

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

3MTM Scotch-WeldTM Low Odor Acrylic Adhesive DP810 Black and Low Odor Acrylic Adhesive 810 Black, Part A

Product Identification Numbers

62-2888-7530-5 62-2888-8730-0

1.2. Recommended use and restrictions on use

Recommended use

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

Skin Corrosion/Irritation: Category 2. Serious Eve Damage/Irritation: Category 1.

Skin Sensitizer: Category 1. Carcinogenicity: Category 1B. Reproductive Toxicity: Category 1B.

Specific Target Organ Toxicity (repeated exposure): Category 2.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark | Health Hazard | Environment |

Pictograms



Hazard Statements:

H315 Causes skin irritation. H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure: nervous

system | respiratory system.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201 Obtain special instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P273 Avoid release to the environment.

P280I Wear protective gloves, eye/face protection, and respiratory protection.

P281 Use personal protective equipment as required.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.
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
Phenoxyethyl Methacrylate	10595-06-9	10 - 40
2-Hydroxyethyl Methacrylate	868-77-9	10 - 30
Acrylate Oligomer	41637-38-1	1 - 20
Acrylonitrile-Butadiene Polymer	9010-81-5	1 - 20
Hydroxypropyl Methacrylate	27813-02-1	1 - 20
Cumene Hydroperoxide	80-15-9	1 - 5

2,2'-Methylenebis(6-tert-butyl-p-cresol)	119-47-1	< 1
Cumene	98-82-8	< 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 wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

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

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

Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	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. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Cumene	98-82-8	ACGIH	TWA:5 ppm	A3: Confirmed animal
				carcin.
Cumene	98-82-8	Malaysia OELs	TWA(8 hours):246 mg/m3(50	SKIN
			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: Full Face Shield Indirect Vented Goggles

Skin/hand protection

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

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half mask or full facepiece air-purifying respirator with N100 particulate filters

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

Half facepiece or full facepiece supplied-air respirator

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	Liquid
Specific Physical Form:	Paste
Color	White
Odor	Mild Acrylic
Odor threshold	No Data Available
pH	Not Applicable
Melting point/Freezing point	Not Applicable
Boiling point/Initial boiling point/Boiling range	80 °C
Flash Point	103.9 °C [Test Method:Closed Cup]
Evaporation rate	No Data Available
Flammability	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	No Data Available
Relative Vapor Density	No Data Available
Density	1.07 g/ml
Relative Density	1.07 [Ref Std:WATER=1]
Water solubility	Slight (less than 10%)
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available

Kinematic Viscosity	18,692 mm2/sec	
Volatile Organic Compounds	No Data Available	
Percent volatile	No Data Available	
VOC Less H2O & Exempt Solvents	3.1 g/l [Details: when used as intended with Part B]	
VOC Less H2O & Exempt Solvents	0.3 % [Details: when used as intended with Part B]	
VOC Less H2O & Exempt Solvents	349 g/l [Test Method:tested per EPA method 24] [Details:as	
	supplied]	
Molecular weight	No Data Available	

Particle Characteristics	Not Applicable

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 may occur.

10.4. Conditions to avoid

Heat

Sparks and/or flames

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke

10.5. Incompatible materials

Amines

Strong oxidizing agents

Reactive metals

Reducing agents

10.6. Hazardous decomposition products

Substance
None known.

Condition

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:

May be harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

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

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

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

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.

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 >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Phenoxyethyl Methacrylate	Dermal	similar compoun ds	LD50 > 2,000 mg/kg
Phenoxyethyl Methacrylate	Ingestion	similar compoun ds	LD50 > 5,000 mg/kg
2-Hydroxyethyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Hydroxyethyl Methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
Acrylonitrile-Butadiene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Acrylonitrile-Butadiene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hydroxypropyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg

Hydroxypropyl Methacrylate	Ingestion	Rat	LD50 > 11,200 mg/kg
Acrylate Oligomer	Dermal	Rat	LD50 > 2,000 mg/kg
Acrylate Oligomer	Ingestion	Rat	LD50 > 2,000 mg/kg
Cumene Hydroperoxide	Dermal	Rat	LD50 500 mg/kg
Cumene Hydroperoxide	Inhalation-	Rat	LC50 1.4 mg/l
	Vapor (4		
	hours)		
Cumene Hydroperoxide	Ingestion	Rat	LD50 382 mg/kg
Cumene	Dermal	Rabbit	LD50 > 3,160 mg/kg
Cumene	Inhalation-	Rat	LC50 39.4 mg/l
	Vapor (4		
	hours)		
Cumene	Ingestion	Rat	LD50 2,260 mg/kg
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Dermal	Rabbit	LD50 > 10,000 mg/kg
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Phenoxyethyl Methacrylate	similar compoun ds	No significant irritation
2-Hydroxyethyl Methacrylate	Rabbit	Minimal irritation
Acrylonitrile-Butadiene Polymer	Professio	No significant irritation
	nal	
	judgemen	
	t	
Hydroxypropyl Methacrylate	Rabbit	Minimal irritation
Acrylate Oligomer	In vitro	No significant irritation
	data	
Cumene Hydroperoxide	official	Corrosive
	classificat	
	ion	
Cumene	Rabbit	Minimal irritation
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Phenoxyethyl Methacrylate	similar compoun ds	No significant irritation
2-Hydroxyethyl Methacrylate	Rabbit	Moderate irritant
Acrylonitrile-Butadiene Polymer	Professio	No significant irritation
	nal	
	judgemen	
	t	
Hydroxypropyl Methacrylate	Rabbit	Moderate irritant
Acrylate Oligomer	In vitro	No significant irritation
	data	
Cumene Hydroperoxide	official	Corrosive
	classificat	
	ion	
Cumene	Rabbit	Mild irritant
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Rabbit	Mild irritant

Sensitization:

Skin Sensitization

Skili Selisitization		
Name	Species	Value
Phenoxyethyl Methacrylate	similar	Sensitizing
	compoun	

	ds	
2-Hydroxyethyl Methacrylate	Human	Sensitizing
	and	
	animal	
Hydroxypropyl Methacrylate	Human	Sensitizing
	and	
	animal	
Acrylate Oligomer	Multiple	Not classified
	animal	
	species	
Cumene	Guinea	Not classified
	pig	
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Mouse	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
Phenoxyethyl Methacrylate	In Vitro	Not mutagenic
2-Hydroxyethyl Methacrylate	In vivo	Not mutagenic
2-Hydroxyethyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hydroxypropyl Methacrylate	In vivo	Not mutagenic
Hydroxypropyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Acrylate Oligomer	In Vitro	Not mutagenic
Cumene Hydroperoxide	In vivo	Not mutagenic
Cumene Hydroperoxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cumene	In Vitro	Not mutagenic
Cumene	In vivo	Not mutagenic
2,2'-Methylenebis(6-tert-butyl-p-cresol)	In Vitro	Not mutagenic

Carcinogenicity

- wire in ogeniery							
Name	Route	Species	Value				
Cumene	Inhalation	Multiple	Carcinogenic				
		anımal					
		species					

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration	
Phenoxyethyl Methacrylate Ingestion		Toxic to female reproduction	similar compoun ds	NOAEL 300 mg/kg/day	premating into lactation	
Phenoxyethyl Methacrylate	Ingestion	Toxic to development	similar compoun ds	NOAEL 300 mg/kg/day	premating into lactation	
2-Hydroxyethyl Methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation	
2-Hydroxyethyl Methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days	
2-Hydroxyethyl Methacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation	
Hydroxypropyl Methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation	

Hydroxypropyl Methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
Hydroxypropyl Methacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Acrylate Oligomer	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Acrylate Oligomer	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Acrylate Oligomer	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Cumene	Inhalation	Not classified for development	Rabbit	NOAEL 11.3 mg/l	during organogenesis
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	premating into lactation
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Ingestion	Not classified for development	Rat	NOAEL 50 mg/kg/day	premating into lactation
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Ingestion	Toxic to male reproduction	Rat	NOAEL 12.5 mg/kg/day	50 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydroxypropyl Methacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Cumene Hydroperoxide	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	occupational exposure
Cumene Hydroperoxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
Cumene Hydroperoxide	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
Cumene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
Cumene	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 0.2 mg/l	occupational exposure
Cumene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydroxypropyl Methacrylate	Inhalation	blood	Not classified	Rat	NOAEL 0.5 mg/l	21 days
Hydroxypropyl Methacrylate	Ingestion	hematopoietic system heart endocrine system liver immune system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	41 days
Acrylate Oligomer	Ingestion	hematopoietic system liver immune system kidney and/or bladder endocrine	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks

		system eyes				
Cumene Hydroperoxide	Inhalation	nervous system respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.2 mg/l	7 days
Cumene Hydroperoxide	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 0.03 mg/l	90 days
Cumene	Inhalation	auditory system endocrine system hematopoietic system liver nervous system eyes	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4.9 mg/l	13 weeks
Cumene	Inhalation	respiratory system	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Ingestion	kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system	Not classified	Rat	NOAEL 769 mg/kg/day	6 months
2,2'-Methylenebis(6-tert-butyl-p-cresol)	Ingestion	liver heart endocrine system gastrointestinal tract hematopoietic system immune system muscles nervous system kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 42 mg/kg/day	18 months

Aspiration Hazard

Name	Value
Cumene	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 2: 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	Туре	Exposure	Test Endpoint	Test Result
Phenoxyethyl	10595-06-9	Activated sludge	Analogous	3 hours	EC50	177 mg/l
Methacrylate			Compound			
Phenoxyethyl	10595-06-9	Golden Orfe	Analogous	96 hours	LC50	10 mg/l
Methacrylate			Compound			

Menhacylate Menhacylate Menhacylate Menhacylate Menhacylate Menhacylate 10595-06-9 Menhacylate 10595-06-9 Green algae Compound 10505-06-9 Green algae Compound 10505-06-9 Menhacylate 10505-06-9 Turbot Compound 10505-06-9 Menhacylate 10505-06-9 Fathead Minnow Experimental Policy 10505-06-9 Menhacylate 10505-06-9 Menhacyl	Phenoxyethyl	10595-06-9	Green algae	Analogous	96 hours	ErC50	4.4 mg/l
Methacytolate 1659-60-9 Green algae Compound 90 hours FeC10 0.74 mg/l	Methacrylate			Compound			c .
Phemosynthy		10595-06-9	Water flea		48 hours	EC50	1.21 mg/l
Menharylate		10595-06-9	Green algae		96 hours	ErC10	0.74 mg/l
Menhaeryslate Artyloroxycelyla Se8-77-9 Fathead Minnow Experimental 96 hours LC50 227 mg/l	Methacrylate			Compound			_
Methacyslate 2-Hydroxycytols 868-77-9 Green algae Experimental 72 hours EC50 380 mg/l			Turbot		96 hours	LC50	833 mg/l
Methacrylate Section		868-77-9	Fathead Minnow	Experimental	96 hours	LC50	227 mg/l
2-Hydroxyethy 868-77-9 Water flea Experimental 48 hours ECSO 380 mg/l		868-77-9	Green algae	Experimental	72 hours	EC50	710 mg/l
2-11ydrocycethy 868-77-9 Green algae Experimental 72 hours NOEC 160 mg/l	2-Hydroxyethyl	868-77-9	Water flea	Experimental	48 hours	EC50	380 mg/l
2-11ydroxycpthy 88-77-9	2-Hydroxyethyl	868-77-9	Green algae	Experimental	72 hours	NOEC	160 mg/l
2-Hydroxychty 868-77-9	2-Hydroxyethyl	868-77-9	Water flea	Experimental	21 days	NOEC	24.1 mg/l
2-Hydroxychty 86 87-79 N/A Experimental 18 hours L550 998 mg per kg of bodyweight	2-Hydroxyethyl	868-77-9	N/A	Experimental	16 hours	EC0	>3,000 mg/l
Acrylate Oligomer 41637-38-1 Rainbow Trout Analogous Compound Com	2-Hydroxyethyl	868-77-9	N/A	Experimental	18 hours	LD50	<98 mg per kg of bodyweight
Acrylate Oligomer 41637-38-1 Rainbow Trout Analogous Compound No tox obs at limt of water sol		41637-38-1	Green algae		72 hours		>100 mg/l
Acrylate Oligomer 41637-38-1 Water flea Experimental 48 hours No tox obs at lmt of water sol 100 mg/l of water s	Acrylate Oligomer	41637-38-1	Rainbow Trout	Analogous	96 hours	No tox obs at lmt	>100 mg/l
Compound	Acrylate Oligomer	41637-38-1	Water flea		48 hours		>100 mg/l
Compound	Acrylate Oligomer	41637-38-1	Green algae		72 hours		100 mg/l
Acrylate Oligomer	Acrylate Oligomer	41637-38-1	Water flea		21 days	1	100 mg/l
Acrylate Oligomer	Acrylate Oligomer	41637-38-1	Zebra Fish	Analogous	34 days	No tox obs at lmt	100 mg/l
Butadiene Polymer		41637-38-1	Activated sludge	-	3 hours		>1,000 mg/l
Hydroxypropy Methacrylate Mydroxypropy Methacrylate Hydroxypropy Methacrylate Mydroxypropy Methacrylate Mydroxypropy Methacrylate Mydroperoxide Mydrope		9010-81-5	N/A	or insufficient for	N/A	N/A	N/A
Hydroxypropy Methacrylate Methacrylate Hydroxypropy Methacrylate Methacrylate Methacrylate Hydroxypropy Methacrylate Methalene Methal	Hydroxypropyl Methacrylate	27813-02-1	Bacteria	Experimental	N/A	EC10	1,140 mg/l
Hydroxypropy Methacrylate 27813-02-1 Water flea Experimental 72 hours ErC50 >97.2 mg/l		27813-02-1	Golden Orfe	Experimental	48 hours	EC50	493 mg/l
Hydroxypropy Methacrylate 27813-02-1 Water flea Experimental 48 hours EC50 >143 mg/l	Hydroxypropyl	27813-02-1	Green algae	Experimental	72 haura	E-C50	07.0
Hydroxypropyl Methacrylate Hydroxypropyl 27813-02-1 Water flea Experimental 72 hours NOEC 97.2 mg/l Hydroxypropyl 27813-02-1 Water flea Experimental 21 days NOEC 45.2 mg/l Methacrylate Cumene 80-15-9 Bacteria Experimental 18 hours EC10 0.103 mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours EC50 3.1 mg/l Hydroperoxide Cumene 80-15-9 Rainbow Trout Experimental 96 hours LC50 3.9 mg/l Hydroperoxide Cumene 80-15-9 Water flea Experimental 48 hours EC50 18.84 mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours EC50 1 hours I hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours EC50 1 hours I hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours EC50 1 hours I hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours NOEC I hmg/l Hydroperoxide 2,2'- I hy-47-1 Green algae Endpoint not reached reached FC50 1 hours F				Z.iperimentar	/2 nours	ETCSU	>97.2 mg/l
Hydroxypropyl Methacrylate Cumene 80-15-9 Hydroperoxide Cumene 80-15-9 Rainbow Trout Experimental 96 hours Hydroperoxide Cumene 80-15-9 Hydroperoxide Cumene 10-15-9 Hydroperoxide Cumene 11-15-9 Hydroperoxide Cu	Hydroxypropyl	27813-02-1		1			
Cumene Bacteria Experimental I8 hours EC10 0.103 mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours EC50 3.1 mg/l Hydroperoxide Cumene 80-15-9 Rainbow Trout Experimental 96 hours LC50 3.9 mg/l Hydroperoxide Cumene 80-15-9 Water flea Experimental 48 hours EC50 18.84 mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours NOEC I mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours NOEC I mg/l Hydroperoxide 2,2'- I19-47-1 Green algae Endpoint not reached EC50 >100 mg/l Methylenebis(6- tert-butyl-p-cresol) Hydroperoxide EC50 >100 mg/l EC50 >100 mg/l	Hydroxypropyl Methacrylate Hydroxypropyl		Water flea	Experimental	48 hours	EC50	>143 mg/l
Cumene 80-15-9 Rainbow Trout Experimental 72 hours EC50 3.1 mg/l Hydroperoxide Cumene 80-15-9 Rainbow Trout Experimental 96 hours LC50 3.9 mg/l Hydroperoxide Cumene 80-15-9 Water flea Experimental 48 hours EC50 18.84 mg/l Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours NOEC I mg/l Hydroperoxide LC50 3.9 mg/l EC50 18.80 mg/l I mg/l	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl	27813-02-1	Water flea Green algae	Experimental Experimental	48 hours 72 hours	EC50 NOEC	>143 mg/l 97.2 mg/l
Cumene Hydroperoxide80-15-9Rainbow TroutExperimental96 hoursLC503.9 mg/lCumene Hydroperoxide80-15-9Water fleaExperimental48 hoursEC5018.84 mg/lCumene Hydroperoxide80-15-9Green algaeExperimental72 hoursNOEC1 mg/lHydroperoxide2,2'-119-47-1Green algaeEndpoint not reached72 hoursEC50>100 mg/lMethylenebis(6- tert-butyl-p-cresol)119-47-1Water fleaEndpoint not reached48 hoursEC50>100 mg/lMethylenebis(6- tert-butyl-p-cresol)119-47-1Water fleaEndpoint not reached48 hoursEC50>100 mg/l	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene	27813-02-1 27813-02-1	Water flea Green algae Water flea	Experimental Experimental Experimental	48 hours 72 hours 21 days	EC50 NOEC	>143 mg/l 97.2 mg/l 45.2 mg/l
Cumene Hydroperoxide Cumene 80-15-9 Green algae Experimental 72 hours Hydroperoxide Cumene Hydroperoxide 2,2'- Methylenebis(6-tert-butyl-p-cresol) Mater flea Experimental 72 hours EC50 I mg/l NOEC I mg/l FC50 NOEC I mg/l FC50 S100 mg/l	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene	27813-02-1 27813-02-1 80-15-9	Water flea Green algae Water flea Bacteria	Experimental Experimental Experimental Experimental	48 hours 72 hours 21 days 18 hours	EC50 NOEC NOEC EC10	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l
Cumene Hydroperoxide 80-15-9 Green algae Experimental 72 hours NOEC 1 mg/l 2,2'- Methylenebis(6- tert-butyl-p-cresol) 119-47-1 Green algae Endpoint not reached 72 hours EC50 >100 mg/l 2,2'- Methylenebis(6- tert-butyl-p-cresol) 119-47-1 Water flea Endpoint not reached 48 hours EC50 >100 mg/l	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene	27813-02-1 27813-02-1 80-15-9 80-15-9	Water flea Green algae Water flea Bacteria Green algae	Experimental Experimental Experimental Experimental Experimental	48 hours 72 hours 21 days 18 hours 72 hours	EC50 NOEC NOEC EC10 EC50	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l
2,2'- Methylenebis(6- tert-butyl-p-cresol) 119-47-1 Green algae Endpoint not reached 72 hours FC50 >100 mg/l 2,2'- Methylenebis(6- tert-butyl-p-cresol) Water flea Endpoint not reached Endpoint not reached Endpoint not reached	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene Cumene	27813-02-1 27813-02-1 80-15-9 80-15-9 80-15-9	Water flea Green algae Water flea Bacteria Green algae Rainbow Trout	Experimental Experimental Experimental Experimental Experimental Experimental	48 hours 72 hours 21 days 18 hours 72 hours 96 hours	EC50 NOEC NOEC EC10 EC50 LC50	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l 3.9 mg/l
2,2'-	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene Hydroperoxide Cumene Cumene Hydroperoxide Cumene	27813-02-1 27813-02-1 80-15-9 80-15-9 80-15-9 80-15-9	Water flea Green algae Water flea Bacteria Green algae Rainbow Trout Water flea	Experimental Experimental Experimental Experimental Experimental Experimental Experimental	48 hours 72 hours 21 days 18 hours 72 hours 96 hours 48 hours	EC50 NOEC NOEC EC10 EC50 LC50 EC50	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l 3.9 mg/l 18.84 mg/l
Methylenebis(6- tert-butyl-p-cresol)	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene	27813-02-1 27813-02-1 80-15-9 80-15-9 80-15-9 80-15-9	Water flea Green algae Water flea Bacteria Green algae Rainbow Trout Water flea Green algae	Experimental	48 hours 72 hours 21 days 18 hours 72 hours 96 hours 48 hours 72 hours	EC50 NOEC NOEC EC10 EC50 LC50 EC50 NOEC	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l 3.9 mg/l 18.84 mg/l 1 mg/l
	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide Cumene	27813-02-1 27813-02-1 80-15-9 80-15-9 80-15-9 80-15-9 119-47-1	Water flea Green algae Water flea Bacteria Green algae Rainbow Trout Water flea Green algae Green algae	Experimental	48 hours 72 hours 21 days 18 hours 72 hours 96 hours 48 hours 72 hours 72 hours	EC50 NOEC EC10 EC50 LC50 EC50 NOEC EC50	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l 3.9 mg/l 18.84 mg/l 1 mg/l >100 mg/l
	Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Hydroxypropyl Methacrylate Cumene Hydroperoxide 2,2'- Methylenebis(6- tert-butyl-p-cresol) 2,2'- Methylenebis(6-	27813-02-1 27813-02-1 80-15-9 80-15-9 80-15-9 80-15-9 119-47-1	Water flea Green algae Water flea Bacteria Green algae Rainbow Trout Water flea Green algae Green algae	Experimental Endpoint not reached Endpoint not	48 hours 72 hours 21 days 18 hours 72 hours 96 hours 48 hours 72 hours 72 hours	EC50 NOEC EC10 EC50 LC50 EC50 NOEC EC50	>143 mg/l 97.2 mg/l 45.2 mg/l 0.103 mg/l 3.1 mg/l 3.9 mg/l 18.84 mg/l 1 mg/l >100 mg/l

Methylenebis(6- tert-butyl-p-cresol)						
2,2'- Methylenebis(6- tert-butyl-p-cresol)	119-47-1	Medaka	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
2,2'- Methylenebis(6- tert-butyl-p-cresol)	119-47-1	Green algae	Experimental	72 hours	NOEC	1.3 mg/l
Cumene	98-82-8	Activated sludge	Experimental	3 hours	EC10	>2,000 mg/l
Cumene	98-82-8	Green algae	Experimental	72 hours	EC50	2.6 mg/l
Cumene	98-82-8	Mysid Shrimp	Experimental	96 hours	EC50	1.2 mg/l
Cumene	98-82-8	Rainbow Trout	Experimental	96 hours	LC50	2.7 mg/l
Cumene	98-82-8	Water flea	Experimental	48 hours	EC50	2.14 mg/l
Cumene	98-82-8	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
Cumene	98-82-8	Water flea	Experimental	21 days	NOEC	0.35 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Phenoxyethyl Methacrylate	10595-06-9	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	22.3 %BOD/ThOD	OECD 301D - Closed Bottle Test
Phenoxyethyl Methacrylate	10595-06-9	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	1 years (t 1/2)	OECD 111 Hydrolysis func of pH
2-Hydroxyethyl Methacrylate	868-77-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	84 %BOD/COD	OECD 301D - Closed Bottle Test
2-Hydroxyethyl Methacrylate	868-77-9	Experimental Hydrolysis		Hydrolytic half-life basic pH	10.9 days (t 1/2)	OECD 111 Hydrolysis func of pH
Acrylate Oligomer	41637-38-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	24 %BOD/ThOD	OECD 301D - Closed Bottle Test
Acrylonitrile- Butadiene Polymer	9010-81-5	Data not availbl- insufficient	N/A	N/A	N/A	N/A
Hydroxypropyl Methacrylate	27813-02-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	81 %BOD/ThOD	OECD 301C - MITI (I)
Cumene Hydroperoxide	80-15-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 %BOD/ThOD	OECD 301C - MITI (I)
2,2'- Methylenebis(6- tert-butyl-p-cresol)	119-47-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 %BOD/ThOD	OECD 301C - MITI (I)
Cumene	98-82-8	Experimental Biodegradation	14 days	Biological Oxygen Demand	33 %BOD/ThOD	OECD 301C - MITI (I)
Cumene	98-82-8	Experimental Photolysis		Photolytic half-life (in air)	4.5 days (t 1/2)	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Phenoxyethyl Methacrylate	10595-06-9	Modeled Bioconcentration		Bioaccumulation Factor	5.8	Catalogic™
Phenoxyethyl Methacrylate	10595-06-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.137	OECD 117 log Kow HPLC method
2-Hydroxyethyl Methacrylate	868-77-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.42	OECD 107 log Kow shke flsk mtd
Acrylate Oligomer	41637-38-1	Modeled Bioconcentration		Bioaccumulation Factor	7	Catalogic™
Acrylate Oligomer	41637-38-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	≥4.66	OECD 117 log Kow HPLC method
Acrylonitrile-	9010-81-5	Data not available	N/A	N/A	N/A	N/A

Butadiene Polymer		or insufficient for classification				
Hydroxypropyl Methacrylate	27813-02-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.97	EC A.8 Partition Coefficient
Cumene Hydroperoxide	80-15-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.82	
2,2'- Methylenebis(6- tert-butyl-p-cresol)	119-47-1	Experimental BCF - Fish	60 days	Bioaccumulation Factor	840	OECD305-Bioconcentration
Cumene	98-82-8	Modeled Bioconcentration		Bioaccumulation Factor	140	Catalogic TM
Cumene	98-82-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.55	OECD 107 log Kow shke flsk mtd

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: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Name: None assigned.

Hazard Class/Division:9

Subsidiary Risk: None assigned.

Packing Group: III

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:UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Name: None assigned.

Hazard Class/Division:9

Subsidiary Risk: None assigned.

Packing Group:III

Limited Quantity: None assigned. Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

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

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

DISCLAIMER: The information in this Safety Data Sheet (SDS) is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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