

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

Document group: 37-0094-5 **Version number:** 2.00

Issue Date: 20/03/2024 **Supersedes date:** 03/08/2022

IDENTIFICATION

1.1. Product identifier

3M(tm) Scotch-Weld(tm) EC-9323-2 B/A Black

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059

Telephone: +65 6450 8888 www.3m.com.sg

1.4. Emergency telephone number

Company Emergency Hotline: +65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

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

19-7921-0, 36-9562-4

TRANSPORT INFORMATION

International Regulations

UN No.: UN3263

UN Proper shipping name: CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(3,3'-

OXYBIS(ETHYLENEOXY)BIS(PROPYLAMINE), TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL)

Transportation Class (IMO): 8-8 Corrosives Transportation Class (IATA): 8-8 Corrosives

Other Dangerous Goods Descriptions (IMO): None assigned Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: II **Marine pollutant:** No

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg

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Document group: 36-9562-4 **Version number:** 3.00

Issue Date: 01/09/2025 **Supersedes date:** 20/03/2024

SECTION 1: Identification

1.1. Product identifier

3M(tm) Scotch-Weld(tm) EC-9323-2 B/A Black: Part A

1.2. Recommended use and restrictions on use

Recommended use

Part A of a two component adhesive, Structural adhesive.

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059

Telephone: +65 6450 8888 **Website:** www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Skin Corrosion/Irritation: Category 1. Serious Eye Damage/Irritation: Category 1.

Skin Sensitizer: Category 1.

Specific Target Organ Toxicity (single exposure): Category 3.

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

2.2. Label elements

SIGNAL WORD

DANGER!

Symbols

Corrosion | Exclamation mark | Environment |

Pictograms



HAZARD STATEMENTS

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.

H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

P273 Avoid release to the environment.

P280D Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water or shower.

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

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

P310 Immediately call a POISON CENTER or doctor.

P333 + P313 If skin irritation or rash occurs: Get medical attention.

P391 Collect spillage.

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines. - May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Fatty acids, C18-unsaturated, dimers,	68911-25-1	40 - 60
polymers with 3,3'-		
oxybis(ethyleneoxy)bis(propylamine)		
2-Propenenitrile, polymer with 1,3-	68683-29-4	5 - 15
butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-		
(1-piperazinyl)ethyl]amino]butyl-terminated		
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	3 - 13
Siloxanes and Silicones, di-Me, reaction	67762-90-7	7 - 13
products with silica		
Tris(2,4,6-	90-72-2	7 - 13
dimethylaminomonomethyl)phenol		
Bis[(dimethylamino)methyl]phenol	71074-89-0	1 - 2
Titanium dioxide	13463-67-7	0.5 - 1.5
N-aminoethylpiperazine	140-31-8	< 1

SECTION 4: First aid measures

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4.1. Description of first aid measures

Inhalation

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

Skin contact

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

Eye contact

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

If swallowed

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). 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). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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 Carbon monoxide. Carbon dioxide.

Oxides of nitrogen.

Condition

During combustion. During combustion. 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.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/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. Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Store away from heat. Store away from acids.

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	CAS Nbr	Agency	Limit type	Additional comments
Titanium dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale	A3: Confirmed animal
			particles):0.2	carcin.
			mg/m3;TWA(Respirable	
			finescale particles):2.5 mg/m3	
Titanium dioxide	13463-67-7	Singapore PELs	TWA(8 hours):10 mg/m3	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

Singapore PELs: Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

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/vapours/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 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 vapours 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	Solid.	
Specific Physical Form:	Paste	
Color	Off-White	
Odor	Amine	
Odour threshold	No data available.	
рН	No data available.	
Melting point/Freezing point	No data available.	
Boiling point/Initial boiling point/Boiling range	>=139 °C	
Flash point	>=139 °C [Test Method:Closed Cup]	
Evaporation rate	Not applicable.	
Flammability	Not applicable.	
Flammable Limits(LEL)	No data available.	
Flammable Limits(UEL)	No data available.	
Vapour pressure	No data available.	
Relative Vapor Density	No data available.	
Density	0.97 - 1.1 g/cm3	
Relative density	0.97 - 1.1 [Ref Std:WATER=1]	
Water solubility	No data available.	
Solubility- non-water	No data available.	
Partition coefficient: n-octanol/water	No data available.	
Autoignition temperature	No data available.	
Decomposition temperature	No data available.	
Kinematic Viscosity	72.2 mm ² /sec	
Volatile organic compounds (VOC)	No data available.	
Percent volatile	No data available.	
VOC less H2O & exempt solvents	No data available.	

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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

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

10.5 Incompatible materials

Strong acids.

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 labelling, 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.

Skin contact

Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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 corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen. 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.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Additional information:

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation- Dust/Mist(4 hr)		No data available; calculated ATE >5 - =12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Dermal	Rat	LD50 > 2,000 mg/kg
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Rat	LD50 > 2,000 mg/kg
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Dermal	Rabbit	LD50 > 3,000 mg/kg
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Ingestion	Rat	LD50 > 15,300 mg/kg
Tris(2,4,6-dimethylaminomonomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Dermal	Rabbit	LD50 2,525 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Rat	LD50 2,850 mg/kg
Bis[(dimethylamino)methyl]phenol	Ingestion		LD50 estimated to be 300 - 2,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
N-aminoethylpiperazine	Dermal	Rabbit	LD50 865 mg/kg
N-aminoethylpiperazine	Ingestion	Rat	LD50 1,470 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Rat	Irritant
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Rabbit	Irritant

Tris(2,4,6-dimethylaminomonomethyl)phenol	Rabbit	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
Bis[(dimethylamino)methyl]phenol	similar	Corrosive
	compoun	
	ds	
Titanium dioxide	Rabbit	No significant irritation
N-aminoethylpiperazine	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-	In vitro	Severe irritant
oxybis(ethyleneoxy)bis(propylamine)	data	
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-	Rabbit	Mild irritant
piperazinyl)ethyl]amino]butyl-terminated		
Tris(2,4,6-dimethylaminomonomethyl)phenol	Rabbit	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
Bis[(dimethylamino)methyl]phenol	similar	Corrosive
	compoun	
	ds	
Titanium dioxide	Rabbit	No significant irritation
N-aminoethylpiperazine	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-	Guinea	Sensitising
oxybis(ethyleneoxy)bis(propylamine)	pig	
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-	Guinea	Sensitising
piperazinyl)ethyl]amino]butyl-terminated	pig	
Tris(2,4,6-dimethylaminomonomethyl)phenol	Guinea	Not classified
	pig	
Siloxanes and Silicones, di-Me, reaction products with silica	Human	Not classified
	and	
	animal	
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Professio	Sensitising
	nal	
	judgemen	
	t	
Titanium dioxide	Human	Not classified
	and	
	animal	
N-aminoethylpiperazine	Guinea	Sensitising
	pig	

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Germ Cen with agenicity		
Name	Route	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	In Vitro	Not mutagenic
Tris(2,4,6-dimethylaminomonomethyl)phenol	In Vitro	Not mutagenic
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
N-aminoethylpiperazine	In vivo	Not mutagenic

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N-aminoethylpiperazine	In Vitro	Some positive data exist, but the data are not sufficient for classification
		Sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Siloxanes and Silicones, di-Me, reaction products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	premating into lactation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	59 days
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	premating into lactation
N-aminoethylpiperazine	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	premating & during gestation
N-aminoethylpiperazine	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-aminoethylpiperazine	Ingestion	Toxic to development	Rabbit	NOAEL 75 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
Fatty acids, C18- unsaturated, dimers, polymers with 3,3'- oxybis(ethyleneoxy)bis(pro pylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	Irritation Positive	
Fatty acids, C18- unsaturated, dimers,	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL Not available	

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polymers with 3,3'- oxybis(ethyleneoxy)bis(pro pylamine)						
2-Propenenitrile, polymer with 1,3-butadiene, 1- cyano-1-methyl-4-oxo-4- [[2-(1- piperazinyl)ethyl]amino]bu tyl-terminated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Tris(2,4,6- dimethylaminomonomethyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
3,3'- Oxybis(ethyleneoxy)bis(pr opylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
N-aminoethylpiperazine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Fatty acids, C18- unsaturated, dimers, polymers with 3,3'- oxybis(ethyleneoxy)bis(pr opylamine)	Ingestion	heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
Tris(2,4,6-dimethylaminomonomethy l)phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks
Tris(2,4,6- dimethylaminomonomethy l)phenol	Dermal	liver nervous system auditory system hematopoietic system eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	heart endocrine system hematopoietic system liver muscles nervous system kidney and/or bladder respiratory system vascular system auditory system skin gastrointestinal tract bone, teeth, nails, and/or hair immune system eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
3,3'- Oxybis(ethyleneoxy)bis(pr opylamine)	Ingestion	gastrointestinal tract heart endocrine system bone, teeth, nails, and/or hair hematopoietic	Not classified	Rat	NOAEL 600 mg/kg/day	59 days

		system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system				
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
N-aminoethylpiperazine	Dermal	skin	Not classified	Rat	NOAEL 100 mg/kg/day	29 days
N-aminoethylpiperazine	Dermal	hematopoietic system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
N-aminoethylpiperazine	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.2 mg/m3	13 weeks
N-aminoethylpiperazine	Inhalation	hematopoietic system eyes kidney and/or bladder	Not classified	Rat	NOAEL 53.8 mg/m3	13 weeks
N-aminoethylpiperazine	Ingestion	heart endocrine system hematopoietic system liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 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 labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Туре	Exposure	Test endpoint	Test result
Fatty acids, C18-	68911-25-1	Fathead minnow	Experimental	96 hours	LL50	2.16 mg/l
unsaturated,						
dimers, polymers						
with 3,3'-						

oxybis(ethyleneoxy	Ι	1	1		1	1
)bis(propylamine)						
Fatty acids, C18-	68911-25-1	Green algae	Experimental	72 hours	EL50	0.43 mg/l
unsaturated,	08911-23-1	Green algae	Experimental	/2 Hours	ELSU	0.43 mg/1
dimers, polymers						
with 3,3'-						
oxybis(ethyleneoxy						
)bis(propylamine)						
Fatty acids, C18-	68911-25-1	Water flea	Experimental	48 hours	EL50	0.57 mg/l
unsaturated,						1-1-7-1-8-1
dimers, polymers						
with 3,3'-						
oxybis(ethyleneoxy						
)bis(propylamine)						
Fatty acids, C18-	68911-25-1	Green algae	Experimental	72 hours	NOEL	0.28 mg/l
unsaturated,			1			
dimers, polymers						
with 3,3'-						
oxybis(ethyleneoxy						
)bis(propylamine)						
Fatty acids, C18-	68911-25-1	Activated sludge	Experimental	3 hours	EC50	410.3 mg/l
unsaturated,						
dimers, polymers						
with 3,3'-						
oxybis(ethyleneoxy						
)bis(propylamine)						
2-Propenenitrile,	68683-29-4	N/A	Data not available	N/A	N/A	N/A
polymer with 1,3-			or insufficient for			
butadiene, 1-cyano-			classification			
1-methyl-4-oxo-4-						
[[2-(1-						
piperazinyl)ethyl]a						
mino]butyl-						
terminated			<u> </u>			<u> </u>
3,3'-	4246-51-9	Bacteria	Experimental	17 hours	EC50	4,000 mg/l
Oxybis(ethyleneox						
y)bis(propylamine)				0.61		1 1 2 2 2 2
3,3'-	4246-51-9	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
Oxybis(ethyleneox						
y)bis(propylamine)	1016.51.0				F.050	500 "
3,3'-	4246-51-9	Green algae	Experimental	72 hours	EC50	>500 mg/l
Oxybis(ethyleneox						
y)bis(propylamine)	1016.51.0	XXX		40.1	E050	210.16
3,3'-	4246-51-9	Water flea	Experimental	48 hours	EC50	218.16 mg/l
Oxybis(ethyleneox						
y)bis(propylamine)	4246.51.0	IC 1	E : (1	72.1	ECIA	[
3,3'- Oxybis(ethyleneox	4246-51-9	Green algae	Experimental	72 hours	EC10	5.4 mg/l
y)bis(propylamine)						
Siloxanes and	67762-90-7	N/A	Data not available	N/A	N/A	N/A
Silicones, di-Me,	01102-90-1	13/73	or insufficient for	11/71	13/73	11/73
reaction products			classification			
with silica			Ciassification			
Tris(2,4,6-	90-72-2	N/A	Experimental	96 hours	LC50	718 mg/l
dimethylaminomon	10 12 2	13/11	Experimental) ilouis	Les	'10 mg/1
omethyl)phenol						
Tris(2,4,6-	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
dimethylaminomon		Common Curp	Zaporimoniui	7 110413		100 mg/1
omethyl)phenol						
Tris(2,4,6-	90-72-2	Green algae	Experimental	72 hours	EC50	46.7 mg/l
dimethylaminomon						
omethyl)phenol						
Tris(2,4,6-	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
dimethylaminomon		1.74101 1104	Zaporimoniui	.5 110415		100 mg/1
omethyl)phenol						
Tris(2,4,6-	90-72-2	Green algae	Experimental	72 hours	NOEC	6.44 mg/l
dimethylaminomon				1.2.1104115	120	1
omethyl)phenol						
V /15		•				1

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Bis[(dimethylamin o)methyl]phenol	71074-89-0	N/A	Data not available or insufficient for classification	N/A	N/A	NA
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
N-	140-31-8	Bacteria	Experimental	17 hours	EC10	100 mg/l
aminoethylpiperazi						
ne						
N-	140-31-8	Golden Orfe	Experimental	96 hours	LC50	368 mg/l
aminoethylpiperazi						
ne						
N-	140-31-8	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
aminoethylpiperazi						
ne						
N-	140-31-8	Water flea	Experimental	48 hours	EC50	58 mg/l
aminoethylpiperazi						
ne						
N-	140-31-8	Green algae	Experimental	72 hours	NOEC	31 mg/l
aminoethylpiperazi						
ne						

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18- unsaturated, dimers, polymers with 3,3'- oxybis(ethyleneoxy)bis(propylamine)		Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301F - Manometric respirometry
2-Propenenitrile, polymer with 1,3- butadiene, 1-cyano- 1-methyl-4-oxo-4- [[2-(1- piperazinyl)ethyl]a mino]butyl- terminated	68683-29-4	Data not available- insufficient	N/A	N/A	N/A	N/A
3,3'- Oxybis(ethyleneox y)bis(propylamine)	4246-51-9	Experimental Biodegradation	25 days	CO2 evolution	-8 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
3,3'- Oxybis(ethyleneox y)bis(propylamine)	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not available- insufficient	N/A	N/A	N/A	N/A
Tris(2,4,6-dimethylaminomon omethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Bis[(dimethylamin o)methyl]phenol	71074-89-0	Modeled Biodegradation	28 days	BOD	41 %CO2 evolution/THCO2 evolution	Catalogic™
Titanium dioxide	13463-67-7	Data not available- insufficient	N/A	N/A	N/A	N/A
N- aminoethylpiperazi ne	140-31-8	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)

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12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18- unsaturated, dimers, polymers with 3,3'- oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	Modeled Bioconcentration		Bioaccumulation factor	42	Catalogic TM
Fatty acids, C18- unsaturated, dimers, polymers with 3,3'- oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	Modeled Bioconcentration		Log Kow	11.7	Episuite [™]
2-Propenenitrile, polymer with 1,3- butadiene, 1-cyano- 1-methyl-4-oxo-4- [[2-(1- piperazinyl)ethyl]a mino]butyl- terminated	68683-29-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
3,3'- Oxybis(ethyleneox y)bis(propylamine)	4246-51-9	Experimental Bioconcentration		Log Kow	-1.25	
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Tris(2,4,6-dimethylaminomon omethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	830.7550 Part.Coef Shake Flask
Bis[(dimethylamin o)methyl]phenol	71074-89-0	Modeled Bioconcentration		Log Kow	-2.34	ACD/Labs ChemSketch™
Titanium dioxide	13463-67-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	9.6	
N- aminoethylpiperazi ne	140-31-8	Experimental Bioconcentration		Log Kow	0.3	

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

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

International Regulations

UN No.: UN3263

UN Proper shipping name: CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(3,3'-

OXYBIS(ETHYLENEOXY)BIS(PROPYLAMINE), TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL)

Transportation Class (IMO): 8-8 Corrosives **Transportation Class (IATA):** 8-8 Corrosives

Other Dangerous Goods Descriptions (IMO): None assigned Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: II **Marine pollutant:** No

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum and Flammable Materials) Regulations: This product is subject to the requirements in the Regulations

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg

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Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

Document group: 19-7921-0 **Version number:** 4.00

Issue Date: 30/05/2025 **Supersedes date:** 29/08/2024

SECTION 1: Identification

1.1. Product identifier

3MTM Scotch-WeldTM EC-9323-2 B/A Black, (Part B)

1.2. Recommended use and restrictions on use

Recommended use

Base for 2-part adhesive, Structural adhesive.

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059

Telephone: +65 6450 8888 **Website:** www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

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.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

SIGNAL WORD

WARNING!

Symbols

Exclamation mark | Environment |

Pictograms



HAZARD STATEMENTS

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

H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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.

P391 Collect spillage.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Bisphenol A Diglycidyl Ether	1675-54-3	45 - 65
1,4-Bis[(2,3-	14228-73-0	5 - 20
epoxypropoxy)methyl]cyclohexane		
STYRENE, POLYMER WITH 1,3-	25101-28-4	< 20
BUTADIENE, BUTYL ACRYLATE AND		
METHYL METHACRYLATE		
Acrylic copolymer	Trade Secret	< 20
Silane, trimethoxyoctyl-, hydrolysis	67762-90-7	1 - 5
products with silica		
Titanium dioxide	13463-67-7	1 - 5
Carbon black	1333-86-4	1 - 5
Glass Bubbles	65997-17-3	1 - 5
Silane, triethoxy[3-	2602-34-8	< 1.5
(oxiranylmethoxy)propyl]-		
3-(trimethoxysilyl)propyl glycidyl ether	2530-83-8	< 1.5

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.

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Skin contact

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

Eve 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).

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 carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	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.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/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 oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids. Store away from oxidising 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	CAS Nbr	Agency	Limit type	Additional comments
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3	A3: Confirmed animal
			mg/m3	carcin.
Carbon black	1333-86-4	Singapore PELs	TWA(8 hours):3.5 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale	A3: Confirmed animal
			particles):0.2	carcin.
			mg/m3;TWA(Respirable	
			finescale particles):2.5 mg/m3	
Titanium dioxide	13463-67-7	Singapore PELs	TWA(8 hours):10 mg/m3	
CAS NO SEQ806440	65997-17-3	Singapore PELs	TWA(as fiber)(8 hours):10	
			mg/m3	
Glass Bubbles	65997-17-3	Manufacturer	TWA(as non-fibrous,	
		determined	respirable)(8 hours):3	
			mg/m3;TWA(as non-fibrous,	
			inhalable fraction)(8 hours):10	
			mg/m3	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

Singapore PELs: Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

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/vapours/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 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 vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

nformation on basic physical and chemical properties				
Physical state	Solid.			
Specific Physical Form:	Paste			
Color	Black			
Odor	Ероху			
Odour threshold	No data available.			
pH	Not applicable.			
Melting point/Freezing point	Not applicable.			
Boiling point/Initial boiling point/Boiling range	>=93.4 °C			
Flash point	>=93.4 °C [Test Method:Closed Cup]			
Evaporation rate	Negligible			
Flammability	Not applicable.			
Flammable Limits(LEL)	No data available.			
Flammable Limits(UEL)	No data available.			
Vapour pressure	No data available.			
Relative Vapor Density	No data available.			
Density	0.97 - 1.1 g/cm3 [@ 20 °C]			
Relative density	0.97 - 1.1 [<i>Ref Std:</i> WATER=1]			
Water solubility	Nil			
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	576,923 mm ² /sec			
Volatile organic compounds (VOC)	0 g/l			
Percent volatile	<=1 % weight			
VOC less H2O & exempt solvents	0 g/l			

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3MTM Scotch-WeldTM EC-9323-2 B/A Black, (Part B)

* The values noted with an asterisk (*) in the above table are representative values based on testing of raw materials and selected products. Additionally, a material's characteristics may change depending upon the process and conditions of use at a facility, including further changes in particle size, or mixture with other materials. In order to obtain specific data for the material, we recommend the user conduct characterization testing based on the use factors at the specific facility.

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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong acids.

Strong oxidising 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 labelling, 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.

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 diarrhoea.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation- Dust/Mist(4 hr)		No data available; calculated ATE >5 - =12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Bisphenol A Diglycidyl Ether	Dermal	Rat	LD50 > 1,600 mg/kg
Bisphenol A Diglycidyl Ether	Ingestion	Rat	LD50 > 1,000 mg/kg
STYRENE, POLYMER WITH 1,3-BUTADIENE, BUTYL ACRYLATE AND METHYL METHACRYLATE	Dermal		LD50 estimated to be > 5,000 mg/kg
STYRENE, POLYMER WITH 1,3-BUTADIENE, BUTYL ACRYLATE AND METHYL METHACRYLATE	Ingestion	Rat	LD50 > 5,000 mg/kg
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Rat	LD50 1,098 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Glass Bubbles	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass Bubbles	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Dermal	Rabbit	LD50 4,250 mg/kg
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Ingestion	Rat	LD50 > 2,000 mg/kg
3-(trimethoxysilyl)propyl glycidyl ether	Dermal	Rabbit	LD50 4,000 mg/kg
3-(trimethoxysilyl)propyl glycidyl ether	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(trimethoxysilyl)propyl glycidyl ether	Ingestion	Rat	LD50 7,010 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Skin Corrosion/irritation				
Name		Value		
Bisphenol A Diglycidyl Ether	Rabbit	Mild irritant		
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vitro	Irritant		
	data			
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation		
Carbon black	Rabbit	No significant irritation		

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Glass Bubbles	Professio	No significant irritation
	nal	
	judgemen	
	t	
Titanium dioxide	Rabbit	No significant irritation
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Rabbit	No significant irritation
3-(trimethoxysilyl)propyl glycidyl ether	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Bisphenol A Diglycidyl Ether	Rabbit	Moderate irritant
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vitro	No significant irritation
	data	
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Glass Bubbles	Professio	No significant irritation
	nal	
	judgemen	
	t	
Titanium dioxide	Rabbit	No significant irritation
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Rabbit	No significant irritation
3-(trimethoxysilyl)propyl glycidyl ether	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Bisphenol A Diglycidyl Ether	Human and animal	Sensitising
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Mouse	Sensitising
Silane, trimethoxyoctyl-, hydrolysis products with silica	Human	Not classified
	and	
	animal	
Titanium dioxide	Human	Not classified
	and	
	animal	
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Guinea	Not classified
3/1 13 1	pig	
3-(trimethoxysilyl)propyl glycidyl ether	Guinea	Not classified
	pig	

Respiratory Sensitisation

p		
Name	Species	Value
Bisphenol A Diglycidyl Ether	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value		
Bisphenol A Diglycidyl Ether	In vivo	Not mutagenic		
Bisphenol A Diglycidyl Ether	In Vitro	Some positive data exist, but the data are not sufficient for classification		
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vivo	Not mutagenic		
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In Vitro	Some positive data exist, but the data are not sufficient for classification		
Silane, trimethoxyoctyl-, hydrolysis products with silica	In Vitro	Not mutagenic		
Carbon black	In Vitro	Not mutagenic		
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification		
Glass Bubbles	In Vitro	Some positive data exist, but the data are not		

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		sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	In Vitro	Some positive data exist, but the data are not sufficient for classification
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	In vivo	Some positive data exist, but the data are not sufficient for classification
3-(trimethoxysilyl)propyl glycidyl ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
3-(trimethoxysilyl)propyl glycidyl ether	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Bisphenol A Diglycidyl Ether	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Silane, trimethoxyoctyl-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Glass Bubbles	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	Dermal	Mouse	Not carcinogenic
3-(trimethoxysilyl)propyl glycidyl ether	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	33 days
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
3-(trimethoxysilyl)propyl glycidyl ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(trimethoxysilyl)propyl glycidyl ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(trimethoxysilyl)propyl glycidyl ether	Ingestion	Not classified for development	Rat	NOAEL 3,000	during organogenesis

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3M TM Scotch-Weld TM EC-9323-2 B/A Black, (Part 1	3Мтм	Scotch-V	Veld TM E	C-9323-2	B/A Black	. (Part B
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		mg/kg/dav	
		mg/kg/uay	

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,4-Bis[(2,3- epoxypropoxy)methyl]cycl ohexane	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
Bisphenol A Diglycidyl Ether	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Bisphenol A Diglycidyl Ether	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Bisphenol A Diglycidyl Ether	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
1,4-Bis[(2,3- epoxypropoxy)methyl]cycl ohexane	Ingestion	endocrine system gastrointestinal tract liver heart hematopoietic system immune system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	33 days
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Glass Bubbles	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
3-(trimethoxysilyl)propyl glycidyl ether	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

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 labelling, 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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
Bisphenol A Diglycidyl Ether	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Green algae	Experimental	72 hours	EC50	>11 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Green algae	Experimental	72 hours	NOEC	4.2 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Bacteria	Estimated	18 hours	EC50	10,264 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Green algae	Estimated	72 hours	EC50	26.7 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Rainbow trout	Estimated	96 hours	LC50	10.1 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Water flea	Estimated	48 hours	EC50	16.3 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Green algae	Estimated	72 hours	EC10	21.4 mg/l
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Water flea	Estimated	21 days	NOEC	11.7 mg/l
STYRENE, POLYMER WITH 1,3-BUTADIENE, BUTYL ACRYLATE AND METHYL METHACRYLAT E	25101-28-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l

Carbon black	1333-86-4	Zebra Fish	E	96 hours	No tox obs at lmt	>100 mg/l
Carbon black	1333-80-4	Zeora Fish	Experimental	96 nours	of water sol	>100 mg/1
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	NOEC	>800 mg/l
Glass Bubbles	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Glass Bubbles	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
Glass Bubbles	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
Glass Bubbles	65997-17-3	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
3-	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
(trimethoxysilyl)pr opyl glycidyl ether	2330 03 0	Сонинон Сыр	Ехрегиненци	yo nours		33 mg r
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Green algae	Experimental	96 hours	ErC50	350 mg/l
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Invertebrate	Experimental	48 hours	LC50	324 mg/l
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Green algae	Experimental	96 hours	NOEC	130 mg/l
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Water flea	Experimental	21 days	NOEC	100 mg/l
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Green algae	Experimental	72 hours	EC50	>100 mg/l
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Water flea	Experimental	48 hours	EC50	>100 mg/l
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Green algae	Experimental	72 hours	NOEC	100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Bisphenol A Diglycidyl Ether	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Bisphenol A Diglycidyl Ether	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
1,4-Bis[(2,3- epoxypropoxy)met hyl]cyclohexane	14228-73-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 %removal of DOC	OECD 301F - Manometric respirometry
STYRENE, POLYMER WITH 1,3-BUTADIENE, BUTYL ACRYLATE AND	25101-28-4	Data not available- insufficient	N/A	N/A	N/A	N/A

METHYL METHACRYLAT E						
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	Data not available- insufficient	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not available- insufficient	N/A	N/A	N/A	N/A
Glass Bubbles	65997-17-3	Data not available- insufficient	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Data not available- insufficient	N/A	N/A	N/A	N/A
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 %removal of DOC	EC C.4.A. DOC Die-Away Test
3- (trimethoxysilyl)pr opyl glycidyl ether	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	6.5 hours (t 1/2)	OECD 111 Hydrolysis func of pH
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Experimental Biodegradation	28 days	BOD	53 %BOD/ThOD	OECD 301F - Manometric respirometry
Silane, triethoxy[3- (oxiranylmethoxy) propyl]-	2602-34-8	Experimental Hydrolysis		Hydrolytic half-life	36 hours (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Bisphenol A	1675-54-3	Experimental		Log Kow	3.242	
Diglycidyl Ether	1	Bioconcentration	1		1-	
1,4-Bis[(2,3-	14228-73-0	Estimated		Bioaccumulation	3	
epoxypropoxy)met		Bioconcentration		factor		
hyl]cyclohexane						
STYRENE,	25101-28-4	Data not available	N/A	N/A	N/A	N/A
POLYMER WITH		or insufficient for				
1,3-BUTADIENE,		classification				
BUTYL						
ACRYLATE AND						
METHYL						
METHACRYLAT						
E	67762-90-7	Data not available	NT/A	N/A	N/A	NT/A
Silane,	6 / /62-90- /		IN/A	N/A	IN/A	N/A
trimethoxyoctyl-,		or insufficient for classification				
hydrolysis products with silica		ciassification				
Carbon black	1333-86-4	Data not available	N/A	N/A	N/A	N/A
Carbon black	1333-60-4	or insufficient for	IN/A	IN/A	IN/A	IN/A
		classification				
Glass Bubbles	65997-17-3	Data not available	NI/A	N/A	N/A	N/A
Glass Bubbles	03997-17-3	or insufficient for	11/71	11/71	IN/A	N/A
		classification				
Titanium dioxide	13463-67-7		42 days	Bioaccumulation	9.6	
Titamum dioxide	13403-07-7	- Fish	42 days	factor).0	
3-	2530-83-8	Experimental		Log Kow	0.5	Episuite TM
(trimethoxysilyl)pr		Bioconcentration				*
opyl glycidyl ether						
Silane, triethoxy[3-	2602-34-8	Estimated		Bioaccumulation	2.5	
(oxiranylmethoxy)		Bioconcentration		factor		
propyl]-						

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

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

International Regulations

UN No.: UN3077

UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN)

Transportation Class (IMO): 9-9 Miscellaneous dangerous goods Transportation Class (IATA): 9-9 Miscellaneous dangerous goods Other Dangerous Goods Descriptions (IMO): None assigned Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: III Marine pollutant: Yes

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 Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). 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.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the

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product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg

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