



## Safety Data Sheet

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

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

#### 1.1. Product identifier

3M Scotch-Weld Structural Adhesive Film AF 131-2

#### Product Identification Numbers

62-3157-5506-6

7000046427

#### 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:** 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  
Germ Cell Mutagenicity, Category 2 - Muta. 2; H341  
Specific Target Organ Toxicity-Single Exposure, Category 2 - STOT SE 2; H371  
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373  
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
4,4'-Diamino diphenyl sulphone	80-08-0	201-248-4	15 - 40
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	225-716-2	10 - 30

**HAZARD STATEMENTS:**

H302	Harmful if swallowed.	
H341	Suspected of causing genetic defects.	
H371	May cause damage to organs: blood or blood-forming organs	
H373	May cause damage to organs through prolonged or repeated exposure: blood or blood-forming organs   liver	
H411	Toxic to aquatic life with long lasting effects.	

**PRECAUTIONARY STATEMENTS**

**Prevention:**

P260A	Do not breathe vapours.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

**Disposal:**

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

**Supplemental Hazard Statements:**

EUH208	Contains p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline.   4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700). May produce an allergic reaction.
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Contains 34% of components with unknown hazards to the aquatic environment.

**3M Scotch-Weld Structural Adhesive Film AF 131-2****Notes on labelling**

Eye Irrit. 2 (H319) is not applied due to the nature of this product (adhesive film).

Test data from similar materials indicate that this film does not cause dermal sensitization and is, at most, a mild skin irritant. Skin Irrit. 2 (H315) and Skin Sens. 1 (H317) removed based on this test data.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Epoxy resin	Trade Secret			20 - 40	Substance not classified as hazardous
4,4'-Diamino diphenyl sulphone	80-08-0	201-248-4	01-2119949572-30	15 - 40	Acute Tox. 4, H302 Aquatic Chronic 2, H411 STOT SE 2, H371; STOT RE 2, H373
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	225-716-2	01-2119954405-36	10 - 30	Aquatic Chronic 2, H411 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Muta. 2, H341
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5		5 - 10	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5		01-2119379499-16	0.5 - 3	Substance with a Community level exposure limit in the workplace
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7			0.5 - 2.5	Substance with a Community level exposure limit in the workplace
Butanone	78-93-3	201-159-0		0 - 0.9	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066

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**

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

**Eye contact**

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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**

See Section 11.1 Information on toxicological effects

#### **4.3. Indication of any immediate medical attention and special treatment required**

Overexposure to this product may result in methemoglobinemia. Methemoglobinemia may be clinically suspected by the presence of clinical "cyanosis" in the presence of a normal PaO<sub>2</sub> (as obtained by arterial blood gases). Routine pulse oximetry may be inaccurate for monitoring oxygen saturation in the presence of methemoglobinemia, and should not be used to make the diagnosis of this disorder. If the patient is symptomatic or if the methemoglobin level is >20%, specific therapy with methylene blue should be considered as part of the medical management.

## SECTION 5: Fire-fighting measures

#### **5.1. Extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

#### **5.2. Special hazards arising from the substance or mixture**

Closed containers exposed to heat from fire may build pressure and explode.

#### **Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of sulphur.	During combustion.
Toxic vapour, gas, particulate.	During combustion.

#### **5.3. Advice for fire-fighters**

No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. 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 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. Avoid contact during pregnancy/while nursing. 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**

No special storage requirements.

**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
Silicon dioxide	112945-52-5	UK HSC	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3	
Silicon dioxide	67762-90-7	UK HSC	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3	
Butanone	78-93-3	UK HSC	TWA: 600 mg/m <sup>3</sup> (200 ppm); STEL: 899 mg/m <sup>3</sup> (300 ppm)	SKIN
4,4'-Diamino diphenyl sulphone	80-08-0	Manufacturer determined	TWA:0.1 mg/m3	

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

**Biological limit values**

Ingredient	CAS Nbr	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
Butanone	78-93-3	UK EH40 BMGVs	Butan-2-one	Urine	EOS	70 umol/L	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)  
 EOS: End of shift.

**Recommended monitoring procedures:**Information on recommended monitoring procedures can be obtained from UK HSC

**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:  
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:

<b>Material</b>	<b>Thickness (mm)</b>	<b>Breakthrough Time</b>
Nitrile rubber.	No data available	No data available

*Applicable Norms/Standards*

Use gloves tested to EN 374

**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**

**Appearance**

**Physical state**

Solid.

**Colour**

Tan

**Specific Physical Form:**

Film

**Odor**

Odourless

**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**

No flash point

**Autoignition temperature**

*Not applicable.*

**Flammable Limits(LEL)**

*Not applicable.*

**Flammable Limits(UEL)**

*Not applicable.*

Vapour pressure	<i>Not applicable.</i>
Relative density	0.96 [Ref Std: WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>Not applicable.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>Not applicable.</i>
Density	0.96 g/cm <sup>3</sup> [ @ 20 °C ]

#### 9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Percent volatile	Negligible

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation may occur.

### 10.4 Conditions to avoid

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.

### 10.5 Incompatible materials

None known.

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 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**

May be harmful in contact with skin. Contact with the skin during product use is not expected to result in significant irritation. May cause additional health effects (see below).

**Eye contact**

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

**Ingestion**

Harmful if swallowed.

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

**Additional Health Effects:**

**Single exposure may cause target organ effects:**

Methemoglobinemia: Signs/symptoms may include headache, dizziness, nausea, difficulty breathing, and generalised weakness. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Blood effects: Signs/symptoms may include generalised weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and hemoglobinemia.

**Prolonged or repeated exposure may cause target organ effects:**

Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Blood effects: Signs/symptoms may include generalised weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and hemoglobinemia. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

**Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which may interfere with lactation or be harmful to breastfed children.

**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 ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
Epoxy resin	Dermal	Rabbit	LD50 > 3,000 mg/kg
Epoxy resin	Ingestion	Rat	LD50 > 10,000 mg/kg
4,4'-Diamino diphenyl sulphone	Dermal	Rabbit	LD50 > 4,000 mg/kg
4,4'-Diamino diphenyl sulphone	Ingestion	Rat	LD50 631 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 POLYMER (MW unknown or <=700)	Ingestion	Rat	LD50 > 1,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist	Rat	LC50 > 0.691 mg/l



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	(4 hours)		
Synthetic amorphous silica, fumed, crystalline-free	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
Butanone	Dermal	Rabbit	LD50 > 8,050 mg/kg
Butanone	Inhalation-Vapour (4 hours)	Rat	LC50 34.5 mg/l
Butanone	Ingestion	Rat	LD50 2,737 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
4,4'-Diamino diphenyl sulphone	Rabbit	Mild irritant
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
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Butanone	Rabbit	Minimal irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
4,4'-Diamino diphenyl sulphone	Rabbit	Moderate irritant
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
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Butanone	Rabbit	Severe irritant

**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
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not classified
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified

**Respiratory Sensitisation**

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

**Germ Cell Mutagenicity**

Name	Route	Value
4,4'-Diamino diphenyl sulphone	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 Vitro	Some positive data exist, but the data are not

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		sufficient for classification
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	In vivo	Mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Butanone	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
4,4'-Diamino diphenyl sulphone	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	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
Butanone	Inhalation	Human	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-Diamino diphenyl sulphone	Ingestion	Not classified for development	Mouse	NOAEL 100 mg/kg/day	during organogenesis
4,4'-Diamino diphenyl sulphone	Ingestion	Toxic to male reproduction	Rat	LOAEL 50 mg/kg/day	6 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	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
Butanone	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation

**Lactation**

Name	Route	Species	Value
4,4'-Diamino diphenyl sulphone	Ingestion	Human	Causes effects on or via lactation

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**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-Diamino diphenyl sulphone	Ingestion	blood   methemoglobinemia   liver	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
4,4'-Diamino diphenyl sulphone	Ingestion	central nervous system depression	Not classified	Human	NOAEL Not available	poisoning and/or abuse
Butanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
Butanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Butanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	not applicable
Butanone	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-Diamino diphenyl sulphone	Ingestion	blood   liver	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	not available
4,4'-Diamino diphenyl sulphone	Ingestion	nervous system	May cause damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
4,4'-Diamino diphenyl sulphone	Ingestion	immune system	Not classified	Mouse	NOAEL 54 mg/kg/day	30 days
4,4'-Diamino diphenyl sulphone	Ingestion	heart	Not classified	Human	NOAEL Not available	not available
4,4'-Diamino diphenyl sulphone	Ingestion	kidney and/or bladder	Not classified	Human	NOAEL Not available	poisoning and/or abuse
4,4'-Diamino diphenyl sulphone	Ingestion	vascular system	Not classified	Human	NOAEL Not available	not available
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN 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
Synthetic amorphous silica, fumed, crystalline-free	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

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Butanone	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
Butanone	Inhalation	liver   kidney and/or bladder   heart   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   hematopoietic system   immune system   muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
Butanone	Ingestion	nervous system	Not classified	Rat	NOAEL 173 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
Epoxy resin	Trade Secret		Data not available or insufficient for classification			
4,4'-Diamino diphenyl sulphone	80-08-0	Common Carp	Experimental	96 hours	LC50	>100 mg/l
4,4'-Diamino diphenyl sulphone	80-08-0	Green algae	Experimental	72 hours	EC50	2.7 mg/l
4,4'-Diamino diphenyl sulphone	80-08-0	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
4,4'-Diamino diphenyl sulphone	80-08-0	Water flea	Experimental	21 days	NOEC	0.22 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	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	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'-ISOPROPYLIDENEDI PHENOL-	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l

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EPICHLOROHYDRIN POLYMER (MW unknown or <=700)						
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Estimated	48 hours	LC50	1.8 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
4,4'-ISOPROPYLIDENEDI PHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Water flea	Experimental	24 hours	EC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Green Algae	Experimental	72 hours	NOEC	60 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Butanone	78-93-3	Fathead minnow	Experimental	96 hours	LC50	2,993 mg/l
Butanone	78-93-3	Green algae	Experimental	96 hours	EC50	2,029 mg/l
Butanone	78-93-3	Water flea	Experimental	48 hours	EC50	308 mg/l
Butanone	78-93-3	Green Algae	Experimental	96 hours	Effect Concentration 10%	1,289 mg/l
Butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy resin	Trade Secret	Data not availbl-insufficient			N/A	
4,4'-Diamino diphenyl sulphone	80-08-0	Experimental Biodegradation	28 days	BOD	<1 % weight	OECD 301D - Closed bottle test
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'-ISOPROPYLIDENEDIPHE	25068-38-6	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Other methods

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NOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)						
4,4'-ISOPROPYLIDENEDIPHE NOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Data not availbl-insufficient			N/A	
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	Data not availbl-insufficient			N/A	
Butanone	78-93-3	Experimental Biodegradation	28 days	BOD	98 % BOD/ThBOD	OECD 301D - Closed bottle test

**12.3 : Bioaccumulative potential**

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Epoxy resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Diamino diphenyl sulphone	80-08-0	Experimental Bioconcentration		Log Kow	0.97	Other methods
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	Estimated Bioconcentration		Log Kow	0.87	Other methods
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental Bioconcentration		Log Kow	3.242	Other methods
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	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
Butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.29	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. 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

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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

62-3157-5506-6

### Component 1

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

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

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

### Component 2

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

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

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

## SECTION 15: Regulatory information

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

#### Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
4,4'-Diamino diphenyl sulphone	80-08-0	Gr. 3: Not classifiable	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

EUH066 Repeated exposure may cause skin dryness or cracking.

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

**Revision information:**

CLP: Ingredient table information was modified.  
Label: CLP Classification information was modified.  
Label: CLP Percent Unknown information was modified.  
Label: CLP Precautionary - Prevention information was modified.  
Label: CLP Target Organ Hazard Statement information was added.  
List of sensitizers information was modified.  
Section 3: Composition/ Information of ingredients table information was modified.  
Section 5: Hazardous combustion products table information was modified.  
Section 7: Precautions safe handling information information was modified.  
Section 8: Respiratory protection - recommended respirators information information was modified.  
Section 09: Color information was added.  
Section 09: Odor information was added.  
Sections 3 and 9: Odour, colour, grade information information was deleted.  
Section 9: Viscosity information 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 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: Biocumulative potential information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 15: Chemical Safety Assessment 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.

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