



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

#### 1.1. Product identifier

3M Scotch-Weld AF-163-2 Structural Adhesive Film

##### Product Identification Numbers

XA-0078-0002-3	XA-0078-0005-6	XA-0078-0007-2	XA-0078-0008-0	XA-0078-0009-8
XA-0078-0011-4	XA-0078-0012-2	XA-0078-0015-5	XA-0078-0016-3	XA-0078-0028-8
XA-0078-0030-4	XA-0078-0073-4	XA-0078-0078-3	XA-0078-0112-0	XA-0078-0113-8
7000104218	7100024737	7000104222	7100020915	7100000651
7000104223	7000104224	7000104227	7000104228	7100000483
7000104231	7000104244	7000104247	7000104251	7100000497

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

##### Identified uses

Structural Film Adhesive.

#### 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:** tox.uk@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

CLP REGULATION (EC) No 1272/2008

## 3M Scotch-Weld AF-163-2 Structural Adhesive Film

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.

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

### CLASSIFICATION:

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

#### Symbols

GHS09 (Environment) |

#### Pictograms



#### HAZARD STATEMENTS:

H411 Toxic to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

#### Prevention:

P273 Avoid release to the environment.

#### Disposal:

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

#### SUPPLEMENTAL INFORMATION:

#### Supplemental Hazard Statements:

EUH208 Contains Adipohydrazide. | bis-[4-(2,3-epoxipropoxy)phenyl]propane. | reaction product: bisphenol-A-(epichlorhydrin). May produce an allergic reaction.

Contains 1% of components with unknown hazards to the aquatic environment.

#### Notes on labelling

All or part of the classification is based on toxicity test data.

Test data from similar materials (T-148 and T-1432) indicate that this film does not cause dermal sensitization and is, at most, a mild skin irritant.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

**3M Scotch-Weld AF-163-2 Structural Adhesive Film**

Not applicable

**3.2. Mixtures**

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polymeric epoxy reaction product (MW >700)	Trade Secret	40 - 70	Substance not classified as hazardous
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	10 - 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	3 - 7	Substance not classified as hazardous
reaction product: bisphenol-A-(epichlorhydrin)	(CAS-No.) 25068-38-6 (EC-No.) 500-033-5 (REACH-No.) 01-2119456619-26	3 - 7	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	(CAS-No.) 17526-94-2 (EC-No.) 241-523-6	0.5 - 1.5	Substance not classified as hazardous
Adipohydrazide	(CAS-No.) 1071-93-8 (EC-No.) 213-999-5	< 1	Aquatic Chronic 2, H411 Skin Sens. 1B, H317
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	(CAS-No.) 2530-83-8 (EC-No.) 219-784-2	0.1 - 1	Eye Dam. 1, H318

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
reaction product: bisphenol-A-(epichlorhydrin)	(CAS-No.) 25068-38-6 (EC-No.) 500-033-5 (REACH-No.) 01-2119456619-26	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319
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**

## 3M Scotch-Weld AF-163-2 Structural Adhesive Film

Wash with soap and water. If signs/symptoms develop, get medical attention.

### Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Ammonia	During combustion.
Oxides of nitrogen.	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

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.

### 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

## 3M Scotch-Weld AF-163-2 Structural Adhesive Film

Avoid breathing of vapours created during the cure cycle. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial/occupational use only. Not for consumer sale or use. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

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

#### 8.2.2. Personal protective equipment (PPE)

##### Eye/face protection

None required.

##### Skin/hand protection

No chemical protective gloves are required.

##### Respiratory protection

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

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

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

##### *Applicable Norms/Standards*

Use a respirator conforming to EN 140 or EN 136: filter types A & P

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Film
Colour	Red

<b>Odor</b>	Odourless
<b>Odour threshold</b>	<i>No data available.</i>
<b>Melting point/freezing point</b>	<i>No data available.</i>
<b>Boiling point/boiling range</b>	<i>Not applicable.</i>
<b>Flammability (solid, gas)</b>	Not classified
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Flash point</b>	No flash point
<b>Autoignition temperature</b>	<i>Not applicable.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>pH</b>	<i>substance/mixture is non-soluble (in water)</i>
<b>Kinematic Viscosity</b>	<i>Not applicable.</i>
<b>Water solubility</b>	Nil
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	<i>Not applicable.</i>
<b>Density</b>	<i>Not applicable.</i>
<b>Relative density</b>	<i>Not applicable.</i>
<b>Relative Vapor Density</b>	<i>Not applicable.</i>

## 9.2. Other information

### 9.2.2 Other safety characteristics

<b>EU Volatile Organic Compounds</b>	<i>No data available.</i>
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Molecular weight</b>	<i>No data available.</i>
<b>Percent volatile</b>	0 % 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 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 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 internal hazard assessments.

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### 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.

#### 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.

#### Toxicological Data

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

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
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
reaction product: bisphenol-A-(epichlorhydrin)	Dermal	Rat	LD50 > 1,600 mg/kg
reaction product: bisphenol-A-(epichlorhydrin)	Ingestion	Rat	LD50 > 1,000 mg/kg
Dicyandiamide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Dicyandiamide	Ingestion	Rat	LD50 > 30,000 mg/kg
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	Dermal	Rat	LD50 > 2,000 mg/kg
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	Ingestion	Rat	LD50 > 2,000 mg/kg
Adipohydrazide	Ingestion	Mouse	LD50 > 5,000 mg/kg
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Dermal	Rabbit	LD50 4,000 mg/kg
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Rat	LD50 7,010 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
reaction product: bisphenol-A-(epichlorhydrin)	Rabbit	Mild irritant
Dicyandiamide	Human and animal	Minimal irritation
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	Rabbit	No significant irritation
Adipohydrazide	Rabbit	No significant irritation

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[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Mild irritant
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#### Serious Eye Damage/Irritation

Name	Species	Value
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Rabbit	Moderate irritant
reaction product: bisphenol-A-(epichlorhydrin)	Rabbit	Moderate irritant
Dicyandiamide	Professional judgement	Mild irritant
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	Rabbit	No significant irritation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Corrosive

#### Skin Sensitisation

Name	Species	Value
Overall product	Guinea pig	Not classified
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Human and animal	Sensitising
reaction product: bisphenol-A-(epichlorhydrin)	Human and animal	Sensitising
Dicyandiamide	Guinea pig	Not classified
Adipohydrazide	Guinea pig	Sensitising
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Guinea pig	Not classified

#### Respiratory Sensitisation

Name	Species	Value
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Human	Not classified
reaction product: bisphenol-A-(epichlorhydrin)	Human	Not classified

#### Germ Cell Mutagenicity

Name	Route	Value
bis-[4-(2,3-epoxypropoxy)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxypropoxy)phenyl]propane	In Vitro	Some positive data exist, but the data are not sufficient for classification
reaction product: bisphenol-A-(epichlorhydrin)	In vivo	Not mutagenic
reaction product: bisphenol-A-(epichlorhydrin)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	In Vitro	Not mutagenic
Adipohydrazide	In vivo	Not mutagenic
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	In vivo	Not mutagenic
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification

#### Carcinogenicity

Name	Route	Species	Value
bis-[4-(2,3-epoxypropoxy)phenyl]propane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
reaction product: bisphenol-A-(epichlorhydrin)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	Ingestion	Rat	Not carcinogenic
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Dermal	Mouse	Not carcinogenic



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**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
reaction product: bisphenol-A-(epichlorhydrin)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
reaction product: bisphenol-A-(epichlorhydrin)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
reaction product: bisphenol-A-(epichlorhydrin)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
reaction product: bisphenol-A-(epichlorhydrin)	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	prematuring & 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	prematuring & during gestation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis

**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
reaction product: bisphenol-A-(epichlorhydrin)	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
reaction product:	Dermal	nervous system	Not classified	Rat	NOAEL	13 weeks

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bisphenol-A-(epichlorhydrin)					1,000 mg/kg/day	
reaction product: bisphenol-A-(epichlorhydrin)	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 mg/kg/day	13 weeks
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	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 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 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
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Green Algae	Experimental	72 hours	EC50	>11 mg/l
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
bis-[4-(2,3-epoxypropoxy)phenyl]propane	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l

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reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	Water flea	Estimated	48 hours	LC50	1.8 mg/l
reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	Activated sludge	Experimental	3 hours	IC50	>100 mg/l
reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l
reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
reaction product: bisphenol-A- (epichlorhydrin)	25068-38-6	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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Green Algae	Experimental	72 hours	EC50	>100 mg/l
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Green Algae	Experimental	72 hours	NOEC	100 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Bacteria	Experimental	5 hours	Effect Concentration 10%	1,520 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Crustacea other	Experimental	48 hours	LC50	324 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green algae	Experimental	96 hours	EC50	350 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Water flea	Experimental	21 days	NOEC	>=100 mg/l
Adipohydrazide	1071-93-8	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Adipohydrazide	1071-93-8	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Adipohydrazide	1071-93-8	Green Algae	Experimental	72 hours	EC50	8.7 mg/l

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Adipohydrazide	1071-93-8	Water flea	Experimental	48 hours	EC50	>=106 mg/l
Adipohydrazide	1071-93-8	Green Algae	Experimental	72 hours	NOEC	0.22 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 Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Dicyandiamide	461-58-5	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	0 % weight	OECD 301E - Modified OECD Scre
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Estimated Biodegradation	28 days	BOD	3 % BOD/ThBOD	OECD 301C - MITI test (I)
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Non-standard method
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Non-standard method
Adipohydrazide	1071-93-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	62.1 % weight	OECD 301E - Modified OECD Scre

**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	Non-standard method
reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6	Experimental Bioconcentration		Log Kow	3.242	Non-standard method
Dicyandiamide	461-58-5	Experimental BCF-Carp	42 days	Bioaccumulation factor	<=3.1	OECD 305C-Bioaccum degree fish
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Estimated Bioconcentration		Bioaccumulation factor	4.3	Estimated: Bioconcentration factor
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Adipohydrazide	1071-93-8	Experimental Bioconcentration		Log Kow	-2.7	Non-standard method

**12.4. Mobility in soil**

Material	Cas No.	Test type	Study Type	Test result	Protocol
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Estimated Mobility in Soil	Koc	58 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. Endocrine disrupting properties

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

## 12.7. 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 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

# SECTION 14: Transportation information

XA-0078-0002-3, XA-0078-0008-0, XA-0078-0009-8, XA-0078-0011-4,  
XA-0078-0078-3, XA-0078-0112-0

## Component 1

**ADR/RID:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, (-), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

**IMDG-CODE:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, IMDG-Code segregation code: NONE, EMS: FA,SF.

**ICAO/IATA:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, fish and tree marking may be required (> 5kg/l).

## Component 2

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0005-6, XA-0078-0007-2

## Component 1

**ADR/RID:** UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, (EPOXY RESIN), III, --.

**IMDG-CODE:** UN3077, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, (EPOXY RESIN), III, IMDG-Code segregation code: NONE, EMS: --.

**ICAO/IATA:** UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION A197, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXCEPTION, (EPOXY RESIN), III.

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0012-2

**Component 1**

**ADR/RID:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, (-), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

**IMDG-CODE:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, IMDG-Code segregation code: NONE, EMS: FA,SF.

**ICAO/IATA:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, fish and tree marking may be required (> 5kg/l).

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0015-5, XA-0078-0030-4

**Component 1**

**ADR/RID:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, (-), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

**IMDG-CODE:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, IMDG-Code segregation code: NONE, EMS: FA,SF.

**ICAO/IATA:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, fish and tree marking may be required (> 5kg/l).

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0016-3, XA-0078-0073-4

**Component 1**

**ADR/RID:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, (-), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

**IMDG-CODE:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9, III, IMDG-Code

**3M Scotch-Weld AF-163-2 Structural Adhesive Film**

segregation code: NONE, Marine Pollutant, (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), EMS: FA,SF.

**ICAO/IATA:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, fish and tree marking may be required (> 5kg/l).

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0028-8

**Component 1**

**ADR/RID:** UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, (EPOXY RESIN), III, --.

**IMDG-CODE:** UN3077, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, (EPOXY RESIN), III, IMDG-Code segregation code: NONE, EMS: --.

**ICAO/IATA:** UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION A197, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, (EPOXY RESIN), III.

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

XA-0078-0113-8

**Component 1**

**ADR/RID:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, (-), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

**IMDG-CODE:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9, III, IMDG-Code segregation code: NONE, Marine Pollutant, (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), EMS: FA,SF.

**ICAO/IATA:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (EPOXY RESIN), 9, III, fish and tree marking may be required (> 5kg/l).

**Component 2**

**ADR/RID:** UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

**IMDG-CODE:** UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

**ICAO/IATA:** UN1845, CARBON DIOXIDE, SOLID, 9..

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)

**3M Scotch-Weld AF-163-2 Structural Adhesive Film**

<b>14.1 UN number</b>	UN3077	UN3077	UN3077
<b>14.2 UN proper shipping name</b>	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
<b>14.3 Transport hazard class(es)</b>	9	9	9
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>	Not Environmentally Hazardous	Not applicable	Marine Pollutant
<b>14.6 Special precautions for user</b>	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.
<b>14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code</b>	No data available.	No Data Available	No Data Available
<b>Control Temperature</b>	No data available.	No Data Available	No Data Available
<b>Emergency Temperature</b>	No data available.	No Data Available	No Data Available
<b>ADR Tunnel Code</b>	(-)	Not Applicable	Not Applicable
<b>ADR Classification Code</b>	M7	Not Applicable	Not Applicable
<b>ADR Transport Category</b>	3	Not Applicable	Not Applicable
<b>ADR Multiplier</b>	0	0	0
<b>IMDG Segregation Code</b>	Not applicable.	Not Applicable	NONE
<b>Transport not Permitted</b>	Not applicable.	Not Applicable	Not Applicable

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**

**Ingredient**

bis-[4-(2,3-epoxipropoxy)phenyl]propane

**CAS Nbr**

1675-54-3

**Classification**

Gr. 3: Not classifiable

**Regulation**

International Agency  
for Research on Cancer

**15.2. Chemical Safety Assessment**

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

**SECTION 16: Other information**

**List of relevant H statements**

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.

**Revision information:**

EU Section 09: pH information information was added.  
Section 1: Product identification numbers information was modified.  
Section 01: SAP Material Numbers information was modified.  
Section 03: Composition table % Column heading information was added.  
Section 3: Composition/ Information of ingredients table information was modified.  
Section 03: SCL table information was added.  
Section 03: Substance not applicable information was added.  
Section 04: Information on toxicological effects information was modified.  
Section 9: Evaporation Rate information information was deleted.  
Section 9: Explosive properties information information was deleted.  
Section 09: Kinematic Viscosity information information was added.  
Section 9: Melting point information information was modified.  
Section 9: Oxidising properties information information was deleted.  
Section 9: pH information information was deleted.  
Section 9: Property description for optional properties information was modified.  
Section 9: Vapour density value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 11: Classification disclaimer information was modified.  
Section 11: No endocrine disruptor information available warning information was added.  
Section 12: 12.6. Endocrine Disrupting Properties information was added.  
Section 12: 12.7. Other adverse effects information was modified.  
Section 12: Component ecotoxicity information information was modified.  
Section 12: Contact manufacturer for more detail. information was deleted.  
Section 12: Mobility in soil information information was added.  
Section 12: No endocrine disruptor information available warning information was added.  
Section 12: Persistence and Degradability information information was modified.  
Section 12: Biocumulative potential information information was modified.  
Section 14 Classification Code – Main Heading information was added.  
Section 14 Classification Code – Regulation Data information was added.

Section 14 Control Temperature – Main Heading information was added.  
Section 14 Control Temperature – Regulation Data information was added.  
Section 14 Disclaimer Information information was added.  
Section 14 Emergency Temperature – Main Heading information was added.  
Section 14 Emergency Temperature – Regulation Data information was added.  
Section 14 Hazard Class + Sub Risk – Main Heading information was added.  
Section 14 Hazard Class + Sub Risk – Regulation Data information was added.  
Section 14 Hazardous/Not Hazardous for Transportation information was added.  
Section 14 Multiplier – Main Heading information was added.  
Section 14 Multiplier – Regulation Data information was added.  
Section 14 Other Dangerous Goods – Main Heading information was added.  
Section 14 Other Dangerous Goods – Regulation Data information was added.  
Section 14 Packing Group – Main Heading information was added.  
Section 14 Packing Group – Regulation Data information was added.  
Section 14 Proper Shipping Name information was added.  
Section 14 Regulations – Main Headings information was added.  
Section 14 Segregation – Regulation Data information was added.  
Section 14 Segregation Code – Main Heading information was added.  
Section 14 Special Precautions – Main Heading information was added.  
Section 14 Special Precautions – Regulation Data information was added.  
Section 14 Transport Category – Main Heading information was added.  
Section 14 Transport Category – Regulation Data information was added.  
Section 14 Transport in bulk – Regulation Data information was added.  
Section 14 Transport in bulk according to Annex II of Marpol and the IBC Code – Main Heading information was added.  
Section 14 Transport Not Permitted – Main Heading information was added.  
Section 14 Transport Not Permitted – Regulation Data information was added.  
Section 14 Tunnel Code – Main Heading information was added.  
Section 14 Tunnel Code – Regulation Data information was added.  
Section 14 UN Number Column data information was added.  
Section 14 UN Number information was added.

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 United Kingdom MSDSs are available at [www.3M.com/uk](http://www.3M.com/uk)**