Safety Data Sheet

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Document group:	10-8292-4	**Version number:**	21.01
Revision date:	12/08/2025	**Supersedes date:**	03/06/2025

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-3109-2U

Product Identification Numbers

62-3059-5309-3	62-3060-6003-9	62-3173-6005-5	62-3173-6006-3
7000046407	7000000836	7000046432	7100016213

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

Identified uses

Structural adhesive film.

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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	500-062-3	15 - 20

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:

EUH208	Contains Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane. | Adipohydrazide. | bis-[4-(2,3-epoxipropoxi)phenyl]propane. May produce an allergic reaction.

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
Polymeric epoxy reaction product (MW >700)	Trade Secret	45 - 65	Substance not classified as hazardous
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	(CAS-No.) 28390-91-2 (EC-No.) 500-062-3	15 - 20	Aquatic Chronic 2, H411 Skin Sens. 1, H317 Muta. 2, H341
bis-[4-(2,3-epoxipropoxi)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	15 - 20	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 - 10	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
Adipohydrazide	(CAS-No.) 1071-93-8 (EC-No.) 213-999-5	0.5 - 1.5	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-epoxipropoxi)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 are concerned, get medical advice.

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

Substance	Condition
Aldehydes.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. Evacuate area. Ventilate the area with fresh air.

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
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 handle until all safety precautions have been read and understood. 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
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.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Chemical Protective glove of any material type	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	Blue
Odor	Odourless
Odour threshold	*No data available.*
Melting point/freezing point	*No data available.*
Boiling point/boiling range	*Not applicable.*
Flammability	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Flash point	No flash point
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*Not applicable.*
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*Not applicable.*
Density	*No data available.*
Relative density	*No data available.*
Relative Vapour Density	*Not applicable.*
Particle Characteristics	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*Not applicable.*
Percent volatile	*No data available.*
Percent volatile	Negligible

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

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

Substance	Condition
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 health effects are expected.

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.

Additional Health Effects:

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Dermal	Rabbit	LD50 > 3,000 mg/kg
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Ingestion	Rat	LD50 > 5,000 mg/kg
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Dermal	Rat	LD50 > 1,600 mg/kg
bis-[4-(2,3-epoxipropoxi)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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Rabbit	No significant irritation
bis-[4-(2,3-epoxipropoxi)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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Rabbit	Mild irritant
bis-[4-(2,3-epoxipropoxi)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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Human and animal	Sensitising
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Human and animal	Sensitising
Dicyandiamide	Guinea pig	Not classified
Adipohydrazide	Guinea pig	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	In vivo	Mutagenic
bis-[4-(2,3-epoxipropoxi)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxipropoxi)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-epoxipropoxi)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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Ingestion	Not classified for development	Rat	NOAEL 90 mg/kg/day	during gestation
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
bis-[4-(2,3-epoxipropoxi)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

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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	13 weeks
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	Ingestion	gastrointestinal tract | liver | immune system | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

		bladder				
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 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
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Bacteria	Experimental	24 hours	IC50	>10,000 mg/l
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Common Carp	Experimental	96 hours	LC50	7 mg/l
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Green algae	Experimental	72 hours	EC50	>11 mg/l
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Water flea	Experimental	48 hours	EC50	4.7 mg/l
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Green algae	Experimental	72 hours	EC10	2.4 mg/l
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Activated sludge	Analogous Compound	3 hours	IC50	>100 mg/l
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	ErC50	>11 mg/l

bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	NOEC	4.2 mg/l
bis-[4-(2,3-epoxipropoxi)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
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

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Experimental Biodegradation	28 days	CO2 evolution	10 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
bis-[4-(2,3-epoxipropoxi)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
N,N''-(4-Methyl-m-	17526-94-2	Experimental	28 days	Dissolv. Organic	10 %removal of	similar to OECD 302B

phenylene)bis[N',N'-dimethylurea]		Aquatic Inherent Biodegrad.		Carbon Deplet	DOC (does not pass 10-day window)	
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

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Benzenamine, 4,4'-methylenebis-, polymer with (chloromethyl)oxirane	28390-91-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
bis-[4-(2,3-epoxipropoxi)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 flsk mtd
N,N''-(4-Methyl-m-phenylene)bis[N',N'-dimethylurea]	17526-94-2	Experimental Bioconcentration		Log Kow	<0.23	OECD 117 log Kow HPLC method
Adipohydrazide	1071-93-8	Experimental Bioconcentration		Log Kow	-2.7	OECD 107 log Kow shke flsk mtd

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxi)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™

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 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
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 IBC Code	No data available.	No data available.	No data available.
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

Ingredient	CAS Nbr	Classification	Regulation
bis-[4-(2,3-epoxipropoxi)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.

bis-[4-(2,3-epoxipropoxi)phenyl]propane 1675-54-3

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

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

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

No revision information

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