



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Film AF 163-3

Product Identification Numbers

62-0167-5309-7

7000046317

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

Identified uses

Industrial use.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: ner-productstewardship@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

A similar mixture has been tested for skin corrosion/irritation and the test results do not meet the criteria for classification.

A similar mixture has been tested for skin sensitization and the test results do not meet the criteria for classification.

The eye damage/irritation classification is not applied due to the nature of this product (adhesive film).

CLASSIFICATION:

Germ Cell Mutagenicity, Category 2 - Muta. 2; H341

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

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD

WARNING.

Symbols

GHS08 (Health Hazard) | GHS09 (Environment) |

Pictograms



Ingredient	CAS Nbr	EC No.	% by Wt
Epoxy Resin	5026-74-4	225-716-2	< 4

HAZARD STATEMENTS:

H341 Suspected of causing genetic defects.

H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

P391 Collect spillage.

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH205 Contains epoxy constituents. May produce an allergic reaction.

69% of the mixture consists of components of unknown acute oral toxicity.

Contains 69% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.

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

SECTION 3: Composition/information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB
EPOXY RESIN REACTION PRODUCT	Trade Secret	55 - 75	Substance not classified as hazardous
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	20 - 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Dicyandiamide	(CAS-No.) 461-58-5 (EC-No.) 207-312-8	< 5	Substance not classified as hazardous
Epoxy Resin	(CAS-No.) 5026-74-4 (EC-No.) 225-716-2	< 4	Aquatic Chronic 2, H411 Acute Tox. 4, H302 Skin Sens. 1A, H317 Muta. 2, H341 STOT RE 2, H373
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	(CAS-No.) 17526-94-2 (EC-No.) 241-523-6	< 2	Substance not classified as hazardous
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	(CAS-No.) 6386-73-8 (EC-No.) 228-988-0	< 0.5	Aquatic Acute 1, H400,M=1 Aquatic Chronic 2, H411

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

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319

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

Wash with soap and water. If you feel unwell, get medical attention.

Eye contact

If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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

No critical symptoms or effects. 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**Substance**

Aldehydes.
Carbon monoxide
Carbon dioxide.
Hydrogen Chloride
Hydrogen cyanide.
Ammonia
Oxides of nitrogen.

Condition

During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
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. 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.

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.

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

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/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. Avoid release to the environment. Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from amines.

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

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device.

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.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid.
Specific Physical Form:	Film
Colour	Green
Odor	Odourless
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>No data available.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Flammability	Not applicable.
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Flash point	No flash point
Autoignition temperature	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
pH	<i>substance/mixture is non-soluble (in water)</i>
Kinematic Viscosity	<i>Not applicable.</i>
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>Not applicable.</i>
Vapour pressure	<i>Not applicable.</i>
Density	<i>No data available.</i>
Relative density	<i>No data available.</i>
Relative Vapour Density	<i>Not applicable.</i>
Particle Characteristics	<i>Not applicable.</i>

9.2. Other information**9.2.2 Other safety characteristics**

EU Volatile Organic Compounds

No data available.

Evaporation rate

Not applicable.

Molecular weight

No data available.

Percent volatile

Nil

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

Amines.

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 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 hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

Signs and Symptoms of Exposure

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

Inhalation

No known health effects.

Skin contact

Contact with the skin during product use is not expected to result in significant irritation.

Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

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

Reproductive/Developmental Toxicity:

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

Genotoxicity:

Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	Rat	LD50 > 1,600 mg/kg
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Rat	LD50 > 1,000 mg/kg
Dicyandiamide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Dicyandiamide	Ingestion	Rat	LD50 > 30,000 mg/kg
Epoxy Resin	Dermal	Rat	LD50 > 4,000 mg/kg
Epoxy Resin	Ingestion	Rat	LD50 1,037 mg/kg
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	Dermal	Rat	LD50 > 2,000 mg/kg
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Multiple animal species	No significant irritation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Mild irritant
Dicyandiamide	Human and animal	Minimal irritation
Epoxy Resin	Rabbit	No significant irritation
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Moderate irritant
Dicyandiamide	Professional judgement	Mild irritant
Epoxy Resin	Rabbit	Mild irritant
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Overall product	Guinea pig	Not classified
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Human and animal	Sensitising
Dicyandiamide	Guinea pig	Not classified
Epoxy Resin	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxipropoxy)phenyl]propane	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
Dicyandiamide	In Vitro	Not mutagenic
Epoxy Resin	In Vitro	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	Ingestion	Rat	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Dicyandiamide	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Dicyandiamide	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
Dicyandiamide	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Epoxy Resin	Ingestion	Not classified for male reproduction	Rat	NOAEL 25 mg/kg/day	2 generation
Epoxy Resin	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during gestation
Epoxy Resin	Ingestion	Toxic to female reproduction	Rat	NOAEL 50 mg/kg/day	28 days

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
bis-[4-(2,3-epoxipropoxy)phenyl]propane	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
Dicyandiamide	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 6,822	13 weeks

Epoxy Resin	Ingestion	gastrointestinal tract	May cause damage to organs though prolonged or repeated exposure	Rat	mg/kg/day NOAEL 15 mg/kg/day	90 days
Epoxy Resin	Ingestion	endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system kidney and/or bladder nervous system	Not classified	Rat	NOAEL 450 mg/kg/day	28 days
Epoxy Resin	Ingestion	eyes	Not classified	Rat	NOAEL 15 mg/kg/day	90 days

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the 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
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Activated sludge	Analogous Compound	3 hours	IC50	>100 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	ErC50	>11 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	NOEC	4.2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Dicyandiamide	461-58-5	Bluegill	Experimental	96 hours	LC50	>1,000 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Dicyandiamide	461-58-5	Water flea	Experimental	48 hours	EC50	3,177 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	NOEC	310 mg/l

Dicyandiamide	461-58-5	Water flea	Experimental	21 days	NOEC	25 mg/l
Dicyandiamide	461-58-5	Redworm	Experimental	14 days	LC50	>3,200 mg/kg (Dry Weight)
Epoxy Resin	5026-74-4	Water flea	Analogous Compound	48 hours	EC50	18 mg/l
Epoxy Resin	5026-74-4	Bacteria	Experimental	16 hours	EC50	>=10 mg/l
Epoxy Resin	5026-74-4	Common Carp	Experimental	96 hours	LC50	4.2 mg/l
Epoxy Resin	5026-74-4	Green algae	Experimental	96 hours	ErC50	13 mg/l
Epoxy Resin	5026-74-4	Green algae	Experimental	96 hours	NOEC	4.2 mg/l
Epoxy Resin	5026-74-4	Water flea	Experimental	21 days	NOEC	0.42 mg/l
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Green algae	Experimental	72 hours	ErC50	>100 mg/l
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Green algae	Experimental	72 hours	NOEC	100 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Diatom	Analogous Compound	72 hours	EC50	0.43 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Fathead minnow	Analogous Compound	96 hours	LC50	0.54 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Green algae	Analogous Compound	72 hours	EC50	>1.9 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Water flea	Analogous Compound	48 hours	EC50	0.96 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Fathead minnow	Analogous Compound	35 days	NOEC	0.16 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Green algae	Analogous Compound	72 hours	NOEC	0.5 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Water flea	Analogous Compound	21 days	NOEC	0.3 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry

bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	117 hours (t 1/2)	OECD 111 Hydrolysis func of pH
Dicyandiamide	461-58-5	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 301E - Modif. OECD Screen
Dicyandiamide	461-58-5	Experimental Aquatic Inherent Biodegrad.	14 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Dicyandiamide	461-58-5	Experimental Biodegradation	61 days	CO2 evolution	1.1 %CO2 evolution/THCO2 evolution	OECD 309 Aero Sim Biod Water
Epoxy Resin	5026-74-4	Experimental Biodegradation	29 days	CO2 evolution	≤10 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Epoxy Resin	5026-74-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	4.1 days (t 1/2)	OECD 111 Hydrolysis func of pH
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	10 %removal of DOC (does not pass 10-day window)	similar to OECD 302B
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	33 days (t 1/2)	OECD 111 Hydrolysis func of pH
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Modeled Biodegradation	28 days	BOD	16 %BOD/ThOD	Catalogic™

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Bioconcentration		Log Kow	3.242	OECD 117 log Kow HPLC method
Dicyandiamide	461-58-5	Experimental BCF - Fish	42 days	Bioaccumulation factor	≤3.1	OECD305-Bioconcentration
Dicyandiamide	461-58-5	Experimental Bioconcentration		Log Kow	-0.52	OECD 107 log Kow shke flask mtd
Epoxy Resin	5026-74-4	Modeled Bioconcentration		Log Kow	0.87	Episuite™
1,1'-(4-Methyl-m-Phenylene)bis(3,3-Dimethylurea)	17526-94-2	Experimental Bioconcentration		Log Kow	<0.23	OECD 117 log Kow HPLC method
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Modeled Bioconcentration		Bioaccumulation factor	410	Catalogic™
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Modeled Bioconcentration		Log Kow	6.3	Episuite™

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Modeled Mobility in Soil	Koc	450 l/kg	Episuite™
Dicyandiamide	461-58-5	Modeled Mobility in Soil	Koc	9 l/kg	Episuite™
Epoxy Resin	5026-74-4	Experimental Mobility in Soil	Koc	84 l/kg	OECD 121 Estim. of Koc by HPLC
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Modeled Mobility in Soil	Koc	170,000 l/kg	Episuite™

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

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of waste product in a permitted industrial waste facility. 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/EC 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)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number	UN3077	UN3077	UN3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN)
14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Transport in bulk according to Annex II of Marpol 73/78 and	No data available.	No data available.	No data available.

IBC Code			
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	M7	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

<u>Ingredient</u>	<u>CAS Nbr</u>
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3

Restriction status: listed in UK REACH Annex XVII

Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 as amended for Great Britain for Conditions of Restriction

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.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
E2 Hazardous to the Aquatic environment	200	500

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012, as amended for GB
No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

GB Section 02: CLP Ingredient table information was modified.
GB Section 04: First Aid - Symptoms and Effects (GB CLP) information was deleted.
GB Section 04: Information on toxicological effects information was modified.
GB Section 15: Carcinogenicity information information was modified.
Section 1: E-mail address information was modified.
Section 02: CLP Physical and Health Hazard Statements information was modified.
Label: CLP Classification information was modified.
Label: CLP Environmental Hazard Statements information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was added.
Label: CLP Supplemental Hazard Statements information was modified.
Section 02: Label Elements: GB Percent Unknown information was deleted.
Section 02: Label Elements: GB Percent Unknown information was modified.
Label: Graphic information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 4: First aid for eye contact information information was modified.
Section 5: Hazardous combustion products table information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Appropriate Engineering controls information information was modified.
BLV Reg Agency Desc information was deleted.
Section 8: BLV table information was deleted.
Section 8: BLV information was added.
Legend description information was deleted.
Section 8: Occupational exposure limit table information was deleted.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was deleted.
Section 8: Personal Protection - Respiratory Information information was deleted.
Section 8: Respiratory protection - recommended respirators guide information was deleted.
Section 8: Respiratory protection - recommended respirators information information was deleted.

Section 8: Respiratory protection information information was added.
Section 8: STEL key information was deleted.
Section 8: TWA key information was deleted.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 09: Particle Characteristics N/A information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was deleted.
Section 11: Aspiration Hazard text information was added.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Lactation Table information was deleted.
Section 11: Prolonged or repeated exposure may cause standard phrases information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Single exposure may cause standard phrases information was deleted.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Specific Target Organ Toxicity - single exposure text information was added.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was deleted.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Bioaccumulative potential information information was modified.
Section 14 Control Temperature – Regulation Data information was modified.
Section 14 Emergency Temperature – Regulation Data information was modified.
Section 14 Hazard Class + Sub Risk – Regulation Data information was modified.
Section 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Packing Group – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.
Section 14 UN Number Column data information was modified.
Section 15: Restrictions on manufacture ingredients information information was modified.
Section 15: Seveso Hazard Category Text information was added.
Section 15: Seveso Substance Text information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material.
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 (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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M SDSs for Great Britain are available at www.3M.com/uk

For Northern Ireland documents, please contact your 3M representative to obtain a copy.