



Safety Data Sheet

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Transportation version number:			

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

3M™ Scotch-Weld™ EC-9323-2 B/A Black Kit

Product Identification Numbers

FS-9100-3421-4 FS-9100-3991-6 FS-9100-5126-7 FS-9100-5493-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Structural adhesive

1.3. Details of the supplier of the safety data sheet

ADDRESS: 3M Israel, 91 Medinat Ha'Yehudim Street, Herzeliya 46120
Telephone: 09-961 5000
E Mail: innovation.il@mmm.com
Website: www.3M.com/il

1.4. Emergency telephone number

09-961 5000

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, 19-7919-4

TRANSPORTATION INFORMATION

KIT LABEL

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314

Skin Sensitization, Category 1 - Skin Sens. 1; H317
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
Danger

Symbols:
GHS05 (Corrosion) | GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms



HAZARD STATEMENTS:

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260B Do not breathe dust.
P280D Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A 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/physician.

Disposal:

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

Refer to Safety Data Sheet for component % unknown values (www.3M.com/msds).

Revision information:

Kit Information: Component document group number(s) information was modified.
Section 02: Label Elements: CLP Precautionary - Response information was modified.



Safety Data Sheet

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Transportation version number:			

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Structural adhesive

1.3. Details of the supplier of the safety data sheet

ADDRESS: 3M Israel, 91 Medinat Ha'Yehudim Street, Herzeliya 46120
Telephone: 09-961 5000
E Mail: innovation.il@mmm.com
Website: www.3M.com/il

1.4. Emergency telephone number

09-961 5000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314
Skin Sensitization, Category 1 - Skin Sens. 1; H317

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

Danger

Symbols:

GHS05 (Corrosion) | GHS07 (Exclamation mark) |

Pictograms



Ingredients:

Ingredient	C.A.S. No.	EC No.	% by Wt
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)]BIS[1-PROPANAMINE]	68911-25-1		30 - 60
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	224-207-2	10 - 30
DMP-30	90-72-2	202-013-9	7 - 13
N-AMINOETHYLPIPERAZINE	140-31-8	205-411-0	<= 1

HAZARD STATEMENTS:

H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:

P260B Do not breathe dust.
 P280D Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A 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/physician.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

49% of the mixture consists of components of unknown acute oral toxicity.
 51% of the mixture consists of components of unknown acute dermal toxicity.
 92% of the mixture consists of components of unknown acute inhalation toxicity.
 Contains 60% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	EC No.	% by Wt	Classification
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)]BIS[1-PROPANAMINE]	68911-25-1		30 - 60	**Skin Irrit. 2**, H315; **Eye Dam. 1**, H318; **Skin Sens. 1**, H317
Amine Terminated Butadiene Acrylonitrile Polymer	Trade Secret		10 - 30	Substance not classified as hazardous

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	224-207-2	10 - 30	**Skin Sens. 1**, H317 **Skin Corr. 1B**, H314
DMP-30	90-72-2	202-013-9	7 - 13	**Acute Tox. 4**, H302 **Skin Corr. 1C**, H314; **Eye Dam. 1**, H318
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		5 - 10	Substance not classified as hazardous
Titanium Dioxide	13463-67-7	236-675-5	1 - 5	Substance with a Community level exposure limit in the workplace
BIS[(DIMETHYLAMINO)METHYL]PHE NOL	71074-89-0	275-162-0	1 - 2	**Acute Tox. 4**, H302; **Skin Corr. 1B**, H314
N-AMINOETHYLPIPERAZINE	140-31-8	205-411-0	<= 1	**Acute Tox. 3**, H311; **Acute Tox. 4**, H302; **Skin Corr. 1B**, H314; **Skin Sens. 1B**, H317; **Aquatic Chronic 3**, H412
Toluene	108-88-3	203-625-9	<= 1	**Flam. Liq. 2**, H225; **Asp. Tox. 1**, H304; **Skin Irrit. 2**, H315; **Repr. 2**, H361d; **STOT SE 3**, H336; **STOT RE 2**, H373 **Aquatic Chronic 3**, H412 **Eye Irrit. 2**, H319

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

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

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. 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

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

5.3. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a 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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

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/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

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

Gloves made from the following material(s) are recommended: Polymer laminate

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

Respiratory protection

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Specific Physical Form:

Paste

Appearance/Odor	Off-white paste, amine odor.
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Boiling point/boiling range	≥ 139 °C
Melting point	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Explosive properties:	Not Classified
Oxidising properties:	Not Classified
Flash Point	≥ 139 °C [<i>Test Method</i> :Closed Cup]
Autoignition temperature	<i>No Data Available</i>
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Relative Density	0.97 - 1.1 [<i>Ref Std</i> :WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Evaporation rate	Negligible
Vapor Density	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	70 - 155 Pa-s [<i>@ 23 °C</i>] [<i>Test Method</i> :Brookfield]
Density	0.97 - 1.1 g/cm ³ [<i>@ 20 °C</i>]

9.2. Other information

EU Volatile Organic Compounds	<i>No Data Available</i>
Percent volatile	≤ 1 % weight

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong acids

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

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

May cause additional health effects (see below).

Additional Health Effects:

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.

Additional Information:

Persons previously sensitized to amines may develop a cross-sensitization 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 ATE2,000 - 5,000 mg/kg

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE5 - 12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Dermal	Rabbit	LD50 2,500 mg/kg
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Ingestion	Rat	LD50 3,160 mg/kg
Amine Terminated Butadiene Acrylonitrile Polymer	Dermal	Rabbit	LD50 > 3,000 mg/kg
Amine Terminated Butadiene Acrylonitrile Polymer	Ingestion	Rat	LD50 > 15,300 mg/kg
DMP-30	Dermal	Rat	LD50 1,280 mg/kg
DMP-30	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
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
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDILOXY)]BIS[1-PROPANAMINE]	Rabbit	Irritant
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Rabbit	Corrosive
DMP-30	Rabbit	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
BIS[(DIMETHYLAMINO)METHYL]PHENOL	similar compounds	Corrosive
Titanium Dioxide	Rabbit	No significant irritation
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
Toluene	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDILOXY)]BIS[1-PROPANAMINE]	similar health hazards	Corrosive
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	similar health hazards	Corrosive
DMP-30	Rabbit	Corrosive
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
BIS[(DIMETHYLAMINO)METHYL]PHENOL	similar compounds	Corrosive
Titanium Dioxide	Rabbit	No significant irritation
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
Toluene	Rabbit	Moderate irritant

Skin Sensitization

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

Name	Species	Value
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)]BIS[1-PROPANAMINE]	Guinea pig	Sensitizing
Amine Terminated Butadiene Acrylonitrile Polymer	Guinea pig	Not classified
DMP-30	Guinea pig	Not classified
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Titanium Dioxide	Human and animal	Not classified
N-AMINOETHYLPIPERAZINE	Guinea pig	Sensitizing
Toluene	Guinea pig	Not classified

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
DMP-30	In Vitro	Not mutagenic
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In Vitro	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
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
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
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
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	prematuring & during

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N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	gestation 32 days
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for development	Rat	NOAEL 899 mg/kg/day	prematuring & during gestation
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
DMP-30	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
N-AMINOETHYLPIPERAZINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
DMP-30	Dermal	skin liver nervous system auditory system hematopoietic system eyes	Not classified	Rat	NOAEL 125 mg/kg/day	28 days
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system silicosis	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
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
Toluene	Inhalation	auditory system nervous system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse

3M™ Scotch-Weld™ EC-9323-2 B/A Black, (Part A)

Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard

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

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available

Material	CAS #	Organism	Type	Exposure	Test Endpoint	Test Result
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)] BIS[1-PROPANAMINE]	68911-25-1		Data not available or insufficient for classification			
Amine Terminated Butadiene Acrylonitrile Polymer	Trade Secret		Data not available or insufficient for classification			

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BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Golden Orfe	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Green algae	Experimental	72 hours	Effect Concentration 50%	>500 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Water flea	Experimental	48 hours	Effect Concentration 50%	220 mg/l
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Green algae	Experimental	72 hours	Effect Concentration 10%	5.4 mg/l
DMP-30	90-72-2	Common Carp	Experimental	96 hours	Lethal Concentration 50%	175 mg/l
DMP-30	90-72-2	Grass Shrimp	Experimental	96 hours	Lethal Concentration 50%	718 mg/l
DMP-30	90-72-2	Green algae	Experimental	72 hours	Effect Concentration 50%	84 mg/l
DMP-30	90-72-2	Green algae	Experimental	72 hours	No obs Effect Conc	6.25 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	Effect Concentration 50%	>10,000 mg/l
Titanium Dioxide	13463-67-7	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	No obs Effect Conc	5,600 mg/l
BIS[(DIMETHYLAMINO)METHYL]PHENOL	71074-89-0		Data not available or insufficient for classification			
N-AMINOETHYLPIPERAZINE	140-31-8	Golden Orfe	Experimental	96 hours	Lethal Concentration 50%	368 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Water flea	Experimental	48 hours	Effect Concentration 50%	58 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	No obs Effect Conc	31 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	Lethal Concentration 50%	5.5 mg/l
Toluene	108-88-3	Fish other	Experimental	96 hours	Lethal Concentration 50%	6.41 mg/l
Toluene	108-88-3	Green Algae	Experimental	72 hours	Effect Concentration 50%	12.5 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	Effect Concentration 50%	3.78 mg/l
Toluene	108-88-3	Coho salmon	Experimental	40 days	No obs Effect Conc	1.39 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	No obs Effect Conc	0.74 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)]BIS[1-PROPANAMINE]	68911-25-1	Data not availbl-insufficient			N/A	
Amine Terminated Butadiene Acrylonitrile Polymer	Trade Secret	Data not availbl-insufficient			N/A	
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Experimental Biodegradation	25 days	Carbon dioxide evolution	-8 % weight	OECD 301B - Mod. Sturm or CO2
DMP-30	90-72-2	Experimental Biodegradation	28 days	Biological Oxygen Demand	4 % weight	OECD 301D - Closed Bottle Test
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not availbl-insufficient			N/A	
Titanium Dioxide	13463-67-7	Data not availbl-insufficient			N/A	
BIS[(DIMETHYLAMINO) METHYL]PHENOL	71074-89-0	Estimated Biodegradation	28 days	Biological Oxygen Demand	20 % weight	OECD 301C - MITI (I)
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 301C - MITI (I)
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	Other methods
Toluene	108-88-3	Experimental Biodegradation	20 days	Biological Oxygen Demand	80 % weight	

12.3. Bioaccumulative potential

Material	Cas No.	Test Type	Duration	Study Type	Test Result	Protocol
FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH 3,3'-[OXYBIS(2,1-ETHANEDIYLOXY)]BIS[1-PROPANAMINE]	68911-25-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Amine Terminated Butadiene Acrylonitrile Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL	4246-51-9	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	-1.46	Est: Octanol-water part. coeff
DMP-30	90-72-2	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.66	Other methods
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
Titanium Dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	9.6	Other methods
BIS[(DIMETHYLAMINO) METHYL]PHENOL	71074-89-0	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	-2.34	Est: Octanol-water part. coeff
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.3	Other methods
Toluene	108-88-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.73	Other methods

12.4. Mobility in soil

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Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of completely cured (or polymerized) material 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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/CE and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor

EU waste code (product as sold)

080409*	Waste adhesives and sealants containing organic solvents or other dangerous substances
200127*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

ADR: UN3263; Corrosive Solid, Basic, Organic, N.O.S. (3,3'-Oxybis(Ethyleneoxy)Bis(Propylamine)) (2,4,6-Tris((Dimethylamino)Methyl) Phenol); 8; II; (E); C8.

IMDG: UN3263 Corrosive Solid, Basic, Organic, N.O.S. (3,3'-oxybis(ethyleneoxy)bis(propylamine))(2,4,6-tris((dimethylamino)methyl)phenol); 8; II; FA, SB.

IATA: UN3263; Corrosive Solid, Basic, Organic, N.O.S. (3,3'-Oxybis(Ethyleneoxy)Bis(Propylamine)) (2,4,6-Tris((Dimethylamino)Methyl) Phenol); 8; II.

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>	<u>Regulation</u>
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Toluene	108-88-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

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. The components of this product are in compliance with the chemical notification requirements of TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

List of relevant H statements

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Section 02: CLP Ingredient table information was modified.
Section 02: Label Elements: CLP Percent Unknown information was modified.
Section 02: Label Elements: CLP Precautionary - Response information was modified.
Section 02: Other hazards phrase information was modified.
Section 03: Composition/ Information of ingredients table information was modified.
Section 05: Fire - Advice for fire fighters information information was modified.
Section 06: Accidental release clean-up information information was modified.
Section 08: Occupational exposure limit table information was modified.
Section 09: Density information information was modified.
Section 09: Flash point information information was modified.
Section 09: Property description for optional properties information was modified.
Section 09: Relative density information information was modified.
Section 09: Viscosity information information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: No PBT/vPvB information available warning information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Bioaccumulative potential information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 15: Regulations - Inventories information was modified.

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

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(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 Israel SDSs are available at www.3M.com/il



Safety Data Sheet

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Document Group:	19-7921-0	Version Number:	4.01
Revision Date:	08/05/2019	Supersedes Date:	05/03/2019
Transportation version number:			

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

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1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Structural adhesive

1.3. Details of the supplier of the safety data sheet

ADDRESS: 3M Israel, 91 Medinat Ha'Yehudim Street, Herzeliya 46120
Telephone: 09-961 5000
E Mail: innovation.il@mmm.com
Website: www.3M.com/il

1.4. Emergency telephone number

09-961 5000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

Warning

Symbols:

GHS07 (Exclamation mark) |GHS09 (Environment) |

Pictograms



Ingredients:

Ingredient	C.A.S. No.	EC No.	% by Wt
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5	45 - 65
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	238-098-4	10 - 30

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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17% of the mixture consists of components of unknown acute oral toxicity.

Contains 39% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	EC No.	% by Wt	Classification
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5	45 - 65	**Skin Irrit. 2**, H315; **Eye Irrit. 2**, H319; **Skin Sens. 1**, H317; **Aquatic Chronic

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				2**, H411
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	238-098-4	10 - 30	**Aquatic Chronic 3**, H412 **Acute Tox. 4**, H302; **Skin Irrit. 2**, H315; **Skin Sens. 1B**, H317
Acrylic Copolymer	Trade Secret		< 20	Substance not classified as hazardous
OXIDE GLASS CHEMICALS	65997-17-3	266-046-0	1 - 5	Substance with a Community level exposure limit in the workplace
Carbon Black	1333-86-4	215-609-9	1 - 5	Substance with a Community level exposure limit in the workplace
Titanium Dioxide	13463-67-7	236-675-5	1 - 5	Substance with a Community level exposure limit in the workplace
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		1 - 5	Substance not classified as hazardous
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	219-784-2	< 1.5	**Eye Dam. 1**, H318
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	220-011-6	< 1.5	Substance not classified as hazardous

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

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

Skin Contact:

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

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Extinguishing media**

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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. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing 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 oxidizing agents.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Carbon Black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
CERAMIC FIBERS	65997-17-3	ACGIH	TWA(as fiber):0.2 fiber/cc	A2: Suspected human carcin.
CONTINUOUS FILAMENT GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A4: Not class. as human carcin
CONTINUOUS FILAMENT GLASS FIBERS, INHALABLE FRACTION	65997-17-3	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
GLASS WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
ROCK WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
SLAG WOOL FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
SPECIAL PURPOSE GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

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

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an

exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

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

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

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
Appearance/Odor	black thick paste, epoxy odor.
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Boiling point/boiling range	≥ 93.4 °C
Melting point	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Explosive properties:	Not Classified
Oxidising properties:	Not Classified
Flash Point	≥ 93.4 °C [<i>Test Method: Closed Cup</i>]
Autoignition temperature	<i>No Data Available</i>
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Relative Density	0.97 - 1.1 [<i>Ref Std: WATER=1</i>]
Water solubility	Nil
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Evaporation rate	Negligible
Vapor Density	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	300 - 900 Pa-s [<i>@ 23 °C</i>] [<i>Test Method: Brookfield</i>]
Density	0.97 - 1.1 g/cm ³ [<i>@ 20 °C</i>]

9.2. Other information

EU Volatile Organic Compounds	<i>No Data Available</i>
Percent volatile	≤ 1 % weight

* 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.

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

10.5. Incompatible materials

Strong acids

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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.

Vapors released during curing may cause irritation of the respiratory system. 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.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

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

Toxicological Data

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

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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	Ingestion		No data available; calculated ATE >5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Ingestion	Rat	LD50 > 1,000 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
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
Carbon Black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon Black	Ingestion	Rat	LD50 > 8,000 mg/kg
OXIDE GLASS CHEMICALS	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
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
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Dermal	Rabbit	LD50 4,000 mg/kg
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Rat	LD50 7,010 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Rabbit	Mild irritant
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	In vitro data	Irritant
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Rabbit	Moderate irritant
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	In vitro data	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS	Professional judgement	No significant irritation

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	judgement	
Titanium Dioxide	Rabbit	No significant irritation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Human and animal	Sensitizing
1,4-BIS(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	Mouse	Sensitizing
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Titanium Dioxide	Human and animal	Not classified
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	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
Siloxanes and Silicones, di-Me, reaction 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
OXIDE GLASS CHEMICALS	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In vivo	Not mutagenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction 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
OXIDE GLASS CHEMICALS	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic

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Titanium Dioxide	Inhalation	Rat	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
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	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	prematuring 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	prematuring into lactation
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-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis

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]CYCLOHEXANE	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
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-	Dermal	nervous system	Not classified	Rat	NOAEL	13 weeks

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ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)					1,000 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	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]CYCLOHEXANE	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
Siloxanes and Silicones, di-Me, reaction 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
OXIDE GLASS CHEMICALS	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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available

Material	CAS #	Organism	Type	Exposure	Test Endpoint	Test Result
4,4'-ISOPROPYLIDENEDIPHENOL-	25068-38-6	Water flea	Estimated	48 hours	Lethal Concentration 50%	0.95 mg/l

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EPICHLOROXYDRIN POLYMER (MW unknown or <=700)						
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	Effect Concentration 50%	>11 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	1.2 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	No obs Effect Conc	4.2 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Experimental	21 days	No obs Effect Conc	0.3 mg/l
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 50%	26.7 mg/l
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Rainbow Trout	Estimated	96 hours	Lethal Concentration 50%	10.1 mg/l
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Water flea	Estimated	48 hours	Effect Concentration 50%	16.3 mg/l
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 10%	21.4 mg/l
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Water flea	Estimated	21 days	No obs Effect Conc	11.7 mg/l
Carbon Black	1333-86-4		Data not available or insufficient for classification			
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Water flea	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Green algae	Experimental	72 hours	No obs Effect Conc	>=1,000 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	Effect Concentration 50%	>10,000 mg/l
Titanium Dioxide	13463-67-7	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l

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Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	No obs Effect Conc	5,600 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Common Carp	Experimental	96 hours	Lethal Concentration 50%	55 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Crustacea other	Experimental	48 hours	Lethal Concentration 50%	324 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green algae	Experimental	96 hours	Effect Concentration 50%	350 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green Algae	Experimental	96 hours	No obs Effect Conc	130 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Water flea	Experimental	21 days	No obs Effect Conc	>=100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Green algae	Experimental	72 hours	Effect Concentration 50%	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Green algae	Experimental	72 hours	No obs Effect Conc	100 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 301C - MITI (I)
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 %removal of DOC	OECD 301F - Manometric Respiro
Carbon Black	1333-86-4	Data not available - insufficient			N/A	
OXIDE GLASS CHEMICALS	65997-17-3	Data not available - insufficient			N/A	
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not available - insufficient			N/A	
Titanium Dioxide	13463-67-7	Data not available - insufficient			N/A	
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Other methods
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Other methods

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OPYL GLYCIDYL ETHER						
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Experimental Hydrolysis		Hydrolytic half-life	36 hours (t 1/2)	Other methods
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	53 % BOD/ThBOD	OECD 301F - Manometric Respiro

12.3. Bioaccumulative potential

Material	Cas No.	Test Type	Duration	Study Type	Test Result	Protocol
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation Factor	<=42	OECD 305E-Bioaccum Fl-thru fis
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE	14228-73-0	Estimated Bioconcentration		Bioaccumulation Factor	3	Est: Bioconcentration factor
Carbon Black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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
Titanium Dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	9.6	Other methods
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Estimated Bioconcentration		Bioaccumulation Factor	2.5	Est: Bioconcentration factor

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

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

Dispose of completely cured (or polymerized) material 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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of

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3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/CE and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor

EU waste code (product as sold)

080409* Waste adhesives and sealants containing organic solvents or other dangerous substances
200127* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

IATA: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Epoxy Resin); 9; III. (ENG)

IMDG: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Epoxy Resin); 9; III; Marine Pollutant: Epoxy Resin

EMS: FA, SF. (ENG)

Transport Exemption: For vessels containing a net quantity of 5l or a net mass of 5kg or less per single or inner packaging, special provision 375 (ADR), exemption per 2.10.2.7 (IMDG) or special provision A197 (IATA) may be applied, if applicable.

ADR: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Epoxy Resin); 9; III; (-); M7.

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>	<u>Regulation</u>
Carbon Black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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. The components of this product are in compliance with the chemical notification requirements of TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Section 09: Solubility (non-water) information was deleted.

Section 09: Vapor density value information was deleted.

Section 14: Transportation classification information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our

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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 Israel SDSs are available at www.3M.com/il