Safety Data Sheet

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

SECTION 1: Identification

1.1. Product identifier
3M(TM) Scotch-Weld(TM) Threadlocker TL90, Green

Product Identification Numbers
62-3498-1060-6 62-3498-1065-5 62-3498-3960-5 62-3498-5060-2 62-3498-8360-3

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 Eye Damage/Irritation: Category 2.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 2.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |Health Hazard |Environment |

Pictograms

Hazard Statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
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:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P273	Avoid release to the environment.
P280E	Wear protective gloves.

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 attention.

Disposal:

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

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Triethylene Glycol Dimethacrylate	109-16-0	60 - 90
Hydroxypropyl Methacrylate	27813-02-1	1 - 10
Acrylic Acid	79-10-7	<= 1.5
Cumene Hydroperoxide	80-15-9	< 1.5
Saccharin	81-07-2	<= 1
1-Acetyl-2-Phenylhydrazine	114-83-0	<= 0.5
2,2'-(P-tolylimino)Diethanol	3077-12-1	<= 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

Allergic skin reaction (redness, swelling, blistering, and itching). 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
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Oxides of Sulfur	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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. 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.

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
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.)

7.2. Conditions for safe storage including any incompatibilities
Protect from sunlight. Store away from heat. 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
Acrylic Acid	79-10-7	ACGIH	TWA:2 ppm	A4: Not class. as human carcin, Danger of cutaneous absorption
Acrylic Acid	79-10-7	Malaysia OELs	TWA(8 hours):5.9 mg/m3(2 ppm)	SKIN

ACGIH : American Conference of Governmental Industrial Hygienists
CMRG : Chemical Manufacturer's Recommended Guidelines
Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates
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:	Thixotropic Liquid
Color	Green
Odor	Mild Solvent
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	>=148.9 ºC [@ 101,324.72 Pa]
Flash Point	>=100 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	Negligible
Flammability	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	<=666.6 Pa
Relative Vapor Density	1.01 [*Ref Std:*AIR=1]
Density	1.1 - 1.15 g/ml [@ 20 ºC]
Relative Density	1.1 - 1.15 [@ 20 ºC] [*Ref Std:*WATER=1]
Water solubility	Negligible
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	18.2 mm2/sec
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	< 5 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*Not Applicable*

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 will not occur.

10.4. Conditions to avoid
Heat
Light

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
May cause additional health effects (see below).

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

Eye Contact:
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.

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.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Triethylene Glycol Dimethacrylate	Dermal	Mouse	LD50 > 2,000
Triethylene Glycol Dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
Hydroxypropyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hydroxypropyl Methacrylate	Ingestion	Rat	LD50 > 11,200 mg/kg
Acrylic Acid	Dermal	Rabbit	LD50 640 mg/kg
Acrylic Acid	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.8 mg/l
Acrylic Acid	Ingestion	Rat	LD50 1,250 mg/kg
Cumene Hydroperoxide	Dermal	Rat	LD50 500 mg/kg
Cumene Hydroperoxide	Inhalation-Vapor (4 hours)	Rat	LC50 1.4 mg/l
Cumene Hydroperoxide	Ingestion	Rat	LD50 382 mg/kg
Saccharin	Ingestion	Mouse	LD50 17,000 mg/kg
Saccharin	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
1-Acetyl-2-Phenylhydrazine	Dermal		LD50 estimated to be 200 - 1,000 mg/kg
1-Acetyl-2-Phenylhydrazine	Ingestion	Mouse	LD50 270 mg/kg
2,2'-(P-tolylimino)Diethanol	Dermal	Rabbit	LD50 > 2,000 mg/kg
2,2'-(P-tolylimino)Diethanol	Ingestion	Rat	LD50 959 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Triethylene Glycol Dimethacrylate	Rabbit	No significant irritation
Hydroxypropyl Methacrylate	Rabbit	Minimal irritation
Acrylic Acid	Rabbit	Corrosive
Cumene Hydroperoxide	official classification	Corrosive
Saccharin	similar compounds	No significant irritation
2,2'-(P-tolylimino)Diethanol	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Triethylene Glycol Dimethacrylate	Rabbit	No significant irritation

Hydroxypropyl Methacrylate	Rabbit	Moderate irritant
Acrylic Acid	Rabbit	Corrosive
Cumene Hydroperoxide	official classification	Corrosive
Saccharin	similar compounds	No significant irritation
2,2'-(P-tolylimino)Diethanol	Rabbit	Corrosive

Sensitization:

Skin Sensitization

Name	Species	Value
Triethylene Glycol Dimethacrylate	Mouse	Sensitizing
Hydroxypropyl Methacrylate	Human and animal	Sensitizing
Acrylic Acid	Guinea pig	Not classified
Saccharin	Mouse	Not classified
1-Acetyl-2-Phenylhydrazine	Professional judgement	Sensitizing
2,2'-(P-tolylimino)Diethanol	Mouse	Sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
Triethylene Glycol Dimethacrylate	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
Acrylic Acid	In vivo	Not mutagenic
Acrylic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cumene Hydroperoxide	In vivo	Not mutagenic
Cumene Hydroperoxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Saccharin	In Vitro	Not mutagenic
Saccharin	In vivo	Some positive data exist, but the data are not sufficient for classification
1-Acetyl-2-Phenylhydrazine	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,2'-(P-tolylimino)Diethanol	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Triethylene Glycol Dimethacrylate	Dermal	Mouse	Not carcinogenic
Acrylic Acid	Ingestion	Rat	Not carcinogenic
Acrylic Acid	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Saccharin	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Triethylene Glycol Dimethacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Triethylene Glycol Dimethacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	5 weeks
Triethylene Glycol Dimethacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
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
Acrylic Acid	Ingestion	Not classified for female reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Ingestion	Not classified for male reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Inhalation	Not classified for development	Rat	NOAEL 1.1 mg/l	during organogenesis
Acrylic Acid	Ingestion	Not classified for development	Rat	NOAEL 53 mg/kg/day	2 generation
Saccharin	Ingestion	Not classified for female reproduction	Mouse	NOAEL 714 mg/kg/day	6 generation
Saccharin	Ingestion	Not classified for male reproduction	Mouse	NOAEL 714 mg/kg/day	6 generation
Saccharin	Ingestion	Not classified for development	Mouse	NOAEL 2,000 mg/kg/day	during gestation

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	
Acrylic Acid	Inhalation	respiratory irritation	May cause respiratory irritation	Human	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	Professional judgement	NOAEL Not available	
2,2'-(P-tolylimino)Diethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Triethylene Glycol Dimethacrylate	Dermal	liver	Not classified	Mouse	NOAEL 2,000 mg/kg/day	13 weeks
Triethylene Glycol Dimethacrylate	Dermal	skin	Not classified	Mouse	NOAEL 100 mg/kg/day	13 weeks

Triethylene Glycol Dimethacrylate	Dermal	gastrointestinal tract | hematopoietic system | nervous system | kidney and/or bladder | respiratory system	Not classified	Mouse	NOAEL 2,000 mg/kg/day	13 weeks
Triethylene Glycol Dimethacrylate	Ingestion	hematopoietic system | liver | nervous system | kidney and/or bladder | eyes	Not classified	Rat	NOAEL 3,849 mg/kg/day	13 weeks
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
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
Saccharin	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,500 mg/kg/day	1 years
Saccharin	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 7,500 mg/kg/day	1 months
1-Acetyl-2-Phenylhydrazine	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Dog	LOAEL 4 mg/kg/day	7 days

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
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	Type	Exposure	Test Endpoint	Test Result
Triethylene Glycol Dimethacrylate	109-16-0	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Triethylene Glycol Dimethacrylate	109-16-0	Zebra Fish	Experimental	96 hours	LC50	16.4 mg/l

Triethylene Glycol Dimethacrylate	109-16-0	Green algae	Experimental	72 hours	NOEC	18.6 mg/l
Triethylene Glycol Dimethacrylate	109-16-0	Water flea	Experimental	21 days	NOEC	32 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Bacteria	Experimental	N/A	EC10	1,140 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Golden Orfe	Experimental	48 hours	EC50	493 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Green algae	Experimental	72 hours	ErC50	>97.2 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Water flea	Experimental	48 hours	EC50	>143 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Green algae	Experimental	72 hours	NOEC	97.2 mg/l
Hydroxypropyl Methacrylate	27813-02-1	Water flea	Experimental	21 days	NOEC	45.2 mg/l
Acrylic Acid	79-10-7	Diatom	Experimental	5 days	ErC50	50 mg/l
Acrylic Acid	79-10-7	Green algae	Experimental	72 hours	ErC50	0.13 mg/l
Acrylic Acid	79-10-7	Mysid Shrimp	Experimental	96 hours	LC50	97 mg/l
Acrylic Acid	79-10-7	Rainbow Trout	Experimental	96 hours	LC50	27 mg/l
Acrylic Acid	79-10-7	Sheepshead Minnow	Experimental	96 hours	LC50	236 mg/l
Acrylic Acid	79-10-7	Water flea	Experimental	48 hours	EC50	47 mg/l
Acrylic Acid	79-10-7	Diatom	Experimental	72 hours	NOEC	36 mg/l
Acrylic Acid	79-10-7	Green algae	Experimental	72 hours	ErC10	0.03 mg/l
Acrylic Acid	79-10-7	Medaka	Experimental	45 days	NOEC	10.1 mg/l
Acrylic Acid	79-10-7	Water flea	Experimental	21 days	NOEC	3.8 mg/l
Acrylic Acid	79-10-7	Activated sludge	Experimental	30 minutes	NOEC	100 mg/l
Acrylic Acid	79-10-7	Bird	Experimental	7 days	LD50	>=98 mg per kg of bodyweight
Acrylic Acid	79-10-7	Ciliated Protozoa	Experimental	48 hours	NOEC	0.9 mg/l
Acrylic Acid	79-10-7	Redworm	Experimental	14 days	LC50	>1,000 mg/kg (Dry Weight)
Acrylic Acid	79-10-7	Soil microbes	Experimental	28 days	NOEC	100 mg/kg (Dry Weight)
Cumene Hydroperoxide	80-15-9	Bacteria	Experimental	18 hours	EC10	0.103 mg/l
Cumene Hydroperoxide	80-15-9	Green algae	Experimental	72 hours	EC50	3.1 mg/l
Cumene Hydroperoxide	80-15-9	Rainbow Trout	Experimental	96 hours	LC50	3.9 mg/l
Cumene Hydroperoxide	80-15-9	Water flea	Experimental	48 hours	EC50	18.84 mg/l
Cumene Hydroperoxide	80-15-9	Green algae	Experimental	72 hours	NOEC	1 mg/l
Saccharin	81-07-2	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
Saccharin	81-07-2	Zebra Fish	Analogous Compound	96 hours	LC50	>400 mg/l
Saccharin	81-07-2	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
Saccharin	81-07-2	Green algae	Analogous Compound	72 hours	NOEC	100 mg/l
Saccharin	81-07-2	Activated sludge	Experimental	30 minutes	LOEC	>1,000 mg/l
1-Acetyl-2-Phenylhydrazine	114-83-0	Medaka	Analogous Compound	96 hours	LC50	0.016 mg/l
1-Acetyl-2-Phenylhydrazine	114-83-0	Water flea	Analogous Compound	48 hours	EC50	0.016 mg/l
1-Acetyl-2-Phenylhydrazine	114-83-0	Zebra Fish	Analogous Compound	16 days	NOEC	0.00049 mg/l
1-Acetyl-2-Phenylhydrazine	114-83-0	Anaerobic sludge	Analogous Compound	24 hours	N/A	>=100 mg/l
2,2'-(P-tolylimino)Diethanol	3077-12-1	Activated sludge	Analogous Compound	3 hours	EC50	>1,000 mg/l
2,2'-(P-tolylimino)Diethanol	3077-12-1	Common Carp	Analogous Compound	96 hours	LC50	>100 mg/l
2,2'-(P-tolylimino)Diethan	3077-12-1	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l

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2,2'-(P-tolylimino)Diethanol	3077-12-1	Water flea	Analogous Compound	48 hours	EC50	48 mg/l
2,2'-(P-tolylimino)Diethanol	3077-12-1	Green algae	Analogous Compound	72 hours	NOEC	100 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Triethylene Glycol Dimethacrylate	109-16-0	Experimental Biodegradation	28 days	Carbon dioxide evolution	85 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
Hydroxypropyl Methacrylate	27813-02-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	81 %BOD/ThOD	OECD 301C - MITI (I)
Acrylic Acid	79-10-7	Experimental Biodegradation	28 days	Percent degraded	81 %BOD/ThOD	OECD 301D - Closed Bottle Test
Acrylic Acid	79-10-7	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	100 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Acrylic Acid	79-10-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	
Acrylic Acid	79-10-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	40CFR 796.3500-Hydrolysis
Acrylic Acid	79-10-7	Experimental Soil Metabolism Aerobic	3 days	Percent degraded	72.9 %CO2 evolution/THCO2 evolution	
Cumene Hydroperoxide	80-15-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 %BOD/ThOD	OECD 301C - MITI (I)
Saccharin	81-07-2	Experimental Biodegradation	7 days	Percent degraded	90 %degraded	
Saccharin	81-07-2	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	96.55 %BOD/ThOD	OECD 301D - Closed Bottle Test
Saccharin	81-07-2	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
1-Acetyl-2-Phenylhydrazine	114-83-0	Analogous Compound Biodegradation	28 days	Dissolv. Organic Carbon Deplet	97 %removal of DOC	OECD 301E - Modif. OECD Screen
1-Acetyl-2-Phenylhydrazine	114-83-0	Analogous Compound Aquatic Inherent Biodegrad.	10 days	Dissolv. Organic Carbon Deplet	64 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
2,2'-(P-tolylimino)Diethanol	3077-12-1	Analogous Compound Biodegradation	29 days	Carbon dioxide evolution	1.5 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Triethylene Glycol Dimethacrylate	109-16-0	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.3	EC A.8 Partition Coefficient
Hydroxypropyl Methacrylate	27813-02-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.97	EC A.8 Partition Coefficient
Acrylic Acid	79-10-7	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.46	OECD 107 log Kow shke flsk mtd
Cumene	80-15-9	Experimental		Log of	1.82	

Hydroperoxide		Bioconcentration		Octanol/H2O part. coeff		
Saccharin	81-07-2	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.024	OECD 117 log Kow HPLC method
1-Acetyl-2-Phenylhydrazine	114-83-0	Modeled Bioconcentration		Bioaccumulation Factor	5	Catalogic™
1-Acetyl-2-Phenylhydrazine	114-83-0	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	0.74	Episuite™
2,2'-(P-tolylimino)Diethanol	3077-12-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.0	

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. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

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

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