



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™ Scotch-Seal™ Metal Sealant 2084 Silver

Product Identification Numbers

62-2084-2631-2 62-2084-2635-3 62-2084-8530-0 62-2084-9530-9

1.2. Recommended use and restrictions on use

Recommended use

Metal sealant., Metal Sealant

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2.
Carcinogenicity: Category 1A.
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

Flame | Exclamation mark | Health Hazard | Environment |

Pictograms



Hazard Statements:

H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Disposal:

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

May cause drowsiness or dizziness., Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	30 - 60
Acrylonitrile-Butadiene Polymer	9003-18-3	10 - 35
Butylphenol-Formaldehyde Polymer	25085-50-1	5 - 20
Kaolin	1332-58-7	< 10
Rosin Ester	8050-31-5	3 - 7

Aluminum	7429-90-5	1 - 6
Salicylic Acid	69-72-7	< 3
Amorphous Silica	112945-52-5	0.5 - 2.5
Zinc Oxide	1314-13-2	< 1.7
Quartz Silica	14808-60-7	< 1
Ethylbenzene	100-41-4	< 0.5
Xylene	1330-20-7	< 0.5
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	119-47-1	< 0.4

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

Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). 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 flammable liquids such as dry chemical or carbon dioxide 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

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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. Cover spill area with a fire-extinguishing foam. 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 using non-sparking tools. Place in a metal 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin., Ototoxicant
Ethylbenzene	100-41-4	Malaysia OELs	TWA(8 hours):434 mg/m3(100 ppm)	
DUST, INERT OR NUISANCE	1314-13-2	Malaysia OELs	TWA (proposed)(respirable particles)(8 hours):3 mg/m3;TWA (proposed)(Inhalable particulate)(8 hours):10 mg/m3	

Zinc Oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m3;STEL(respirable fraction):10 mg/m3	
Zinc Oxide	1314-13-2	Malaysia OELs	TWA(as fume)(8 hours):5 mg/m3;TWA(as dust)(8 hours):10 mg/m3	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	Malaysia OELs	TWA(8 hours):434 mg/m3(100 ppm)	
Kaolin	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
Kaolin	1332-58-7	Malaysia OELs	TWA (proposed)(respirable fraction)(8 hours):2 mg/m3	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	Malaysia OELs	TWA(respirable fraction)(8 hours):0.1 mg/m3	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	Malaysia OELs	TWA(8 hours):1187 mg/m3(500 ppm)	
Aluminum	7429-90-5	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Aluminum	7429-90-5	Malaysia OELs	TWA(as dust)(8 hours):10 mg/m3;TWA(Al, welding fume)(8 hours):5 mg/m3;TWA(as Al pyrophoric powder)(8 hours):5 mg/m3	
DUST, INERT OR NUISANCE	7429-90-5	Malaysia OELs	TWA (proposed)(respirable particles)(8 hours):3 mg/m3;TWA (proposed)(Inhalable particulate)(8 hours):10 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. Use explosion-proof ventilation 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

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

Organic vapor cartridges may have short service life.

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	Aluminum
Odor	Strong Ketones
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point/Initial boiling point/Boiling range	≥ 56 °C [<i>Details: Acetone</i>]
Flash Point	-9.4 °C [<i>Test Method: Closed Cup</i>]
Evaporation rate	1.9 [<i>Ref Std: ETHER=1</i>]
Flammability	Flammable Liquid: Category 2.
Flammable Limits(LEL)	2.6 % volume
Flammable Limits(UEL)	12.8 % volume
Vapor Pressure	$\leq 24,664.6$ Pa [<i>@ 20 °C</i>]
Vapor Density and/or Relative Vapor Density	2 [<i>Ref Std: AIR=1</i>]
Density	1 g/ml
Relative Density	1 [<i>Ref Std: WATER=1</i>]
Water solubility	Slight (less than 10%)
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	465 °C [<i>Details: Acetone</i>]
Decomposition temperature	<i>No Data Available</i>
Kinematic Viscosity	30,000 mm ² /sec
Volatile Organic Compounds	<i>No Data Available</i>
Percent volatile	<i>No Data Available</i>
VOC Less H₂O & Exempt Solvents	31.4 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>]
Molecular weight	<i>No Data Available</i>

Particle Characteristics	Not Applicable
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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

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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None known.	
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Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

May cause additional health effects (see below).

Skin Contact:

Prolonged or repeated exposure may cause: Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin. Allergic Skin Reaction (non-photo induced) in sensitive people: 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:**Single exposure may cause target organ effects:**

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Acrylonitrile-Butadiene Polymer	Dermal	Rabbit	LD50 > 15,000 mg/kg
Acrylonitrile-Butadiene Polymer	Ingestion	Rat	LD50 > 30,000 mg/kg
Kaolin	Dermal		LD50 estimated to be > 5,000 mg/kg
Kaolin	Ingestion	Human	LD50 > 15,000 mg/kg
Butylphenol-Formaldehyde Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butylphenol-Formaldehyde Polymer	Ingestion	Rat	LD50 5,660 mg/kg
Rosin Ester	Dermal	Rabbit	LD50 > 5,000 mg/kg
Rosin Ester	Ingestion	Rat	LD50 > 2,000 mg/kg
Salicylic Acid	Dermal	Rat	LD50 > 2,000 mg/kg
Salicylic Acid	Ingestion	Rat	LD50 891 mg/kg
Zinc Oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc Oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Zinc Oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Aluminum	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum	Ingestion		LD50 estimated to be > 5,000 mg/kg
Aluminum	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.888 mg/l
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 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
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Xylene	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Xylene	Ingestion	Rat	LD50 3,523 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Acetone	Mouse	Minimal irritation
Acrylonitrile-Butadiene Polymer	Professional judgement	No significant irritation
Kaolin	Professional judgement	No significant irritation
Rosin Ester	Rabbit	Minimal irritation
Salicylic Acid	Rabbit	No significant irritation
Zinc Oxide	Human and animal	No significant irritation
Aluminum	Rabbit	No significant irritation
Amorphous Silica	Rabbit	No significant irritation
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	Rabbit	No significant irritation
Quartz Silica	Professional judgement	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Acetone	Rabbit	Severe irritant
Acrylonitrile-Butadiene Polymer	Professional judgement	No significant irritation
Kaolin	Professional judgement	No significant irritation
Rosin Ester	Rabbit	Mild irritant
Salicylic Acid	Rabbit	Corrosive
Zinc Oxide	Rabbit	Mild irritant
Aluminum	Rabbit	No significant irritation
Amorphous Silica	Rabbit	No significant irritation
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
Xylene	Rabbit	Mild irritant

Sensitization:**Skin Sensitization**

Name	Species	Value
Butylphenol-Formaldehyde Polymer	Human	Some positive data exist, but the data are not sufficient for classification
Rosin Ester	Guinea pig	Not classified
Salicylic Acid	Mouse	Not classified
Zinc Oxide	Guinea pig	Not classified
Aluminum	Guinea pig	Not classified
Amorphous Silica	Human and animal	Not classified
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	Mouse	Not classified
Ethylbenzene	Human	Not classified

Photosensitization

Name	Species	Value
Salicylic Acid	Mouse	Not sensitizing

Respiratory Sensitization

Name	Species	Value
Aluminum	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Rosin Ester	In Vitro	Not mutagenic
Salicylic Acid	In Vitro	Not mutagenic
Salicylic Acid	In vivo	Not mutagenic
Zinc Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc Oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
Aluminum	In Vitro	Not mutagenic
Amorphous Silica	In Vitro	Not mutagenic
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	In Vitro	Not mutagenic
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Kaolin	Inhalation	Multiple animal	Not carcinogenic

		species	
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	Inhalation	Human and animal	Carcinogenic
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic
Xylene	Dermal	Rat	Not carcinogenic
Xylene	Ingestion	Multiple animal species	Not carcinogenic
Xylene	Inhalation	Human	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
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
Salicylic Acid	Ingestion	Toxic to development	Rat	NOAEL 75 mg/kg/day	during organogenesis
Zinc Oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
Amorphous Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	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
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
Xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks

Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Kaolin	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Kaolin	Inhalation	pulmonary fibrosis	Not classified	Rat	NOAEL Not available	
Rosin Ester	Ingestion	liver heart skin endocrine system bone, teeth, nails, and/or hair blood bone marrow hematopoietic system immune system muscles nervous system eyes kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
Salicylic Acid	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	3 days
Zinc Oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc Oxide	Ingestion	endocrine system hematopoietic system kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
Aluminum	Inhalation	nervous system respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Amorphous Silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
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
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart immune system respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Xylene	Inhalation	nervous system	Causes damage to organs through	Rat	LOAEL 0.4	4 weeks

			prolonged or repeated exposure		mg/l	
Xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks

Aspiration Hazard

Name	Value
Ethylbenzene	Aspiration hazard
Xylene	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	Type	Exposure	Test Endpoint	Test Result
Acetone	67-64-1	Algae or other aquatic plants	Experimental	96 hours	EC50	11,493 mg/l

3M™ Scotch-Seal™ Metal Sealant 2084 Silver

Acetone	67-64-1	Invertebrate	Experimental	24 hours	LC50	2,100 mg/l
Acetone	67-64-1	Rainbow Trout	Experimental	96 hours	LC50	5,540 mg/l
Acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
Acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
Acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
Acrylonitrile-Butadiene Polymer	9003-18-3	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Butylphenol-Formaldehyde Polymer	25085-50-1	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Kaolin	1332-58-7	Water flea	Experimental	48 hours	LC50	>1,100 mg/l
Rosin Ester	8050-31-5	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Rosin Ester	8050-31-5	Rainbow Trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l
Rosin Ester	8050-31-5	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Rosin Ester	8050-31-5	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminum	7429-90-5	Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminum	7429-90-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminum	7429-90-5	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminum	7429-90-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Aluminum	7429-90-5	Water flea	Experimental	21 days	NOEC	0.076 mg/l
Salicylic Acid	69-72-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Salicylic Acid	69-72-7	Medaka	Experimental	96 hours	LC50	>100 mg/l
Salicylic Acid	69-72-7	Water flea	Experimental	48 hours	EC50	870 mg/l
Salicylic Acid	69-72-7	Water flea	Experimental	21 days	NOEC	10 mg/l
Salicylic Acid	69-72-7	Activated sludge	Experimental	3 hours	EC50	>3,200
Salicylic Acid	69-72-7	Bacteria	Experimental	18 hours	EC10	465
Amorphous Silica	112945-52-5	Green algae	Analogous Compound	72 hours	ErC50	>173.1 mg/l
Amorphous Silica	112945-52-5	Sediment organism	Analogous Compound	96 hours	EC50	8,500 mg/kg (Dry Weight)
Amorphous Silica	112945-52-5	Water flea	Analogous Compound	24 hours	EL50	>10,000 mg/l
Amorphous Silica	112945-52-5	Zebra Fish	Analogous Compound	96 hours	LL50	>10,000 mg/l
Amorphous Silica	112945-52-5	Green algae	Analogous Compound	72 hours	NOEC	173.1 mg/l
Amorphous Silica	112945-52-5	Water flea	Analogous Compound	21 days	NOEC	68 mg/l
Amorphous Silica	112945-52-5	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Zinc Oxide	1314-13-2	Activated sludge	Estimated	3 hours	EC50	6.5 mg/l
Zinc Oxide	1314-13-2	Green algae	Estimated	72 hours	EC50	0.052 mg/l
Zinc Oxide	1314-13-2	Rainbow Trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc Oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
Zinc Oxide	1314-13-2	Green algae	Estimated	72 hours	NOEC	0.006 mg/l
Zinc Oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l
Quartz Silica	14808-60-7	Green algae	Estimated	72 hours	EC50	440 mg/l
Quartz Silica	14808-60-7	Water flea	Estimated	48 hours	EC50	7,600 mg/l
Quartz Silica	14808-60-7	Zebra Fish	Estimated	96 hours	LC50	5,000 mg/l
Quartz Silica	14808-60-7	Green algae	Estimated	72 hours	NOEC	60 mg/l
Ethylbenzene	100-41-4	Activated sludge	Experimental	49 hours	EC50	130 mg/l
Ethylbenzene	100-41-4	Atlantic Silverside	Experimental	96 hours	LC50	5.1 mg/l
Ethylbenzene	100-41-4	Green algae	Experimental	96 hours	EC50	3.6 mg/l
Ethylbenzene	100-41-4	Mysid Shrimp	Experimental	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Rainbow Trout	Experimental	96 hours	LC50	4.2 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	48 hours	EC50	1.8 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Activated sludge	Estimated	3 hours	NOEC	157 mg/l

Xylene	1330-20-7	Green algae	Estimated	72 hours	EC50	4.36 mg/l
Xylene	1330-20-7	Rainbow Trout	Estimated	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Estimated	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green algae	Estimated	72 hours	NOEC	0.44 mg/l
Xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Rainbow Trout	Experimental	56 days	NOEC	>1.3 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
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	119-47-1	Activated sludge	Experimental	3 hours	EC50	>10,000 mg/l
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

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Acetone	67-64-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	78 %BOD/ThOD	OECD 301D - Closed Bottle Test
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
Acrylonitrile-Butadiene Polymer	9003-18-3	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Butylphenol-Formaldehyde Polymer	25085-50-1	Experimental Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THCO2 evolution	
Kaolin	1332-58-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Rosin Ester	8050-31-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
Aluminum	7429-90-5	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Salicylic Acid	69-72-7	Experimental Biodegradation	14 days	Biological Oxygen Demand	88.1 %BOD/ThOD	OECD 301C - MITI (I)
Amorphous Silica	112945-52-5	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Zinc Oxide	1314-13-2	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Quartz Silica	14808-60-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Experimental Biodegradation	28 days	Carbon dioxide evolution	70-80 %CO2 evolution/THCO2 evolution	ISO 14593 Inorg C Headspace
Ethylbenzene	100-41-4	Experimental Photolysis		Photolytic half-life (in air)	4.26 days (t 1/2)	
Xylene	1330-20-7	Experimental Biodegradation	28 days	Biological Oxygen Demand	90-98 %BOD/ThOD	OECD 301F - Manometric Respiro
Xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	

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)
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12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation Factor	0.65	
Acetone	67-64-1	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	-0.24	
Acrylonitrile-Butadiene Polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Butylphenol-Formaldehyde Polymer	25085-50-1	Estimated Bioconcentration		Bioaccumulation Factor	7.4	
Kaolin	1332-58-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Rosin Ester	8050-31-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminum	7429-90-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Salicylic Acid	69-72-7	Experimental Bioconcentration		Log of Octanol/H ₂ O part. coeff	2.26	
Amorphous Silica	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Zinc Oxide	1314-13-2	Experimental BCF - Fish	56 days	Bioaccumulation Factor	≤217	OECD305-Bioconcentration
Quartz Silica	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Experimental BCF - Fish	42 days	Bioaccumulation Factor	1	
Xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation Factor	25.9	
2,2'-Methylenebis[6-tert-Butyl-p-Cresol]	119-47-1	Experimental BCF - Fish	60 days	Bioaccumulation Factor	840	OECD305-Bioconcentration

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)

UN Number:UN1866

Proper Shipping Name:RESIN SOLUTION

Technical Name:None assigned.

Hazard Class/Division:3

Subsidiary Risk:None assigned.

Packing Group:II

Limited Quantity:None assigned.

Marine Pollutant: Yes

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number:UN1866

Proper Shipping Name:RESIN SOLUTION

Technical Name:None assigned.

Hazard Class/Division:3

Subsidiary Risk:None assigned.

Packing Group:II

Limited Quantity:None assigned.

Marine Pollutant: Yes

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 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.

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