB-0042-1044-7 HB-0042-4320-8

1.2. Recommended use and restrictions on use

Recommended use
2-Part Epoxy Adhesive for Structural Bonding, Structural adhesive

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

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

09-6508-7, 09-6526-9

TRANSPORT INFORMATION

This product is a kit that consists of two or more different regulated materials packed in the same outer packaging (ship unit). The transportation classifications of the individual components appear in Section 14 of the attached SDSs.
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. 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

Safety Data Sheet

Document Group:	09-6526-9	**Version Number:**	3.00
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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™ Scotch-Weld™ 7240 B/A FR: Part A

Product Identification Numbers
FJ-9250-9829-7

1.2. Recommended use and restrictions on use

Recommended use
Accelerator for 2-Part Epoxy Adhesive, Structural adhesive

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 1.
Skin Corrosion/Irritation: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.

Precautionary statements

General:

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

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280D	Wear protective gloves, protective clothing, and eye/face protection.
P280A	Wear eye/face protection.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.
P264	Wash thoroughly after handling.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P308 + P313	IF exposed or concerned: 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

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
ALIPHATIC POLYMER DIAMINE	68911-25-1	15 - 40
ALUMINA TRIHYDRATE	21645-51-2	10 - 30
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Trade Secret	10 - 30

BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	7 - 13
DMP-30	90-72-2	5 - 10
1H-IMIDAZOLE	288-32-4	1 - 5
INORGANIC CALCIUM SALT	13477-34-4	1 - 5
OXIDE GLASS CHEMICALS	65997-17-3	1 - 5
BIS[(DIMETHYLAMINO)METHYL]PHENOL	71074-89-0	0.5 - 1.5
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	67762-90-7	0 - 1.5
N-AMINOETHYLPIPERAZINE	140-31-8	< 1
TOLUENE	108-88-3	< 1

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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

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. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
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
Amine Compounds	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	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 metal 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
Do not use in a confined area with minimal air exchange. 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. 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 in a well-ventilated place. Keep container tightly closed. Store away from heat. Store away from acids. Store away from strong bases. 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
TOLUENE	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
TOLUENE	108-88-3	Malaysia OELs	TWA(8 hours):188 mg/m3(50 ppm)	SKIN
Aluminum, insoluble compounds	21645-51-2	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
GLASS FILAMENTS	65997-17-3	Malaysia OELs	TWA(as fiber)(8 hours):1 fibers/ml;TWA(inhalable fraction)(8 hours):5 mg/m3	
OXIDE GLASS CHEMICALS	65997-17-3	Manufacturer determined	TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3;TWA(as non-fibrous, respirable)(8 hours):3 mg/m3	

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. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Provide ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device.

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.
Gloves made from the following material(s) are recommended: Nitrile Rubber

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: Boots - Nitrile
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	Off-White
Odor	Amine
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*No Data Available*

Flash Point	>=100 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density	*Not Applicable*
Density	*No Data Available*
Relative Density	1.08 - 1.14 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	Nil
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	90 - 200 Pa-s [@ 23 ºC]
Molecular weight	*No Data Available*
Volatile Organic Compounds	*No Data Available*
Percent volatile	<=1 % weight
VOC Less H2O & Exempt Solvents	*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
Heat
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5. Incompatible materials
Amines
Strong acids
Strong bases
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.

Skin Contact:
May be harmful in contact with skin.
Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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:
May be harmful if swallowed.
Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

Additional Health Effects:

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	Dermal		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
ALUMINA TRIHYDRATE	Dermal		LD50 estimated to be > 5,000 mg/kg
ALUMINA TRIHYDRATE	Ingestion	Rat	LD50 > 5,000 mg/kg
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Dermal	Rabbit	LD50 > 3,000 mg/kg
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Ingestion	Rat	LD50 > 15,300 mg/kg
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Dermal	Rabbit	LD50 2,500 mg/kg
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Ingestion	Rat	LD50 3,160 mg/kg
DMP-30	Dermal	Rat	LD50 1,280 mg/kg
DMP-30	Ingestion	Rat	LD50 1,000 mg/kg
1H-IMIDAZOLE	Ingestion	Rat	LD50 970 mg/kg
INORGANIC CALCIUM SALT	Ingestion	Rat	LD50 >300, <2000 mg/kg
1H-IMIDAZOLE	Dermal	similar compounds	LD50 400 mg/kg
INORGANIC CALCIUM SALT	Dermal	similar	LD50 > 2,000 mg/kg

		compounds	
OXIDE GLASS CHEMICALS	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
BIS[(DIMETHYLAMINO)METHYL]PHENOL	Ingestion		LD50 estimated to be 300 - 2,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Ingestion	Rat	LD50 > 5,110 mg/kg
N-AMINOETHYLPIPERAZINE	Dermal	Rabbit	LD50 865 mg/kg
N-AMINOETHYLPIPERAZINE	Ingestion	Rat	LD50 1,470 mg/kg
TOLUENE	Dermal	Rat	LD50 12,000 mg/kg
TOLUENE	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
TOLUENE	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
ALIPHATIC POLYMER DIAMINE	Rabbit	Irritant
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Rabbit	Corrosive
DMP-30	Rabbit	Corrosive
1H-IMIDAZOLE	Rabbit	Corrosive
INORGANIC CALCIUM SALT	similar compounds	No significant irritation
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation
BIS[(DIMETHYLAMINO)METHYL]PHENOL	similar compounds	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Rabbit	No significant irritation
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TOLUENE	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
ALIPHATIC POLYMER DIAMINE	similar health hazards	Corrosive
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	similar health hazards	Corrosive
DMP-30	Rabbit	Corrosive
1H-IMIDAZOLE	Rabbit	Corrosive
INORGANIC CALCIUM SALT	Rabbit	Corrosive
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation
BIS[(DIMETHYLAMINO)METHYL]PHENOL	similar compounds	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Rabbit	No significant irritation

N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TOLUENE	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
ALIPHATIC POLYMER DIAMINE	Guinea pig	Sensitizing
ALUMINA TRIHYDRATE	Guinea pig	Not classified
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Guinea pig	Not classified
DMP-30	Guinea pig	Not classified
INORGANIC CALCIUM SALT	similar compounds	Not classified
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Human and animal	Not classified
N-AMINOETHYLPIPERAZINE	Guinea pig	Sensitizing
TOLUENE	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
DMP-30	In Vitro	Not mutagenic
1H-IMIDAZOLE	In Vitro	Not mutagenic
1H-IMIDAZOLE	In vivo	Not mutagenic
INORGANIC CALCIUM SALT	In Vitro	Not mutagenic
OXIDE GLASS CHEMICALS	In Vitro	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	In Vitro	Not mutagenic
N-AMINOETHYLPIPERAZINE	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TOLUENE	In Vitro	Not mutagenic
TOLUENE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
ALUMINA TRIHYDRATE	Not Specified	Multiple animal species	Not carcinogenic
OXIDE GLASS CHEMICALS	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Inhalation	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
ALUMINA TRIHYDRATE	Ingestion	Not classified for development	Rat	NOAEL 768 mg/kg/day	during organogenesis
1H-IMIDAZOLE	Ingestion	Toxic to development	Rat	NOAEL 60 mg/kg/day	during organogenesis
INORGANIC CALCIUM SALT	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 1,500 mg/kg/day	premating into lactation
INORGANIC CALCIUM SALT	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 1,500 mg/kg/day	28 days
INORGANIC CALCIUM SALT	Ingestion	Not classified for development	similar compounds	NOAEL 1,500 mg/kg/day	premating into lactation
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	premating & during gestation
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for development	Rat	NOAEL 899 mg/kg/day	premating & during gestation
TOLUENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
TOLUENE	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
TOLUENE	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
DMP-30	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
1H-IMIDAZOLE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
INORGANIC CALCIUM SALT	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
INORGANIC CALCIUM SALT	Ingestion	methemoglobinemia	Causes damage to organs	Human	NOAEL Not available	environmental exposure
N-AMINOETHYLPIPERAZINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
TOLUENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
TOLUENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL	3 hours

					0.004 mg/l	
TOLUENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
DMP-30	Dermal	skin | liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	28 days
1H-IMIDAZOLE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 60 mg/kg/day	90 days
1H-IMIDAZOLE	Ingestion	heart | liver | blood | nervous system | eyes	Not classified	Rat	NOAEL 180 mg/kg/day	90 days
INORGANIC CALCIUM SALT	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	similar compoun ds	NOAEL 1,500 mg/kg/day	28 days
OXIDE GLASS CHEMICALS	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
N-AMINOETHYLPIPERAZ INE	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
TOLUENE	Inhalation	auditory system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
TOLUENE	Inhalation	heart | liver | kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
TOLUENE	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
TOLUENE	Inhalation	hematopoietic system | vascular system	Not classified	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
TOLUENE	Ingestion	heart	Not classified	Rat	NOAEL	13 weeks

					2,500 mg/kg/day	
TOLUENE	Ingestion	liver | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
TOLUENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
TOLUENE	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks

Aspiration Hazard

Name	Value
TOLUENE	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:
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 #	Organism	Type	Exposure	Test Endpoint	Test Result
ALIPHATIC POLYMER DIAMINE	68911-25-1		Data not available or insufficient for classification			
ALUMINA TRIHYDRATE	21645-51-2	Fish other	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
AMINE TERMINATED	Trade Secret		Data not available or insufficient for			

BUTADIENE ACRYLONITRILE POLYMER			classification			
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Golden Orfe	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Green algae	Experimental	72 hours	Effect Concentration 50%	>500 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Water flea	Experimental	48 hours	Effect Concentration 50%	218.16 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Green algae	Experimental	72 hours	Effect Concentration 10%	5.4 mg/l
DMP-30	90-72-2	Common Carp	Experimental	96 hours	Lethal Concentration 50%	175 mg/l
DMP-30	90-72-2	Grass Shrimp	Experimental	96 hours	Lethal Concentration 50%	718 mg/l
DMP-30	90-72-2	Green algae	Experimental	72 hours	Effect Concentration 50%	84 mg/l
DMP-30	90-72-2	Green algae	Experimental	72 hours	No obs Effect Conc	6.25 mg/l
1H-IMIDAZOLE	288-32-4	Green algae	Experimental	72 hours	Effect Concentration 50%	133 mg/l
1H-IMIDAZOLE	288-32-4	Water flea	Experimental	48 hours	Effect Concentration 50%	341.5 mg/l
1H-IMIDAZOLE	288-32-4	Green algae	Experimental	72 hours	No obs Effect Conc	25 mg/l
INORGANIC CALCIUM SALT	13477-34-4	Guppy	Estimated	96 hours	Lethal Concentration 50%	1,378 mg/l
INORGANIC CALCIUM SALT	13477-34-4	Fathead Minnow	Estimated	30 days	No obs Effect Conc	58 mg/l
OXIDE GLASS	65997-17-3	Green algae	Experimental	72 hours	Effect Concentration	>1,000 mg/l

CHEMICALS					50%	
OXIDE GLASS CHEMICALS	65997-17-3	Water flea	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	No obs Effect Conc	>=1,000 mg/l
BIS[(DIMETHYLAMINO)METHYL]PHENOL	71074-89-0		Data not available or insufficient for classification			
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	67762-90-7		Data not available or insufficient for classification			
N-AMINOETHYLPIPERAZINE	140-31-8	Golden Orfe	Experimental	96 hours	Lethal Concentration 50%	368 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Water flea	Experimental	48 hours	Effect Concentration 50%	58 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	No obs Effect Conc	31 mg/l
TOLUENE	108-88-3	Coho Salmon	Experimental	96 hours	Lethal Concentration 50%	5.5 mg/l
TOLUENE	108-88-3	Fish other	Experimental	96 hours	Lethal Concentration 50%	6.41 mg/l
TOLUENE	108-88-3	Green Algae	Experimental	72 hours	Effect Concentration 50%	12.5 mg/l
TOLUENE	108-88-3	Water flea	Experimental	48 hours	Effect Concentration 50%	3.78 mg/l
TOLUENE	108-88-3	Coho salmon	Experimental	40 days	No obs Effect Conc	3.2 mg/l
TOLUENE	108-88-3	Water flea	Experimental	7 days	No obs Effect Conc	0.74 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ALIPHATIC POLYMER DIAMINE	68911-25-1	Data not availbl-insufficient			N/A	

ALUMINA TRIHYDRATE	21645-51-2	Data not availbl-insufficient			N/A	
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Trade Secret	Data not availbl-insufficient			N/A	
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	Other methods
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Experimental Biodegradation	25 days	Carbon dioxide evolution	-8 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
DMP-30	90-72-2	Experimental Biodegradation	28 days	Biological Oxygen Demand	4 % weight	OECD 301D - Closed Bottle Test
1H-IMIDAZOLE	288-32-4	Experimental Biodegradation	18 days	Dissolv. Organic Carbon Deplet	98 % weight	OECD 301A - DOC Die Away Test
INORGANIC CALCIUM SALT	13477-34-4	Data not availbl-insufficient			N/A	
OXIDE GLASS CHEMICALS	65997-17-3	Data not availbl-insufficient			N/A	
BIS[(DIMETHYLAMINO)METHYL]PHENOL	71074-89-0	Estimated Biodegradation	28 days	Biological Oxygen Demand	20 % weight	OECD 301C - MITI (I)
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	67762-90-7	Data not availbl-insufficient			N/A	
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 301C - MITI (I)
TOLUENE	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	Other methods
TOLUENE	108-88-3	Experimental Biodegradation	20 days	Biological Oxygen Demand	80 % weight	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ALIPHATIC POLYMER DIAMINE	68911-25-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ALUMINA TRIHYDRATE	21645-51-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
AMINE TERMINATED BUTADIENE ACRYLONITRILE POLYMER	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-1.25	Other methods
DMP-30	90-72-2	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.66	Other methods
1H-IMIDAZOLE	288-32-4	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.08	Other methods
INORGANIC CALCIUM SALT	13477-34-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
BIS[(DIMETHYLAMINO)METHYL]PHENOL	71074-89-0	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	-2.34	Est: Octanol-water part. coeff
Siloxanes and Silicones, di-Me, reaction products with silica (nonomaterial)	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.3	Other methods
TOLUENE	108-88-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.73	Other methods

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

Marine Transport (IMDG)

UN Number:UN3263
Proper Shipping Name:CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.
Technical Name:(Aliphatic polymer diamine)
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group:II
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:UN3263
Proper Shipping Name:CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.
Technical Name:(Aliphatic polymer diamine)
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group:II
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 chemical notification requirements of TSCA.

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

Safety Data Sheet

Document Group:	09-6508-7	**Version Number:**	2.00
Issue Date:	31/10/2019	**Supercedes Date:**	24/11/2014

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™ Scotch-Weld™ 7240 B/A FR: Part B [base manufactured as XC 7240]

Product Identification Numbers
FJ-9250-9828-9

1.2. Recommended use and restrictions on use

Recommended use
Base of 2-Part Epoxy Adhesive, Structural adhesive

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.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark | Environment |

Pictograms

Hazard Statements

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H411	Toxic 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.

Prevention:

P280E	Wear protective gloves.
P273	Avoid release to the environment.

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.
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
ALUMINA TRIHYDRATE	21645-51-2	10 - 30
DGEBA BASED EPOXY RESIN	25068-38-6	10 - 30
DGEBF BASED EPOXY RESIN	28064-14-4	10 - 30
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	9003-36-5	< 15
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	7 - 13
OXIDE GLASS CHEMICALS	65997-17-3	7 - 13
ACRYLIC BUTADIENE STYRENE COPOLYMER	Trade Secret	5 - 10
SILICA	7631-86-9	3 - 7
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	1 - 5
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	1 - 5

Red Phosphorus	7723-14-0	< 5
MICROBILLE	None	1 - 5
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	67762-90-7	0.1 - 1
CARBON BLACK	1333-86-4	0.1 - 0.5
SODIUM OXIDE	1313-59-3	< 0.5

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. Remove contact lenses if easy to do. Continue rinsing. 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
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
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.3. Special protective actions for fire-fighters
When fire fighting conditions are severe and total thermal decomposition of the product is possible, 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. Store in a well-ventilated place. Store away from heat. Store away from acids. Store away from strong bases.

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
CARBON BLACK	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
CARBON BLACK	1333-86-4	Malaysia OELs	TWA(8 hours):3.5 mg/m3	
Aluminum, insoluble compounds	21645-51-2	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
DUST, INERT OR NUISANCE	21645-51-2	Malaysia OELs	TWA (proposed)(Inhalable particulate)(8 hours):10 mg/m3;TWA (proposed)(respirable particles)(8 hours):3 mg/m3	
CERAMIC FIBERS	65997-17-3	ACGIH	TWA(as fiber):0.2 fiber/cc	A2: Suspected human carcin.
CONTINUOUS FILAMENT GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A4: Not class. as human carcin
CONTINUOUS FILAMENT GLASS FIBERS, INHALABLE FRACTION	65997-17-3	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
GLASS FILAMENTS	65997-17-3	Malaysia OELs	TWA(as fiber)(8 hours):1 fibers/ml;TWA(inhalable fraction)(8 hours):5 mg/m3	
GLASS WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.

OXIDE GLASS CHEMICALS	65997-17-3	Manufacturer determined	TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3;TWA(as non-fibrous, respirable)(8 hours):3 mg/m3	
ROCK WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
SLAG WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
SPECIAL PURPOSE GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.

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
Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Use with appropriate local exhaust ventilation.

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:
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.
Gloves made from the following material(s) are recommended: Nitrile Rubber

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 – 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:	Thixotropic paste
Color	Black
Odor	Mild Epoxy
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	>=100 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density	*Not Applicable*
Density	*No Data Available*
Relative Density	1.04 - 1.1 [*Ref Std:*WATER=1]
Water solubility	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity	120 - 300 Pa-s [@ 23 ºC] [*Test Method:*Brookfield]
Volatile Organic Compounds	*Not Applicable*
Percent volatile	1 % weight
VOC Less H2O & Exempt Solvents	*Not Applicable*

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
Heat
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5. Incompatible materials
Strong acids
Strong bases

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.

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

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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

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-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
DGEBA BASED EPOXY RESIN	Dermal	Rat	LD50 > 1,600 mg/kg
DGEBA BASED EPOXY RESIN	Ingestion	Rat	LD50 > 1,000 mg/kg
ALUMINA TRIHYDRATE	Dermal		LD50 estimated to be > 5,000 mg/kg
ALUMINA TRIHYDRATE	Ingestion	Rat	LD50 > 5,000 mg/kg
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Dermal	Rabbit	LD50 > 2,000 mg/kg
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Ingestion	Rat	LD50 1,098 mg/kg
DGEBF BASED EPOXY RESIN	Dermal	Rabbit	LD50 > 6,000 mg/kg
DGEBF BASED EPOXY RESIN	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
DGEBF BASED EPOXY RESIN	Ingestion	Rat	LD50 > 4,000 mg/kg
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Dermal	Rabbit	LD50 > 2,000 mg/kg
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Inhalation-Dust/Mist	Rat	LC50 > 1.7 mg/l

	(4 hours)		
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Ingestion	Rat	LD50 > 5,000 mg/kg
OXIDE GLASS CHEMICALS	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Rabbit	LD50 4,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Rat	LD50 7,010 mg/kg
SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
CARBON BLACK	Dermal	Rabbit	LD50 > 3,000 mg/kg
CARBON BLACK	Ingestion	Rat	LD50 > 8,000 mg/kg
SODIUM OXIDE	Ingestion	Professional judgement	LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
DGEBA BASED EPOXY RESIN	Rabbit	Mild irritant
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	In vitro data	Irritant
DGEBF BASED EPOXY RESIN	Rabbit	Minimal irritation
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Rabbit	Mild irritant
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Mild irritant
SILICA	Rabbit	No significant irritation
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Rabbit	No significant irritation
CARBON BLACK	Rabbit	No significant irritation
SODIUM OXIDE	similar compounds	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
DGEBA BASED EPOXY RESIN	Rabbit	Moderate irritant
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	In vitro data	No significant irritation
DGEBF BASED EPOXY RESIN	Rabbit	Mild irritant

EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Corrosive
SILICA	Rabbit	No significant irritation
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Rabbit	No significant irritation
CARBON BLACK	Rabbit	No significant irritation
SODIUM OXIDE	similar compounds	Corrosive

Skin Sensitization

Name	Species	Value
DGEBA BASED EPOXY RESIN	Human and animal	Sensitizing
ALUMINA TRIHYDRATE	Guinea pig	Not classified
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Mouse	Sensitizing
DGEBF BASED EPOXY RESIN	Human and animal	Sensitizing
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	Multiple animal species	Sensitizing
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Guinea pig	Not classified
SILICA	Human and animal	Not classified
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Human and animal	Not classified

Respiratory Sensitization

Name	Species	Value
DGEBA BASED EPOXY RESIN	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
DGEBA BASED EPOXY RESIN	In vivo	Not mutagenic
DGEBA BASED EPOXY RESIN	In Vitro	Some positive data exist, but the data are not sufficient for classification
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	In vivo	Not mutagenic
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
DGEBF BASED EPOXY RESIN	In Vitro	Some positive data exist, but the data are not sufficient for classification
OXIDE GLASS CHEMICALS	In Vitro	Some positive data exist, but the data are not sufficient for classification
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In vivo	Not mutagenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification
SILICA	In Vitro	Not mutagenic
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	In Vitro	Not mutagenic
CARBON BLACK	In Vitro	Not mutagenic

CARBON BLACK	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
DGEBA BASED EPOXY RESIN	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
ALUMINA TRIHYDRATE	Not Specified	Multiple animal species	Not carcinogenic
OXIDE GLASS CHEMICALS	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Mouse	Not carcinogenic
SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
CARBON BLACK	Dermal	Mouse	Not carcinogenic
CARBON BLACK	Ingestion	Mouse	Not carcinogenic
CARBON BLACK	Inhalation	Rat	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
DGEBA BASED EPOXY RESIN	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
DGEBA BASED EPOXY RESIN	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
DGEBA BASED EPOXY RESIN	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
DGEBA BASED EPOXY RESIN	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
ALUMINA TRIHYDRATE	Ingestion	Not classified for development	Rat	NOAEL 768 mg/kg/day	during organogenesis
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	33 days
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
SILICA	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SILICA	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SILICA	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
SODIUM OXIDE	Inhalation	respiratory irritation	May cause respiratory irritation	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
DGEBA BASED EPOXY RESIN	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
DGEBA BASED EPOXY RESIN	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
DGEBA BASED EPOXY RESIN	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	Ingestion	endocrine system | gastrointestinal tract | liver | heart | hematopoietic system | immune system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	33 days
OXIDE GLASS CHEMICALS	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
SILICA	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
CARBON BLACK	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

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:
GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 2: Toxic to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
ALUMINA TRIHYDRATE	21645-51-2	Fish other	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
ALUMINA TRIHYDRATE	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
DGEBA BASED EPOXY RESIN	25068-38-6	Rainbow Trout	Estimated	96 hours	Lethal Concentration 50%	2 mg/l
DGEBA BASED EPOXY RESIN	25068-38-6	Water flea	Estimated	48 hours	Lethal Concentration 50%	1.8 mg/l
DGEBA BASED EPOXY RESIN	25068-38-6	Green Algae	Experimental	72 hours	Effect Concentration 50%	>11 mg/l
DGEBA BASED EPOXY RESIN	25068-38-6	Green Algae	Experimental	72 hours	No obs Effect Conc	4.2 mg/l
DGEBA BASED EPOXY RESIN	25068-38-6	Water flea	Experimental	21 days	No obs Effect Conc	0.3 mg/l
DGEBF BASED EPOXY RESIN	28064-14-4		Data not available or insufficient for classification			
EPICHLOROH	9003-36-5	Crustacea	Experimental	48 hours	Effect	1.6 mg/l

YDRIN-PHENOL-FORMALDEHYDE RESIN					Concentration 50%	
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	9003-36-5	Green Algae	Experimental	72 hours	Effect Concentration 50%	1.8 mg/l
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	9003-36-5	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	0.55 mg/l
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	9003-36-5	Water flea	Experimental	21 days	No obs Effect Conc	0.3 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 50%	26.7 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Rainbow Trout	Estimated	96 hours	Lethal Concentration 50%	10.1 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Water flea	Estimated	48 hours	Effect Concentration 50%	16.3 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 10%	21.4 mg/l
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Water flea	Estimated	21 days	No obs Effect Conc	11.7 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Water flea	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l

OXIDE GLASS CHEMICALS	65997-17-3	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	No obs Effect Conc	>=1,000 mg/l
SILICA	7631-86-9		Data not available or insufficient for classification			
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Common Carp	Experimental	96 hours	Lethal Concentration 50%	55 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Crustecea other	Experimental	48 hours	Lethal Concentration 50%	324 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green algae	Experimental	96 hours	Effect Concentration 50%	350 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green Algae	Experimental	96 hours	No obs Effect Conc	130 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Water flea	Experimental	21 days	No obs Effect Conc	>=100 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Green algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Water flea	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	No obs Effect Conc	>=1,000 mg/l

(non-fibrous)						
Red Phosphorus	7723-14-0	Green algae	Experimental	72 hours	Effect Concentration 50%	18.3 mg/l
Red Phosphorus	7723-14-0	Water flea	Experimental	48 hours	Lethal Concentration 50%	10.5 mg/l
Red Phosphorus	7723-14-0	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	33 mg/l
Red Phosphorus	7723-14-0	Green algae	Experimental	72 hours	Effect Concentration 10%	6.6 mg/l
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	67762-90-7		Data not available or insufficient for classification			
CARBON BLACK	1333-86-4		Data not available or insufficient for classification			
SODIUM OXIDE	1313-59-3		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ALUMINA TRIHYDRATE	21645-51-2	Data not availbl-insufficient			N/A	
DGEBA BASED EPOXY RESIN	25068-38-6	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Other methods
DGEBA BASED EPOXY RESIN	25068-38-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	5 %BOD/COD	OECD 301F - Manometric Respiro
DGEBF BASED EPOXY RESIN	28064-14-4	Laboratory Biodegradation	28 days	Carbon dioxide evolution	10 % weight	OECD 301B - Mod. Sturm or CO2
EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN	9003-36-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	16 % weight	OECD 301B - Mod. Sturm or CO2
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANO	14228-73-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 %removal of DOC	OECD 301F - Manometric Respiro

L						
OXIDE GLASS CHEMICALS	65997-17-3	Data not availbl-insufficient			N/A	
SILICA	7631-86-9	Data not availbl-insufficient			N/A	
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Other methods
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Other methods
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not availbl-insufficient			N/A	
Red Phosphorus	7723-14-0	Experimental Hydrolysis		Hydrolytic half-life	8.3 years (t 1/2)	Other methods
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	67762-90-7	Data not availbl-insufficient			N/A	
CARBON BLACK	1333-86-4	Data not availbl-insufficient			N/A	
SODIUM OXIDE	1313-59-3	Data not availbl-insufficient			N/A	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ALUMINA TRIHYDRATE	21645-51-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DGEBA BASED EPOXY RESIN	25068-38-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.242	Other methods
DGEBF BASED EPOXY RESIN	28064-14-4	Estimated Bioconcentration		Bioaccumulation Factor	<=7.6	Est: Bioconcentration factor
EPICHLOROHYDRIN-PHENOL-	9003-36-5	Data not available or insufficient for	N/A	N/A	N/A	N/A

FORMALDEHYDE RESIN		classification				
DIGLYCIDYL ETHER OF CYCLOHEXANE DIMETHANOL	14228-73-0	Estimated Bioconcentration		Bioaccumulation Factor	3	Est: Bioconcentration factor
OXIDE GLASS CHEMICALS	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
SILICA	7631-86-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Red Phosphorus	7723-14-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA	67762-90-7	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
SODIUM OXIDE	1313-59-3	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

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:
Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

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:
Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

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 chemical notification requirements of TSCA.

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