Safety Data Sheet

Document group:	09-0182-7	**Version number:**	28.01
Revision date:	12/07/2019	**Supersedes date:**	09/07/2019

Transportation version number: 7.01 (16/07/2019)

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

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

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Structural Adhesive DP-760 Off-White

Product Identification Numbers
FS-9100-4045-0 UU-0101-3339-3

7000006834 7100200506

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

Identified uses
Structural adhesive.

1.3. Details of the supplier of the safety data sheet

Address:	3M 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

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

09-0181-9, 09-0180-1

TRANSPORTATION INFORMATION

FS-9100-4045-0

ADR/RID: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., LIMITED QUANTITY, (TRIETHYLENETETRAMINE), 8., II , (E), ADR Classification Code: C8.
IMDG-CODE: UN3259, AMINES, SOLID, CORROSIVE,N.O.S., (TRIETHYLENETETRAMINE), 8., II , IMDG-Code

segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.
ICAO/IATA: UN3259, AMINES, SOLID,CORROSIVE,N.O.S., (TRIETHYLENETETRAMINE), 8, II .

UU-0101-3339-3

Component 1
ADR/RID: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., LIMITED QUANTITY, (TRIETHYLENETETRAMINE), 8., II , (E), ADR Classification Code: C8.
IMDG-CODE: UN3259, AMINES, SOLID,CORROSIVE,N.O.S., (TRIETHYLENETETRAMINE), 8., II , IMDG-Code segregation code: 18 - ALKALIS, LIMITED QUANTITY, EMS: FA,SB.
ICAO/IATA: UN3259, AMINES, SOLID,CORROSIVE,N.O.S., (TRIETHYLENETETRAMINE), 8, II .

Component 2
ADR/RID: UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, (TRIGYLCIDYL-P-AMINOPHENOL), III, --.
IMDG-CODE: UN3077, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, (TRIGYLCIDYL-P-AMINOPHENOL), III, IMDG-Code segregation code: NONE, EMS: --.
ICAO/IATA: UN3077, NOT RESTRICTED AS PER SPECIAL PROVISION A197, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXCEPTION, (TRIGYLCIDYL-P-AMINOPHENOL), III.

KIT LABEL

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314
Skin Sensitization, Category 1A - Skin Sens. 1A; H317
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
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS05 (Corrosion) | GHS07 (Exclamation mark) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Contains:
Epichlorhydrin; Diethylenetriamine; 2-(2-Aminoethylamino)ethanol; 2-Piperazin-1-ylethylamine; 2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane; Phenol-formaldehyde polymer, glycidyl ether; p-(2,3-epoxypropoxy)-N,N-bis(2,3-

epoxypropyl)aniline; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol; Amines, polyethylenepoly-, tetraethylenepentamine fraction; Amines, polyethylenepoly-, triethylenetetramine fraction

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.

<=125 ml Precautionary statements

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

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

Revision information:
Section 1: Product identification numbers information was modified.
Section 01: SAP Material Numbers information was modified.

Safety Data Sheet

Document group:	09-0181-9	**Version number:**	24.00
Revision date:	04/12/2018	**Supersedes date:**	08/07/2017

Transportation version number: 1.00 (26/01/2011)

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™ Epoxy Structural Adhesive DP-760 Off-White : Part B

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

Identified uses
Structural adhesive.

1.3. Details of the supplier of the safety data sheet

Address:	3M 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

CLASSIFICATION:
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Skin Sensitization, Category 1A - Skin Sens. 1A; H317
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
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
WARNING.

Symbols:
GHS07 (Exclamation mark) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	225-716-2	30 - 60
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5	5 - 15
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4		1 - 15
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	500-006-8	0 - 7
Epichlorohydrin	106-89-8	203-439-8	0.001 - 0.02

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

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

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H317	May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

<=125 ml Precautionary statements

Prevention:
P280E Wear protective gloves.

Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

23% of the mixture consists of components of unknown acute oral toxicity.

Contains 43% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	225-716-2		30 - 60	Aquatic Chronic 2, H411 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Muta. 2, H341
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4			1 - 15	Skin Sens. 1, H317
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5	01-2119456619-26	5 - 15	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411
COPOLYMER (BD/STY/MMA)	None			5 - 10	Substance not classified as hazardous
METHYL METHACRYLATE/BUTADIENE/STYRENE COPOLYMER	Trade Secret			< 10	Substance not classified as hazardous
VINYL-ACRYLIC COPOLYMER	Trade Secret			< 10	Substance not classified as hazardous
Silica, vitreous	60676-86-0	262-373-8		5 - 10	Substance with a Community level exposure limit in the workplace
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	500-006-8		0 - 7	Aquatic Chronic 2, H411 Skin Irrit. 2, H315; Skin Sens. 1A, H317
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7			1 - 5	Substance with a Community level exposure limit in the workplace
Titanium dioxide	13463-67-7	236-675-5	01-2119489379-17	1 - 3	Substance with a Community level exposure limit in the

					workplace
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	219-784-2	01-2119513212-58	0.5 - 1.5	Eye Dam. 1, H318
Epichlorohydrin	106-89-8	203-439-8		0.001 - 0.02	Flam. Liq. 3, H226; Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Carc. 1B, H350 Aquatic Chronic 3, H412 Repr. 2, H361f

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

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
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.

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

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. 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 acids.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Epichlorohydrin	106-89-8	UK HSC	TWA:1.9 mg/m3(0.5 ppm);STEL:5.8 mg/m3(1.5 ppm)	
Titanium dioxide	13463-67-7	UK HSC	TWA(Inhalable):10 mg/m3;TWA(respirable):4	

			mg/m³
Silica, vitreous	60676-86-0	UK HSC	TWA(as respirable dust):0.08 mg/m³
Silicon dioxide	60676-86-0	UK HSC	TWA(as inhalable dust):6 mg/m3
Silicon dioxide	67762-90-7	UK HSC	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

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
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

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

Applicable Norms/Standards
Use eye protection conforming to EN 166

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

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

Applicable Norms/Standards
Use gloves tested to EN 374

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic 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:	Paste
Appearance/Odour	Thixotropic paste; off-white; epoxy odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>=100 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*Not applicable.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative density	1.23 - 1.29 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	1,050 Pa-s
Density	>=1.23 g/cm3

9.2. Other information

EU Volatile Organic Compounds	*No data available.*
Molecular weight	*No data available.*
Percent volatile	1 % weight

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
Strong acids.

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 EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
May cause additional health effects (see below).

Skin contact
Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion
Harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.
May cause additional health effects (see below).

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	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Dermal	Rabbit	LD50 > 4,000 mg/kg
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Ingestion	Rat	LD50 500-5000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN	Ingestion	Rat	LD50 > 1,000 mg/kg

POLYMER (MW unknown or <=700)			
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Dermal	Rabbit	LD50 > 2,000 mg/kg
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Ingestion	Rat	LD50 > 5,000 mg/kg
Phenol-formaldehyde polymer, glycidyl ether	Dermal	Rabbit	LD50 > 6,000 mg/kg
Phenol-formaldehyde polymer, glycidyl ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Phenol-formaldehyde polymer, glycidyl ether	Ingestion	Rat	LD50 > 4,000 mg/kg
Silica, vitreous	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silica, vitreous	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silica, vitreous	Ingestion	Rat	LD50 > 5,110 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
[3-(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
Epichlorohydrin	Dermal	Rabbit	LD50 755 mg/kg
Epichlorohydrin	Inhalation-Vapour (4 hours)	Rat	LC50 1.7 mg/l
Epichlorohydrin	Ingestion	Rat	LD50 260 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Rabbit	Irritant
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Rabbit	Mild irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	Mild irritant
Phenol-formaldehyde polymer, glycidyl ether	Rabbit	Minimal irritation
Silica, vitreous	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Mild irritant
Epichlorohydrin	Human and animal	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Rabbit	Severe irritant
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Rabbit	Moderate irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	No significant irritation

Phenol-formaldehyde polymer, glycidyl ether	Rabbit	Mild irritant
Silica, vitreous	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Corrosive
Epichlorohydrin	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Guinea pig	Sensitising
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Human and animal	Sensitising
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Multiple animal species	Sensitising
Phenol-formaldehyde polymer, glycidyl ether	Human and animal	Sensitising
Silica, vitreous	Human and animal	Not classified
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Titanium dioxide	Human and animal	Not classified
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Guinea pig	Not classified
Epichlorohydrin	Human and animal	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	In Vitro	Some positive data exist, but the data are not sufficient for classification
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	In vivo	Mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol-formaldehyde polymer, glycidyl ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
Silica, vitreous	In Vitro	Not mutagenic
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
[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
Epichlorohydrin	In Vitro	Some positive data exist, but the data are not sufficient for classification
Epichlorohydrin	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Silica, vitreous	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Dermal	Mouse	Not carcinogenic
Epichlorohydrin	Dermal	Mouse	Not carcinogenic
Epichlorohydrin	Ingestion	Rat	Carcinogenic.
Epichlorohydrin	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Silica, vitreous	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silica, vitreous	Inhalation	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silica, vitreous	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
[3-(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
Epichlorohydrin	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.2 mg/l	10 weeks
Epichlorohydrin	Inhalation	Not classified for development	Multiple animal species	NOAEL 0.09 mg/l	during organogenesis
Epichlorohydrin	Ingestion	Not classified for development	Multiple animal species	NOAEL 160 mg/kg/day	during gestation
Epichlorohydrin	Ingestion	Toxic to male reproduction	Rat	LOAEL 6.25	23 days

				mg/kg/day	
Epichlorohydrin	Inhalation	Toxic to male reproduction	Rat	NOAEL 0.02 mg/l	10 weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Epichlorohydrin	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL not available	occupational exposure
Epichlorohydrin	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Silica, vitreous	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
[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
Epichlorohydrin	Inhalation	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.21 mg/l	19 days
Epichlorohydrin	Inhalation	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.04 mg/l	136 weeks
Epichlorohydrin	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.377 mg/l	4 weeks
Epichlorohydrin	Inhalation	immune system	Not classified	Rat	LOAEL 0.211 mg/l	4 weeks
Epichlorohydrin	Inhalation	heart	Not classified	Rat	NOAEL 0.02	98 days

					mg/l	
Epichlorohydrin	Inhalation	nervous system	Not classified	Rat	NOAEL 0.002 mg/l	98 days
Epichlorohydrin	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.02 mg/l	13 weeks
Epichlorohydrin	Inhalation	blood	Not classified	Rat	NOAEL 0.189 mg/l	90 days
Epichlorohydrin	Ingestion	heart | blood	Not classified	Rat	NOAEL 80 mg/kg/day	12 weeks
Epichlorohydrin	Ingestion	liver	Not classified	Rat	NOAEL 25 mg/kg/day	90 days

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

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

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
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Common Carp	Experimental	96 hours	LC50	4.2 mg/l
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Green algae	Experimental	96 hours	EC50	13 mg/l
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Water flea	Estimated	48 hours	EC50	18 mg/l
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Green algae	Experimental	96 hours	NOEC	4.2 mg/l
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Water flea	Experimental	21 days	NOEC	0.42 mg/l
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Rainbow trout	Experimental	96 hours	LC50	1.2 mg/l
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Estimated	48 hours	LC50	0.95 mg/l
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l

unknown or <=700)						
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4		Data not available or insufficient for classification			
Silica, vitreous	60676-86-0	Common Carp	Experimental	72 hours	LC50	>10,000 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Green Algae	Experimental	72 hours	EC50	1.8 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Crustacea	Experimental	48 hours	EC50	1.6 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Rainbow trout	Experimental	96 hours	LC50	0.55 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 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	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	Water flea	Experimental	21 days	NOEC	>=100 mg/l
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
Epichlorohydrin	106-89-8	Water flea	Experimental	48 hours	EC50	23.9 mg/l

Epichlorohydrin	106-89-8	Green Algae	Experimental	72 hours	EC50	15 mg/l
Epichlorohydrin	106-89-8	Fathead minnow	Experimental	96 hours	LC50	10.6 mg/l
Epichlorohydrin	106-89-8	Green Algae	Experimental	72 hours	NOEC	1.7 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Experimental Hydrolysis		Hydrolytic half-life	4.1 days (t 1/2)	Other methods
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Experimental Biodegradation	29 days	CO2 evolution	≤10 % weight	OECD 301B - Modified sturm or CO2
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Laboratory Biodegradation	28 days	CO2 evolution	10 % weight	OECD 301B - Modified sturm or CO2
Silica, vitreous	60676-86-0	Data not availbl-insufficient			N/A	
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Experimental Biodegradation	28 days	CO2 evolution	16 % weight	OECD 301B - Modified sturm or CO2
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not availbl-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not availbl-insufficient			N/A	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Other methods
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Other methods
Epichlorohydrin	106-89-8	Experimental Hydrolysis		Hydrolytic half-life	3.9 days (t 1/2)	Other methods
Epichlorohydrin	106-89-8	Estimated Biodegradation	14 days	BOD	68 % BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Estimated Bioconcentration		Log Kow	0.87	Other methods
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation factor	<=42	OECD 305E - Bioaccumulation flow-through fish test
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Estimated Bioconcentration		Bioaccumulation factor	<=7.6	Estimated: Bioconcentration factor
Silica, vitreous	60676-86-0	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Epichlorohydrin	106-89-8	Experimental Bioconcentration		Log Kow	0.45	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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

Exemption: For vessels containing a net quantity of 5 l or a net mass of 5 kg or less per single or inner packaging , special provision 375 (ADR), exemption per 2.10.2.7 (IMDG) or special provision A197 (IATA) may be applied, if applicable
IATA: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Trigylcidyl-P-Aminophenol); 9; III.
IMDG: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Trigylcidyl-P-Aminophenol); 9; III; Marine Pollutant: Trigylcidyl-P-Aminophenol; FA, SF.
ADR: UN3077; Environmentally Hazardous Substance, Solid, N.O.S (Trigylcidyl-P-Aminophenol); 9; III; (-); M7.

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Epichlorohydrin	106-89-8	Carc. 1B	Regulation (EC) No. 1272/2008, Table 3.1
Epichlorohydrin	106-89-8	Grp. 2A: Probable human carc.	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

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

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Section 1: Product name information was modified.
Section 2: <125ml Precautionary - Disposal information was deleted.
CLP: Ingredient table information was modified.
Label: CLP Percent Unknown information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Hazardous combustion products table information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.

Section 11: Respiratory Sensitization Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Specific Target Organ Toxicity - single exposure text information was deleted.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was added.
Section 12: Component ecotoxicity information information was modified.
Section 12: No PBT/vPvB information available warning information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: EU waste code (product as sold) information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: Transportation classification information was modified.
Section 15: Carcinogenicity information information was modified.
Section 15: Chemical Safety Assessment information was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

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

3M United Kingdom MSDSs are available at www.3M.com/uk

Safety Data Sheet

Document group:	09-0180-1	**Version number:**	22.00
Revision date:	03/07/2019	**Supersedes date:**	02/10/2018

Transportation version number: 1.00 (16/06/2011)

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™ Epoxy Structural Adhesive DP-760 Off-White : Part A

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

Identified uses
Structural adhesive.

1.3. Details of the supplier of the safety data sheet

Address:	3M 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

CLASSIFICATION:
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

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

SIGNAL WORD
DANGER.

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

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	292-588-2	40 - 70
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	216-823-5	10 - 30
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	292-587-7	< 1
Diethylenetriamine	111-40-0	203-865-4	< 1
2-Piperazin-1-ylethylamine	140-31-8	205-411-0	< 1
2-(2-Aminoethylamino)ethanol	111-41-1	203-867-5	< 0.3

HAZARD STATEMENTS:

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

<=125 ml Precautionary statements

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

Contains 66% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	292-588-2		40 - 70	Aquatic Chronic 3, H412 Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	216-823-5		10 - 30	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 Aquatic Chronic 2, H411
Glass, oxide, chemicals	65997-17-3	266-046-0		5 - 10	Substance with a Community level exposure limit in the workplace
Titanium dioxide	13463-67-7	236-675-5	01-2119489379-17	1 - 5	Substance with a Community level exposure limit in the workplace
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7			1 - 5	Substance with a Community level exposure limit in the workplace
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine		907-495-0		< 1.5	Substance not classified as hazardous
Polyamide wax	Trade Secret			< 1.5	Substance not classified as hazardous
2-Piperazin-1-ylethylamine	140-31-8	205-411-0		< 1	Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1B, H317; Aquatic Chronic 3, H412
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	292-587-7		< 1	Aquatic Chronic 2, H411 Acute Tox. 4, H312; Acute

					Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1, H317
Diethylenetriamine	111-40-0	203-865-4		< 1	Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317 Acute Tox. 2, H330
2-(2-Aminoethylamino)ethanol	111-41-1	203-867-5		< 0.3	Skin Corr. 1B, H314; Skin Sens. 1, H317; Repr. 1B, H360Df; STOT SE 3, H335

Note: Any entry in the EC# column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
Please see section 16 for the full text of any H statements referred to in this section

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Amine compounds.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

Hydrogen Chloride	During combustion.
Oxides of nitrogen.	During combustion.

5.3. Advice for fire-fighters
When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus,tunic and trousers (leggings),bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from acids. Store away from strong bases.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Diethylenetriamine	111-40-0	UK HSC	TWA:4.3 mg/m3(1 ppm)	SKIN
Titanium dioxide	13463-67-7	UK HSC	TWA(Inhalable):10 mg/m3;TWA(respirable):4	

			mg/m³
Glass, oxide, chemicals	65997-17-3	UK HSC	TWA(as fiber):5 mg/m3(1 fibers/ml)
Glass, oxide, chemicals	65997-17-3	Manufacturer determined	TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3;TWA(as non-fibrous, respirable)(8 hours):3 mg/m3
Silicon dioxide	67762-90-7	UK HSC	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

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
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

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

Applicable Norms/Standards
Use eye/face protection conforming to EN 166

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

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	>0.30	> 4 hours
Butyl rubber.	0.5	> 8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards
Use gloves tested to EN 374

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

Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic 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:	Paste
Appearance/Odour	off-white; amine odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Melting point	*Not applicable.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>=100 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*Not applicable.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative density	0.79 - 0.85 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Density	0.79 - 0.85 g/ml

9.2. Other information

EU Volatile Organic Compounds	*No data available.*
Molecular weight	*No data available.*
Percent volatile	1 % weight

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
Strong bases.
Water

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 EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin contact
May be harmful in contact with skin. Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

Ingestion
May be harmful if swallowed.
Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen. May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Additional information:
Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Amines, polyethylenepoly-, triethylenetetramine fraction	Dermal	Rabbit	LD50 1,465 mg/kg
Amines, polyethylenepoly-, triethylenetetramine fraction	Ingestion	Rat	LD50 1,591 mg/kg
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Dermal	Rat	LD50 > 1,600 mg/kg
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Ingestion	Rat	LD50 > 1,000 mg/kg
Glass, oxide, chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass, oxide, chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Dermal	Rat	LD50 > 2,000 mg/kg
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Ingestion	Rat	LD50 > 2,000 mg/kg
Polyamide wax	Dermal	Rat	LD50 > 2,000 mg/kg
Polyamide wax	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.3 mg/l
Polyamide wax	Ingestion	Rat	LD50 > 2,000 mg/kg
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Dermal	Rabbit	LD50 1,470 mg/kg
2-Piperazin-1-ylethylamine	Dermal	Rabbit	LD50 865 mg/kg
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Ingestion	Rat	LD50 1,590 mg/kg
2-Piperazin-1-ylethylamine	Ingestion	Rat	LD50 1,470 mg/kg
Diethylenetriamine	Dermal	Rabbit	LD50 1,045 mg/kg
Diethylenetriamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.07 mg/l
Diethylenetriamine	Ingestion	Rat	LD50 819 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Amines, polyethylenepoly-, triethylenetetramine fraction	Rabbit	Corrosive
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Rabbit	Mild irritant
Glass, oxide, chemicals	Professional judgement	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation

Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Rabbit	No significant irritation
Polyamide wax	Rabbit	No significant irritation
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Rabbit	Corrosive
2-Piperazin-1-ylethylamine	Rabbit	Corrosive
Diethylenetriamine	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Amines, polyethylenepoly-, triethylenetetramine fraction	Rabbit	Corrosive
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Rabbit	Moderate irritant
Glass, oxide, chemicals	Professional judgement	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Rabbit	No significant irritation
Polyamide wax	Rabbit	Mild irritant
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Rabbit	Corrosive
2-Piperazin-1-ylethylamine	Rabbit	Corrosive
Diethylenetriamine	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Amines, polyethylenepoly-, triethylenetetramine fraction	Guinea pig	Sensitising
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Human and animal	Sensitising
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Titanium dioxide	Human and animal	Not classified
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	Mouse	Not classified
Polyamide wax	Mouse	Not classified
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Guinea pig	Sensitising
2-Piperazin-1-ylethylamine	Guinea pig	Sensitising
Diethylenetriamine	Guinea pig	Sensitising

Respiratory Sensitisation

Name	Species	Value
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Human	Not classified
Diethylenetriamine	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Amines, polyethylenepoly-, triethylenetetramine fraction	In vivo	Not mutagenic
Amines, polyethylenepoly-, triethylenetetramine fraction	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	In vivo	Not mutagenic
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	In Vitro	Some positive data exist, but the data are not sufficient for classification

Glass, oxide, chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	In Vitro	Not mutagenic
Amines, polyethylenepoly-, tetraethylenepentamine fraction	In vivo	Not mutagenic
Amines, polyethylenepoly-, tetraethylenepentamine fraction	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Piperazin-1-ylethylamine	In vivo	Not mutagenic
2-Piperazin-1-ylethylamine	In Vitro	Some positive data exist, but the data are not sufficient for classification
Diethylenetriamine	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Amines, polyethylenepoly-, triethylenetetramine fraction	Dermal	Mouse	Not carcinogenic
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Glass, oxide, chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Diethylenetriamine	Dermal	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Amines, polyethylenepoly-, triethylenetetramine fraction	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during organogenesis
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
2-Piperazin-1-ylethylamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	premating & during gestation
2-Piperazin-1-ylethylamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
2-Piperazin-1-ylethylamine	Ingestion	Not classified for development	Rat	NOAEL 899 mg/kg/day	premating & during gestation
Diethylenetriamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	28 days
Diethylenetriamine	Ingestion	Not classified for development	Rat	NOAEL 300	premating &

				mg/kg/day	during gestation
Diethylenetriamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 30 mg/kg/day	premating & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Amines, polyethylenepoly-, triethylenetetramine fraction	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
2-Piperazin-1-ylethylamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Diethylenetriamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	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
Glass, oxide, chemicals	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
2-Piperazin-1-ylethylamine	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
Diethylenetriamine	Ingestion	endocrine system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 1,210 mg/kg/day	90 days

Aspiration Hazard

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

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

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
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8		Data not available or insufficient for classification			
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Green Algae	Experimental	72 hours	EC50	>11 mg/l
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Rainbow trout	Experimental	96 hours	LC50	2 mg/l
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Water flea	Experimental	48 hours	EC50	1.8 mg/l
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Glass, oxide, chemicals	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l

Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Green algae	Experimental	72 hours	EC50	43.2 mg/l
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Rainbow trout	Experimental	96 hours	LC50	>=100 mg/l
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Water flea	Experimental	48 hours	EC50	94.9 mg/l
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Green algae	Experimental	72 hours	NOEC	20.7 mg/l
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Water flea	Experimental	21 days	No obs Effect Level	>=20 mg/l
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Green Algae	Estimated	72 hours	EC50	6.8 mg/l
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Guppy	Estimated	96 hours	LC50	420 mg/l
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Water flea	Estimated	48 hours	EC50	24.1 mg/l
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Green Algae	Estimated	72 hours	NOEC	0.5 mg/l
Diethylenetriamine	111-40-0	Water flea	Experimental	48 hours	EC50	16 mg/l
Diethylenetriamine	111-40-0	Guppy	Experimental	96 hours	LC50	430 mg/l
Diethylenetriamine	111-40-0	Green Algae	Experimental	72 hours	EC50	1,164 mg/l
Diethylenetriamine	111-40-0	Three-spined stickleback	Experimental	28 days	NOEC	>10 mg/l
Diethylenetriamine	111-40-0	Green algae	Experimental	72 hours	NOEC	10 mg/l
Diethylenetriamine	111-40-0	Water flea	Experimental	21 days	NOEC	5.6 mg/l
2-Piperazin-1-ylethylamine	140-31-8	Water flea	Experimental	48 hours	EC50	58 mg/l
2-Piperazin-1-ylethylamine	140-31-8	Green Algae	Experimental	72 hours	EC50	>1,000 mg/l
2-Piperazin-1-ylethylamine	140-31-8	Golden Orfe	Experimental	96 hours	LC50	368 mg/l
2-Piperazin-1-ylethylamine	140-31-8	Green Algae	Experimental	72 hours	NOEC	31 mg/l
2-(2-Aminoethylamino)ethanol	111-41-1	Diatom	Experimental	72 hours	EC50	920 mg/l
2-(2-Aminoethylamino)ethanol	111-41-1	Green algae	Experimental	72 hours	EC50	353.6 mg/l

2-(2-Aminoethylamino)ethanol	111-41-1	Fathead minnow	Experimental	96 hours	LC50	640 mg/l
2-(2-Aminoethylamino)ethanol	111-41-1	Green algae	Experimental	72 hours	Effect Concentration 10%	134 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	Data not availbl-insufficient			N/A	
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Other methods
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 % BOD/ThBOD	OECD 301F - Manometric respirometry
Glass, oxide, chemicals	65997-17-3	Data not availbl-insufficient			N/A	
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not availbl-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not availbl-insufficient			N/A	
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Experimental Biodegradation	28 days	BOD	14 % weight	OECD 301D - Closed bottle test
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Estimated Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301D - Closed bottle test
Diethylenetriamine	111-40-0	Experimental Biodegradation	21 days	BOD	87 % weight	OECD 301D - Closed bottle test
2-Piperazin-1-ylethylamine	140-31-8	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
2-(2-Aminoethylamino)ethanol	111-41-1	Experimental Biodegradation	28 days	BOD	>66.3 % BOD/ThBOD	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	Estimated Bioconcentration		Bioaccumulation factor	31	Estimated: Bioconcentration factor
Glass, oxide, chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Octadecanoic acid, 12-hydroxy-, reaction products with decanoic acid and ethylenediamine	907-495-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Amines, polyethylenepoly-, tetraethylenepentamine fraction	90640-66-7	Estimated Bioconcentration		Log Kow	-7.3	Other methods

Diethylenetriamine	111-40-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	≤6.3	OECD 305E - Bioaccumulation flow-through fish test
2-Piperazin-1-ylethylamine	140-31-8	Experimental Bioconcentration		Log Kow	0.3	Other methods
2-(2-Aminoethylamino)ethanol	111-41-1	Experimental BCF-Carp	42 days	Bioaccumulation factor	<3.7	OECD 305E - Bioaccumulation flow-through fish test

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/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

ADR: UN3259 Amines, Solid, Corrosive, N.O.S (Triethylenetetramine); 8; II; (E); C8
IMDG: UN3259 Amines, Solid, Corrosive, N.O.S (Triethylenetetramine); 8; II; EmS: F-A, S-B
IATA: UN3259 Amines, Solid, Corrosive, N.O.S (Triethylenetetramine); 8; II

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
2,2'-[(1-Methylethylidene)bis(4,1-	1675-54-3	Gr. 3: Not classifiable	International Agency

phenyleneoxymethylene)]bisoxirane			for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	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

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Section 2: <125ml Hazard - Environmental information was added.
Section 2: <125ml Hazard - Health information was modified.
Section 2: <125ml Precautionary - Response information was modified.
CLP: Ingredient table information was modified.
Label: CLP Classification information was modified.
Label: CLP Environmental Hazard Statements information was modified.
Label: CLP Percent Unknown information was modified.
Label: CLP Precautionary - Disposal information was added.
Label: CLP Precautionary - Response information was modified.
Label: Graphic information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Hazardous combustion products table information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: glove data value information was added.
Section 8: glove data value information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 9: Solubility (non-water) information was deleted.
Section 9: Solubility as text (non-water) information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.

Section 11: Reproductive and/or Developmental Effects text information was deleted.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 15: Carcinogenicity information information was modified.
Section 15: Regulations - Inventories information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

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

3M United Kingdom MSDSs are available at www.3M.com/uk