



## 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-0078-0028-8      XA-0078-0113-8

7100000483      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 Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.  
**Telephone:** +353 1 280 3555  
**E Mail:** tox.uk@mmm.com  
**Website:** www.3M.com

#### 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

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:**

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.

**Response:**

P391 Collect spillage.

**SUPPLEMENTAL INFORMATION:**

**Supplemental Hazard Statements:**

EUH208 Contains Adipohydrazide. | bis-[4-(2,3-epoxipropoxi)phenyl]propane. May produce an allergic reaction.

60% of the mixture consists of components of unknown acute oral toxicity.

Contains 60% 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]
EPOXY RESIN REACTION PRODUCT	None	45 - 65	Substance not classified as hazardous
bis-[4-(2,3-epoxipropoxi)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	15 - 40	Skin Irrit. 2, H315 Eye Irrit. 2, H319

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

	(REACH-No.) 01-2119456619-26		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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	(CAS-No.) 17526-94-2 (EC-No.) 241-523-6	< 1.5	Substance not classified as hazardous
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	(CAS-No.) 6386-73-8 (EC-No.) 228-988-0	< 1	Aquatic Acute 1, H400,M=1 Aquatic Chronic 2, H411
Adipohydrazide	(CAS-No.) 1071-93-8 (EC-No.) 213-999-5	< 1	Aquatic Chronic 2, H411 Skin Sens. 1B, H317

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 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

Evacuate area. Ventilate the area with fresh air. Observe precautions from other sections.

### 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. Avoid breathing dust/fume/gas/mist/vapours/spray. 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.

**Derived no effect level (DNEL)**

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	8.3 mg/kg bw/d
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Dermal, Short-term exposure, Systemic effects	8.3 mg/kg bw/d
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	12.3 mg/m <sup>3</sup>
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Worker	Inhalation, Short-term exposure, Systemic effects	12.3 mg/m <sup>3</sup>

**Predicted no effect concentrations (PNEC)**

Ingredient	Degradation Product	Compartment	PNEC
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Freshwater	0.003 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Freshwater sediments	0.5 mg/kg d.w.
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Intermittent releases to water	0.013 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Marine water	0.0003 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Marine water sediments	0.5 mg/kg d.w.
bis-[4-(2,3-epoxipropoxy)phenyl]propane		Sewage Treatment Plant	10 mg/l

**Recommended monitoring procedures:** Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

**8.2. Exposure controls**

In addition, refer to the annex for more information.

**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 protective gloves 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

#### 8.2.3. Environmental exposure controls

Refer to Annex

## SECTION 9: Physical and chemical properties

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

Physical state	Solid.
Specific Physical Form:	Film
Colour	Red
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 (solid, gas)	Not classified
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>Not applicable.</i>
Relative density	<i>Not applicable.</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**  
**Percent volatile**

*No data available.*  
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>
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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
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

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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	Rabbit	No significant irritation
Adipohydrazide	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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-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
Adipohydrazide	Guinea pig	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
Adipohydrazide	In vivo	Not 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	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

**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 mg/kg/day	13 weeks

**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-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)
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	ErC50	>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
Adipohydrazide	1071-93-8	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l

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Adipohydrazide	1071-93-8	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Adipohydrazide	1071-93-8	Green algae	Experimental	72 hours	ErC50	8.7 mg/l
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
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Diatom	Analogous Compound	72 hours	EC50	0.43 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Fathead minnow	Analogous Compound	96 hours	LC50	0.54 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Green algae	Analogous Compound	72 hours	EC50	>1.9 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Water flea	Analogous Compound	48 hours	EC50	0.96 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Fathead minnow	Analogous Compound	35 days	NOEC	0.16 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Green algae	Analogous Compound	72 hours	NOEC	0.5 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	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/THC O2 evolution	OECD 309 Aero Sim Biod Water
N,N''-(4-Methyl-m-phenylene)bis[N',N'-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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	33 days (t 1/2)	OECD 111 Hydrolysis func of pH
Adipohydrazide	1071-93-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	62.1 %removal of DOC	OECD 301E - Modif. OECD Screen
Adipohydrazide	1071-93-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
PHENOL, 2,2',6-TRIBROMO-4,4'-	6386-73-8	Modeled Biodegradation	28 days	BOD	16 %BOD/ThOD	Catalogic™

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ISOPROPYLIDENEDI-						
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**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
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Modeled Bioconcentration		Log Kow	0.77	Episuite™
Adipohydrazide	1071-93-8	Experimental Bioconcentration		Log Kow	-2.7	OECD 107 log Kow shke flask mtd
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Modeled Bioconcentration		Bioaccumulation factor	410	Catalogic™
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	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™
Adipohydrazide	1071-93-8	Modeled Mobility in Soil	Koc	10 l/kg	Episuite™
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	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. 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**

	<b>Ground Transport (ADR)</b>	<b>Air Transport (IATA)</b>	<b>Marine Transport (IMDG)</b>
<b>14.1 UN number or ID 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>	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 Marine Transport in bulk according to IMO instruments</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 Classification Code</b>	M7	Not applicable.	Not applicable.
<b>IMDG Segregation Code</b>	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****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**Restrictions on the manufacture, placing on the market and use:**

The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

**Ingredient**

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

**CAS Nbr**

1675-54-3

Restriction status: listed in REACH Annex XVII

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

**Global inventory status**

Contact 3M for more information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

**DIRECTIVE 2012/18/EU**

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**

No chemicals listed

**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.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

**Revision information:**

Section 3: Composition/ Information of ingredients table information was modified.

Section 09: Particle Characteristics N/A information was added.

Section 12: Component ecotoxicity information information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Biocumulative potential information information was modified.

**Annex**

1. Title	
<b>Substance identification</b>	bis-[4-(2,3-epoxipropoxy)phenyl]propane; EC No. 216-823-5; CAS Nbr 1675-54-3;
<b>Exposure Scenario Name</b>	Industrial Use of Tapes and Films
<b>Lifecycle Stage</b>	Use at industrial sites
<b>Contributing activities</b>	PROC 21 -Low energy manipulation and handling of substances bound in/on materials or articles ERC 05 -Use at industrial site leading to inclusion into/onto article
<b>Processes, tasks and activities covered</b>	Cutting and laminating of adhesive films and tapes.
2. Operational conditions and risk management measures	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> Duration of use: 8 hours/day; Emission days per year: 220 days/year; Indoors with good general ventilation;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b> Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.; <b>Environmental:</b> None needed;
<b>Waste management measures</b>	Do not apply industrial sludge to natural soils; Sludge should be incinerated, contained or reclaimed;
3. Prediction of exposure	
<b>Prediction of exposure</b>	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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 Ireland MSDSs are available at [www.3M.com](http://www.3M.com)