



Safety Data Sheet

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|---------------------------------------|------------|-------------------------|------------|
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| Revision date: | 24/05/2023 | Supersedes date: | 04/01/2023 |
| Transportation version number: | | | |

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier

3M™ Panel Bonding Adhesive PN 08115

Product Identification Numbers

UU-0089-1498-6

7100137215

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

Identified uses

Automotive.

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:

09-3599-9, 32-4327-6

TRANSPORTATION INFORMATION

Refer to section 14 of the kit components for transport information.

KIT LABEL

2.1. Classification of the substance or mixture

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

CLASSIFICATION:

Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318

Skin Sensitization, Category 1 - Skin Sens. 1; H317

Germ Cell Mutagenicity, Category 2 - Muta. 2; H341

Reproductive Toxicity, Category 1B - Repr. 1B; H360D

Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336

Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400

Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD

DANGER.

Symbols

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

Pictograms



Contains:

toluene; Carbon black; 2-piperazin-1-ylethylamine; bis-[4-(2,3-epoxipropoxy)phenyl]propane; Acrylate Polymer; [3-(2,3-epoxypropoxy)propyl]trimethoxysilane; imidazole; 3,3'-Oxybis(ethyleneoxy)bis(propylamine); Silica, vitreous; Oxide glass chemicals; Siloxanes and Silicones, di-Me, reaction products with silica; 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated; Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine ; Silicon dioxide; 2,4,6-tris(dimethylaminomethyl)phenol; Rxn mass: 2-([[1-chloro-3-([4-[methoxy(oxiran-2-yl)methyl]cyclohexyl)methoxy]propan-2-yl]oxy)methyl]oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane

HAZARD STATEMENTS:

| | |
|-------|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H341 | Suspected of causing genetic defects. |
| H360D | May damage the unborn child. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

PRECAUTIONARY STATEMENTS

Prevention:

P201 Obtain special instructions before use.
P260A Do not breathe vapours.
P280J Wear protective gloves, protective clothing, respiratory protection, and eye/face protection.

Response:

P303 + P361 + P353 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.

SUPPLEMENTAL INFORMATION:**Supplemental Precautionary Statements:**

Restricted to professional users.

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

Revision information:

GB Kit Information: CLP Percent Unknown information was added.
GB Label: CLP Ingredients - kit components information was added.
Label: CLP Percent Unknown - Kit information was deleted.
Kit: Component document group number(s) information was modified.
Label: CLP Ingredients - kit components information was deleted.



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
| Document group: | 09-3599-9 | Version number: | 8.03 |
| Revision date: | 08/01/2025 | Supersedes date: | 02/11/2023 |

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier

3M™ Panel Bonding (90 Minutes) Adhesive Part A (Accelerator) PN 08115, 38315, 38515, 58115

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

Identified uses

Automotive.

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

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

This material has been tested for eye damage/irritation and the test results are reflected in the assigned classification.

This material has been tested for skin corrosion/irritation and the test results are reflected in the assigned classification.

This material has been tested for skin sensitization and the test results are reflected in the assigned classification.

CLASSIFICATION:

Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318

Skin Sensitization, Category 1B - Skin Sens. 1B; H317

Reproductive Toxicity, Category 1B - Repr. 1B; H360D
 Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
 Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
 Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD

DANGER.

Symbols

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

Pictograms



| Ingredient | CAS Nbr | EC No. | % by Wt |
|--|------------|-----------|-----------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | | 701-270-9 | 35 - 45 |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | 68683-29-4 | | 10 - 30 |
| Silica, vitreous | 60676-86-0 | 262-373-8 | 10 - 30 |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | 224-207-2 | < 10 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | 202-013-9 | 5 - 10 |
| imidazole | 288-32-4 | 206-019-2 | 1 - 5 |
| Nitric acid, ammonium calcium salt | 15245-12-2 | 239-289-5 | 1 - 5 |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | | 1 - 5 |
| Bis[(dimethylamino)methyl]phenol | 71074-89-0 | 275-162-0 | 0.1 - 1.5 |
| 2-piperazin-1-ylethylamine | 140-31-8 | 205-411-0 | 0.1 - 1 |
| toluene | 108-88-3 | 203-625-9 | < 0.5 |

HAZARD STATEMENTS:

H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H360D May damage the unborn child.
 H336 May cause drowsiness or dizziness.

 H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201 Obtain special instructions before use.
 P260A Do not breathe vapours.
 P280J Wear protective gloves, protective clothing, respiratory protection, and eye/face protection.

Response:

P303 + P361 + P353 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.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:

Restricted to professional users.

1% of the mixture consists of components of unknown acute dermal toxicity.

Contains 4% 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. This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Ingredient | Identifier(s) | % | Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB |
|--|--|----------|---|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | (EC-No.) 701-270-9 | 35 - 45 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 STOT SE 3, H336 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | (CAS-No.) 68683-29-4 | 10 - 30 | Skin Irrit. 2, H315 Skin Sens. 1A, H317 |
| Silica, vitreous | (CAS-No.) 60676-86-0 (EC-No.) 262-373-8 | 10 - 30 | Substance with a national occupational exposure limit |
| 2,4,6-tris(dimethylaminomethyl)phenol | (CAS-No.) 90-72-2 (EC-No.) 202-013-9 | 5 - 10 | Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | (CAS-No.) 4246-51-9 (EC-No.) 224-207-2 | < 10 | Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 |
| Nitric acid, ammonium calcium salt | (CAS-No.) 15245-12-2 (EC-No.) 239-289-5 | 1 - 5 | Acute Tox. 4, H302 Eye Dam. 1, H318 |
| imidazole | (CAS-No.) 288-32-4 | 1 - 5 | Acute Tox. 4, H302 |

| | | | |
|---|--|-----------|--|
| | (EC-No.) 206-019-2 | | Skin Corr. 1C, H314 Repr. 1B, H360D Acute Tox. 3, H311 |
| Siloxanes and Silicones, di-Me, reaction products with silica | (CAS-No.) 67762-90-7 | 1 - 5 | Substance with a national occupational exposure limit |
| Bis[(dimethylamino)methyl]phenol | (CAS-No.) 71074-89-0 (EC-No.) 275-162-0 | 0.1 - 1.5 | Acute Tox. 4, H302 Skin Corr. 1C, H314 |
| 2-piperazin-1-ylethylamine | (CAS-No.) 140-31-8 (EC-No.) 205-411-0 | 0.1 - 1 | Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1B, H314 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 Repr. 2, H361d STOT RE 1, H372 |
| toluene | (CAS-No.) 108-88-3 (EC-No.) 203-625-9 | < 0.5 | Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412 |

Any entry in the Identifier(s) 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

The most important symptoms and effects based on the GB CLP classification include:
Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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 PaO₂ (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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|------------------|--------------------|
| Carbon monoxide | During combustion. |
| Carbon dioxide. | 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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. 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

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. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Store away from acids. Store away from oxidising agents.

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 |
|------------------|------------|--------|---|---------------------|
| toluene | 108-88-3 | UK HSE | TWA: 191 mg/m ³ (50 ppm); STEL: 384 mg/m ³ (100 ppm) | SKIN |
| Silica, vitreous | 60676-86-0 | UK HSE | TWA(as respirable dust):0.08 mg/m ³ | |
| Silicon dioxide | 67762-90-7 | UK HSE | TWA(as respirable dust):2.4 mg/m ³ ;TWA(as inhalable dust):6 mg/m ³ | |

UK HSE : 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 | 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 | Liquid. |
| Specific Physical Form: | Viscous liquid |
| Colour | Tan |
| Odor | Slight Amine |
| Odour threshold | <i>No data available.</i> |
| Melting point/freezing point | <i>Not applicable.</i> |
| Boiling point/boiling range | >=110 °C |
| Flammability | Not applicable. |
| Flammable Limits(LEL) | <i>No data available.</i> |
| Flammable Limits(UEL) | <i>No data available.</i> |
| Flash point | 110 °C [<i>Test Method:Closed Cup</i>] |
| Autoignition temperature | <i>No data available.</i> |
| Decomposition temperature | <i>No data available.</i> |
| pH | <i>substance/mixture is non-soluble (in water)</i> |
| Kinematic Viscosity | 187,500 mm ² /sec |
| Water solubility | <i>No data available.</i> |
| Solubility- non-water | <i>No data available.</i> |
| Partition coefficient: n-octanol/water | <i>No data available.</i> |
| Vapour pressure | <=26,664.4 Pa [<i>@ 20 °C</i>] |
| Density | 1.2 g/ml |
| Density | 1.2 kg/l |
| Relative density | 1.2 [<i>Ref.Std:WATER=1</i>] |
| Relative Vapour Density | <i>No data available.</i> |
| Particle Characteristics | <i>Not applicable.</i> |

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No data available.

Evaporation rate

≤ 1 [Ref Std:BUOAC=1]

Molecular weight

No data available.

Percent volatile

0.4 % 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

None known.

10.5 Incompatible materials

Strong oxidising agents.

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

11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

Signs and Symptoms of Exposure

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

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. 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:

Single exposure may cause target organ effects:

Methemoglobinemia: Signs/symptoms may include headache, dizziness, nausea, difficulty breathing, and generalised weakness. Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

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 ATE >2,000 - =5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Dermal | Rat | LD50 > 2,000 mg/kg |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Ingestion | Rat | LD50 > 2,000 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 |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Ingestion | Rat | LD50 > 15,300 mg/kg |
| 2,4,6-tris(dimethylaminomethyl)phenol | Dermal | Rat | LD50 1,280 mg/kg |
| 2,4,6-tris(dimethylaminomethyl)phenol | Ingestion | Rat | LD50 1,000 mg/kg |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Dermal | Rabbit | LD50 2,525 mg/kg |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Ingestion | Rat | LD50 2,850 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 |
| imidazole | Ingestion | Rat | LD50 970 mg/kg |
| imidazole | Dermal | similar compounds | LD50 400 mg/kg |
| Nitric acid, ammonium calcium salt | Ingestion | Rat | LD50 >300, <2000 mg/kg |
| Nitric acid, ammonium calcium salt | Dermal | similar compounds | LD50 > 2,000 mg/kg |

| | | | |
|----------------------------------|-----------------------------|--------|--|
| Bis[(dimethylamino)methyl]phenol | Ingestion | | LD50 estimated to be 300 - 2,000 mg/kg |
| 2-piperazin-1-ylethylamine | Dermal | Rabbit | LD50 865 mg/kg |
| 2-piperazin-1-ylethylamine | Ingestion | Rat | LD50 1,470 mg/kg |
| toluene | Dermal | Rat | LD50 12,000 mg/kg |
| toluene | Inhalation-Vapour (4 hours) | Rat | LC50 30 mg/l |
| toluene | Ingestion | Rat | LD50 5,550 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-------------------|---------------------------|
| Overall product | Rabbit | Corrosive |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Rat | Irritant |
| Silica, vitreous | Rabbit | No significant irritation |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Rabbit | Irritant |
| 2,4,6-tris(dimethylaminomethyl)phenol | Rabbit | Corrosive |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Rabbit | Corrosive |
| Siloxanes and Silicones, di-Me, reaction products with silica | Rabbit | No significant irritation |
| imidazole | Rabbit | Corrosive |
| Nitric acid, ammonium calcium salt | similar compounds | No significant irritation |
| Bis[(dimethylamino)methyl]phenol | similar compounds | Corrosive |
| 2-piperazin-1-ylethylamine | Rabbit | Corrosive |
| toluene | Rabbit | Irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|------------------------|---------------------------|
| Overall product | similar health hazards | Corrosive |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | In vitro data | Severe irritant |
| Silica, vitreous | Rabbit | No significant irritation |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Rabbit | Mild irritant |
| 2,4,6-tris(dimethylaminomethyl)phenol | Rabbit | Corrosive |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Rabbit | Corrosive |
| Siloxanes and Silicones, di-Me, reaction products with silica | Rabbit | No significant irritation |
| imidazole | Rabbit | Corrosive |
| Nitric acid, ammonium calcium salt | Rabbit | Corrosive |
| Bis[(dimethylamino)methyl]phenol | similar compounds | Corrosive |
| 2-piperazin-1-ylethylamine | Rabbit | Corrosive |
| toluene | Rabbit | Moderate irritant |

Skin Sensitisation

| Name | Species | Value |
|--|------------|----------------|
| Overall product | Guinea pig | Sensitising |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Guinea pig | Sensitising |
| Silica, vitreous | Human and | Not classified |

| | | |
|--|------------------------|----------------|
| | animal | |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Guinea pig | Sensitising |
| 2,4,6-tris(dimethylaminomethyl)phenol | Guinea pig | Not classified |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Professional judgement | Sensitising |
| Siloxanes and Silicones, di-Me, reaction products with silica | Human and animal | Not classified |
| Nitric acid, ammonium calcium salt | Mouse | Not classified |
| 2-piperazin-1-ylethylamine | Guinea pig | Sensitising |
| toluene | Guinea pig | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | In Vitro | Not mutagenic |
| Silica, vitreous | In Vitro | Not mutagenic |
| 2,4,6-tris(dimethylaminomethyl)phenol | In Vitro | Not mutagenic |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | In Vitro | Not mutagenic |
| Siloxanes and Silicones, di-Me, reaction products with silica | In Vitro | Not mutagenic |
| imidazole | In Vitro | Not mutagenic |
| imidazole | In vivo | Not mutagenic |
| Nitric acid, ammonium calcium salt | In Vitro | Not mutagenic |
| 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 |
| toluene | In Vitro | Not mutagenic |
| toluene | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---|----------------|---------|--|
| 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 |
| toluene | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| toluene | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| toluene | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|--|-----------|--|---------|-----------------------|----------------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring into lactation |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1- | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 29 days |

| | | | | | |
|--|------------|--|--------|-----------------------|------------------------------|
| amine | | | | | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | premating into lactation |
| 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 |
| 2,4,6-tris(dimethylaminomethyl)phenol | Ingestion | Not classified for male reproduction | Rat | NOAEL 150 mg/kg/day | 2 generation |
| 2,4,6-tris(dimethylaminomethyl)phenol | Ingestion | Not classified for female reproduction | Rat | NOAEL 50 mg/kg/day | 2 generation |
| 2,4,6-tris(dimethylaminomethyl)phenol | Ingestion | Not classified for development | Rabbit | NOAEL 15 mg/kg/day | during gestation |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Ingestion | Not classified for female reproduction | Rat | NOAEL 600 mg/kg/day | premating into lactation |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Ingestion | Not classified for male reproduction | Rat | NOAEL 600 mg/kg/day | 59 days |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Ingestion | Not classified for development | Rat | NOAEL 600 mg/kg/day | premating into lactation |
| 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 |
| imidazole | Ingestion | Toxic to development | Rat | NOAEL 60 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 | Toxic to development | Rabbit | NOAEL 75 mg/kg/day | during gestation |
| toluene | Inhalation | Not classified for female reproduction | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | Not classified for male reproduction | Rat | NOAEL 2.3 mg/l | 1 generation |
| toluene | Ingestion | Toxic to development | Rat | LOAEL 520 mg/kg/day | during gestation |
| toluene | Inhalation | Toxic to development | Human | NOAEL Not available | poisoning and/or abuse |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|--|------------|-----------------------------------|--|------------------------|---------------------|-------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | Irritation Positive | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Rat | NOAEL Not available | |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4- | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL not available | |

| | | | | | | |
|---|------------|-----------------------------------|--|------------------------|---------------------|------------------------|
| [[2-(1-piperazinyl)ethyl]amino]butyl-terminated | | | | | | |
| 2,4,6-tris(dimethylaminomethyl)phenol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine)imidazole | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Nitric acid, ammonium calcium salt | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Nitric acid, ammonium calcium salt | Ingestion | methemoglobinemia | Causes damage to organs | similar compounds | 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 | |
| toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL 0.004 mg/l | 3 hours |
| toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|--|------------|--|----------------|---------|-----------------------|-----------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Ingestion | heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 29 days |
| Silica, vitreous | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| 2,4,6-tris(dimethylaminomethyl)phenol | Dermal | skin | Not classified | Rat | NOAEL 25 mg/kg/day | 4 weeks |
| 2,4,6-tris(dimethylaminomethyl)phenol | Dermal | liver nervous system auditory system hematopoietic system eyes | Not classified | Rat | NOAEL 125 mg/kg/day | 4 weeks |
| 2,4,6-tris(dimethylaminomethyl)phenol | Ingestion | heart endocrine system hematopoietic system liver muscles nervous system kidney and/or bladder respiratory system vascular system auditory system | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |

| | | | | | | |
|---|------------|---|--|-------------------------|------------------------------|------------------------|
| | | skin gastrointestinal tract bone, teeth, nails, and/or hair immune system eyes | | | | |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Ingestion | gastrointestinal tract heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 600 mg/kg/day | 59 days |
| Siloxanes and Silicones, di-Me, reaction products with silica | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| imidazole | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 60 mg/kg/day | 90 days |
| imidazole | Ingestion | heart liver blood nervous system eyes | Not classified | Rat | NOAEL 180 mg/kg/day | 90 days |
| 2-piperazin-1-ylethylamine | Dermal | skin | Not classified | Rat | NOAEL 100 mg/kg/day | 29 days |
| 2-piperazin-1-ylethylamine | Dermal | hematopoietic system nervous system kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 29 days |
| 2-piperazin-1-ylethylamine | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | NOAEL 0.2 mg/m ³ | 13 weeks |
| 2-piperazin-1-ylethylamine | Inhalation | hematopoietic system eyes kidney and/or bladder | Not classified | Rat | NOAEL 53.8 mg/m ³ | 13 weeks |
| 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 |
| toluene | Inhalation | auditory system nervous system eyes olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| toluene | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2.3 mg/l | 15 months |
| toluene | Inhalation | heart liver kidney and/or bladder | Not classified | Rat | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Inhalation | endocrine system | Not classified | Rat | NOAEL 1.1 mg/l | 4 weeks |
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL Not available | 20 days |
| toluene | Inhalation | bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| toluene | Inhalation | hematopoietic system vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | gastrointestinal tract | Not classified | Multiple animal species | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Ingestion | nervous system | Some positive data exist, but the | Rat | NOAEL 625 | 13 weeks |

| | | | | | | |
|---------|-----------|-------------------------------|--|-------------------------|-----------------------|----------|
| | | | data are not sufficient for classification | | mg/kg/day | |
| toluene | Ingestion | heart | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| toluene | Ingestion | liver kidney and/or bladder | Not classified | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| toluene | Ingestion | hematopoietic system | Not classified | Mouse | NOAEL 600 mg/kg/day | 14 days |
| toluene | Ingestion | endocrine system | Not classified | Mouse | NOAEL 105 mg/kg/day | 28 days |
| toluene | Ingestion | immune system | Not classified | Mouse | NOAEL 105 mg/kg/day | 4 weeks |

Aspiration Hazard

| Name | Value |
|---------|-------------------|
| toluene | Aspiration hazard |

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

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|--|-----------|----------------|--------------|----------|---------------|-------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Fathead minnow | Experimental | 96 hours | LL50 | 2.16 mg/l |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Green algae | Experimental | 72 hours | EL50 | 0.43 mg/l |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Water flea | Experimental | 48 hours | EL50 | 0.57 mg/l |
| Reaction products of fatty acids, C18- | 701-270-9 | Green algae | Experimental | 72 hours | NOEL | 0.28 mg/l |

3M™ Panel Bonding (90 Minutes) Adhesive Part A (Accelerator) PN 08115, 38315, 38515, 58115

| | | | | | | |
|--|------------|------------------|---|------------|-------|--------------|
| unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | | | | | | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Activated sludge | Experimental | 3 hours | EC50 | 410.3 mg/l |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | 68683-29-4 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Silica, vitreous | 60676-86-0 | Common Carp | Experimental | 72 hours | LC50 | >10,000 mg/l |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Bacteria | Experimental | 17 hours | EC50 | 4,000 mg/l |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Golden Orfe | Experimental | 96 hours | LC50 | >1,000 mg/l |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Green algae | Experimental | 72 hours | EC50 | >500 mg/l |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Water flea | Experimental | 48 hours | EC50 | 218.16 mg/l |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Green algae | Experimental | 72 hours | EC10 | 5.4 mg/l |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | N/A | Experimental | 96 hours | LC50 | 718 mg/l |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | Common Carp | Experimental | 96 hours | LC50 | >100 mg/l |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | Green algae | Experimental | 72 hours | EC50 | 46.7 mg/l |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | Green algae | Experimental | 72 hours | NOEC | 6.44 mg/l |
| imidazole | 288-32-4 | Green algae | Experimental | 72 hours | ErC50 | 133 mg/l |
| imidazole | 288-32-4 | Water flea | Experimental | 48 hours | EC50 | 341.5 mg/l |
| imidazole | 288-32-4 | Green algae | Experimental | 72 hours | NOEC | 25 mg/l |
| imidazole | 288-32-4 | Activated sludge | Experimental | 30 minutes | EC50 | >1,000 mg/l |
| Nitric acid, ammonium calcium salt | 15245-12-2 | Green algae | Experimental | 72 hours | EC50 | >100 mg/l |
| Nitric acid, ammonium calcium salt | 15245-12-2 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |

| | | | | | | |
|---|------------|------------------|---|----------|------|------------------------------|
| Nitric acid, ammonium calcium salt | 15245-12-2 | Fathead minnow | Estimated | 32 days | NOEC | 157 mg/l |
| Nitric acid, ammonium calcium salt | 15245-12-2 | Green algae | Experimental | 72 hours | NOEC | 100 mg/l |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Bis[(dimethylamino)methyl]phenol | 71074-89-0 | N/A | Data not available or insufficient for classification | N/A | N/A | NA |
| 2-piperazin-1-ylethylamine | 140-31-8 | Bacteria | Experimental | 17 hours | EC10 | 100 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 | EC50 | >1,000 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 | NOEC | 31 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 96 hours | LC50 | 5.5 mg/l |
| toluene | 108-88-3 | Grass Shrimp | Experimental | 96 hours | LC50 | 9.5 mg/l |
| toluene | 108-88-3 | Green algae | Experimental | 72 hours | EC50 | 12.5 mg/l |
| toluene | 108-88-3 | Leopard frog | Experimental | 9 days | LC50 | 0.39 mg/l |
| toluene | 108-88-3 | Pink Salmon | Experimental | 96 hours | LC50 | 6.41 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 48 hours | EC50 | 3.78 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 40 days | NOEC | 1.39 mg/l |
| toluene | 108-88-3 | Diatom | Experimental | 72 hours | NOEC | 10 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 7 days | NOEC | 0.74 mg/l |
| toluene | 108-88-3 | Activated sludge | Experimental | 12 hours | IC50 | 292 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 16 hours | NOEC | 29 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 24 hours | EC50 | 84 mg/l |
| toluene | 108-88-3 | Redworm | Experimental | 28 days | LC50 | >150 mg per kg of bodyweight |
| toluene | 108-88-3 | Soil microbes | Experimental | 28 days | NOEC | <26 mg/kg (Dry Weight) |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|--|------------|---------------------------------|----------|------------|-------------|-------------------------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Experimental Biodegradation | 28 days | BOD | 0 %BOD/ThOD | OECD 301F - Manometric respirometry |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4- | 68683-29-4 | Data not available/insufficient | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|------------|--|---------|--------------------------------|-----------------------------------|-----------------------------------|
| [[2-(1-piperazinyl)ethyl]amino]butyl-terminated | | | | | | |
| Silica, vitreous | 60676-86-0 | Data not available - insufficient | N/A | N/A | N/A | N/A |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Experimental Biodegradation | 25 days | CO2 evolution | -8 %CO2 evolution/THCO2 evolution | OECD 301B - Modified Sturm or CO2 |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Estimated Photolysis | | Photolytic half-life (in air) | 2.96 hours (t 1/2) | |
| 2,4,6-tris(dimethylamino)methylphenol | 90-72-2 | Experimental Biodegradation | 28 days | BOD | 4 %BOD/ThOD | OECD 301D - Closed bottle test |
| imidazole | 288-32-4 | Experimental Biodegradation | 18 days | Dissolv. Organic Carbon Deplet | 98 %removal of DOC | OECD 301A - DOC Die Away Test |
| imidazole | 288-32-4 | Experimental Aquatic Inherent Biodegrad. | 8 days | CO2 evolution | 83 %removal of DOC | OECD 302B Zahn-Wellens/EVPA |
| imidazole | 288-32-4 | Experimental Biodegradation | 19 days | Percent degraded | 86 %removal of DOC | OECD 303A - Simulated Aerobic |
| Nitric acid, ammonium calcium salt | 15245-12-2 | Data not available - insufficient | N/A | N/A | N/A | N/A |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | Data not available - insufficient | N/A | N/A | N/A | N/A |
| Bis[(dimethylamino)methyl]phenol | 71074-89-0 | Modeled Biodegradation | 28 days | BOD | 41 %CO2 evolution/THCO2 evolution | Catalogic™ |
| 2-piperazin-1-ylethylamine | 140-31-8 | Experimental Biodegradation | 28 days | BOD | 0 %BOD/ThOD | OECD 301C - MITI test (I) |
| toluene | 108-88-3 | Experimental Biodegradation | 20 days | BOD | 80 %BOD/ThOD | APHA Std Meth Water/Wastewater |
| toluene | 108-88-3 | Experimental Photolysis | | Photolytic half-life (in air) | 5.2 days (t 1/2) | |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|--|------------|---|----------|------------------------|-------------|------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Modeled Bioconcentration | | Bioaccumulation factor | 42 | Catalogic™ |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Modeled Bioconcentration | | Log Kow | 11.7 | Episuite™ |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | 68683-29-4 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Silica, vitreous | 60676-86-0 | Data not available | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|------------|---|----------|------------------------|-------|--------------------------------|
| | | or insufficient for classification | | | | |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Experimental Bioconcentration | | Log Kow | -1.25 | |
| 2,4,6-tris(dimethylamino methyl)phenol | 90-72-2 | Experimental Bioconcentration | | Log Kow | -0.66 | 830.7550 Part.Coef Shake Flask |
| imidazole | 288-32-4 | Experimental Bioconcentration | | Log Kow | -0.02 | OECD 107 log Kow shke flsk mtd |
| Nitric acid, ammonium calcium salt | 15245-12-2 | Estimated Bioconcentration | | Log Kow | -3.1 | OECD 107 log Kow shke flsk mtd |
| 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 |
| Bis(dimethylamino)methylphenol | 71074-89-0 | Modeled Bioconcentration | | Log Kow | -2.34 | ACD/Labs ChemSketch™ |
| 2-piperazin-1-ylethylamine | 140-31-8 | Experimental Bioconcentration | | Log Kow | 0.3 | |
| toluene | 108-88-3 | Experimental BCF - Other | 72 hours | Bioaccumulation factor | 90 | |
| toluene | 108-88-3 | Experimental Bioconcentration | | Log Kow | 2.73 | |

12.4. Mobility in soil

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|--|-----------|-------------------------------|------------|--------------------|--------------------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Modeled Mobility in Soil | Koc | 3,780,000,000 l/kg | |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Modeled Mobility in Soil | Koc | 1 l/kg | ACD/Labs ChemSketch™ |
| imidazole | 288-32-4 | Experimental Mobility in Soil | Koc | 23-207 l/kg | OECD 106 Adsp-Desb Batch Equil |
| toluene | 108-88-3 | Experimental Mobility in Soil | Koc | 37-160 l/kg | |

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|--|--|--|--|
| 14.1 UN number | UN3267 | UN3267 | UN3267 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL) | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL) | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL) |
| 14.3 Transport hazard class(es) | 8 | 8 | 8 |
| 14.4 Packing group | II | II | II |
| 14.5 Environmental hazards | Not Environmentally Hazardous | Not applicable | Not a Marine Pollutant |
| 14.6 Special precautions for user | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code | No data available. | No data available. | No data available. |
| Control Temperature | No data available. | No data available. | No data available. |
| Emergency Temperature | No data available. | No data available. | No data available. |
| ADR Classification Code | C7 | Not applicable. | Not applicable. |
| IMDG Segregation Code | Not applicable. | Not applicable. | NONE |

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

| <u>Ingredient</u> | <u>CAS Nbr</u> | <u>Classification</u> | <u>Regulation</u> |
|-------------------|----------------|-------------------------|---|
| toluene | 108-88-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

| <u>Ingredient</u> | <u>CAS Nbr</u> |
|-------------------|----------------|
| toluene | 108-88-3 |

Restriction status: listed in UK REACH Annex XVII

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

Regulation UK regulation 2023/63 (marketing and use of explosive precursors and poisons)

This product contains a reportable substance according to UK legislation 1972/66: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see UK Regulation 2023/63 for further details.

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1

None

Seveso named dangerous substances, Annex 1, Part 2

| Dangerous Substances | Identifier(s) | Qualifying quantity (tonnes) for the application of | |
|----------------------|---------------|---|-------------------------|
| | | Lower-tier requirements | Upper-tier requirements |
| | | | |

| | | | |
|---------|----------|----|----|
| toluene | 108-88-3 | 10 | 50 |
|---------|----------|----|----|

Regulation (EU) No 649/2012, as amended for GB

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information**List of relevant H statements**

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| 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. |
| H336 | May cause drowsiness or dizziness. |
| H360D | May damage the unborn child. |
| H361d | Suspected of damaging the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

Revision information:

GB Section 02: CLP Ingredient table information was modified.
 Section 3: Composition/ Information of ingredients table information was modified.
 Section 8: Occupational exposure limit table information was modified.
 OEL Reg Agency Desc information was modified.
 Section 9: Flammability (solid, gas) information information was deleted.
 Section 09: Flammability information information was added.
 Section 09: Particle Characteristics N/A information was added.
 Section 11: Reproductive Toxicity 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: Bioaccumulative potential information 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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M SDSs for Great Britain are available at www.3M.com/uk

For Northern Ireland documents, please contact your 3M representative to obtain a copy.



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
| Document group: | 32-4327-6 | Version number: | 5.05 |
| Revision date: | 06/03/2024 | Supersedes date: | 25/01/2024 |

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier

3M™ Panel Bonding Adhesive Part B PNs 08115, 38315, 38515, 58115

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

Identified uses

Automotive.

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

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Sensitization, Category 1 - Skin Sens. 1; 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

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD

WARNING.

Symbols

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

Pictograms



| Ingredient | CAS Nbr | EC No. | % by Wt |
|---|--------------|-----------|-----------|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | 1675-54-3 | 216-823-5 | 30 - 60 |
| Oxide glass chemicals | 65997-17-3 | 266-046-0 | 10 - 30 |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | | 946-427-4 | 7 - 13 |
| Acrylate Polymer | Trade Secret | | 1 - 11 |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | 219-784-2 | 0.5 - 1.5 |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | | 0.5 - 1.5 |

HAZARD STATEMENTS:

| | |
|------|--|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye 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

General:

P102 Keep out of reach of children.

Prevention:

P273 Avoid release to the environment.
 P280K Wear protective gloves and respiratory protection.

Response:

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

Storage:

P405 Store locked up.

Disposal:

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

regulations.

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

2.3. Other hazards

None known.

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Ingredient | Identifier(s) | % | Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB |
|---|--|-----------|---|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | (CAS-No.) 1675-54-3 (EC-No.) 216-823-5 | 30 - 60 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 |
| Oxide glass chemicals | (CAS-No.) 65997-17-3 (EC-No.) 266-046-0 | 10 - 30 | Substance with a national occupational exposure limit |
| Silica, vitreous | (CAS-No.) 60676-86-0 (EC-No.) 262-373-8 | 7 - 13 | Substance with a national occupational exposure limit |
| Rxn mass: 2-(1-chloro-3-(4-methoxy(oxiran-2-yl)methyl)cyclohexyl)methoxy)propan-2-yl]oxy)methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | (EC-No.) 946-427-4 | 7 - 13 | Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 3, H412 |
| Acrylate Polymer | Trade Secret | 1 - 11 | Substance not classified as hazardous |
| Silicon dioxide | (CAS-No.) 7631-86-9 (EC-No.) 231-545-4 | 1 - 5 | Substance with a national occupational exposure limit |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | (CAS-No.) 2530-83-8 (EC-No.) 219-784-2 | 0.5 - 1.5 | Eye Dam. 1, H318 Aquatic Chronic 3, H412 |
| Siloxanes and Silicones, di-Me, reaction products with silica | (CAS-No.) 67762-90-7 | 0.5 - 1.5 | Substance with a national occupational exposure limit |
| Carbon black | (CAS-No.) 1333-86-4 (EC-No.) 215-609-9 | < 0.5 | Substance with a national occupational exposure limit |
| toluene | (CAS-No.) 108-88-3 (EC-No.) 203-625-9 | < 0.5 | Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 |

| | | | |
|--|--|--|---|
| | | | Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412 |
|--|--|--|---|

Any entry in the Identifier(s) 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

Specific Concentration Limits

| Ingredient | Identifier(s) | Specific Concentration Limits |
|---|---|---|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | (CAS-No.) 1675-54-3 (EC-No.) 216-823-5 | (C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319 |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Skin contact

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

The most important symptoms and effects based on the GB CLP classification include:

Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision).

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.

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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. 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

Keep out of reach of children. 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. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases. Store away from oxidising agents. Store away from amines.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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 |
|------------------|------------|--------|---|---------------------|
| toluene | 108-88-3 | UK HSC | TWA: 191 mg/m ³ (50 ppm); STEL: 384 mg/m ³ (100 ppm) | SKIN |
| Carbon black | 1333-86-4 | UK HSC | TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³ | |
| Silica, vitreous | 60676-86-0 | UK HSC | TWA(as respirable dust):0.08 mg/m ³ | |

| | | | |
|-------------------------|------------|-------------------------|--|
| Glass, oxide, chemicals | 65997-17-3 | UK HSC | TWA(as fiber):5 mg/m3(1 fibers/ml) |
| Oxide glass chemicals | 65997-17-3 | Manufacturer determined | TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3 |
| Silicon dioxide | 67762-90-7 | UK HSC | TWA(as respirable dust):2.4 mg/m3;TWA(as inhalable dust):6 mg/m3 |
| DUST, INERT OR NUISANCE | 7631-86-9 | UK HSC | TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 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 | Liquid. |
| Colour | Black |
| Odor | Acrylic |
| Odour threshold | No data available. |
| Melting point/freezing point | No data available. |
| Boiling point/boiling range | >= 35 °C |
| Flammability (solid, gas) | Not applicable. |
| Flammable Limits(LEL) | No data available. |
| Flammable Limits(UEL) | No data available. |
| Flash point | >= 104.4 °C [Test Method:Closed Cup] |
| Autoignition temperature | No data available. |
| Decomposition temperature | No data available. |
| pH | substance/mixture is non-soluble (in water) |
| Kinematic Viscosity | 83,333 mm ² /sec |
| Water solubility | Negligible |
| Solubility- non-water | No data available. |
| Partition coefficient: n-octanol/water | No data available. |
| Vapour pressure | <= 186,158.4 Pa |
| Density | 1 kg/l |
| Density | 0.96 g/ml |
| Relative density | 0.96 [Ref Std:WATER=1] |
| Relative Vapour Density | No data available. |
| Particle Characteristics | Not applicable. |

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds
Evaporation rate

No data available.
<= 1 Units not available or not applicable. [Ref
Std:BUOAC=1]

Molecular weight
Percent volatile

No data available.
1.6 % weight

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Sparks and/or flames.

10.5 Incompatible materials

Amines.

Strong acids.

Strong bases.

Strong oxidising agents.

10.6 Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|-------------------|------------------|
| Aldehydes. | Not specified. |
| Carbon monoxide | Not specified. |
| Carbon dioxide. | Not specified. |
| Hydrogen Chloride | Not specified. |

SECTION 11: Toxicological information

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

11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.**Signs and Symptoms of Exposure**

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

Inhalation

May be harmful if inhaled. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. 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. May cause additional health effects (see below).

Eye contact

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

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. 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.

Genotoxicity:

Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

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 | Inhalation-Dust/Mist(4 hr) | | No data available; calculated ATE >5 =12.5 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | Dermal | Rat | LD50 > 1,600 mg/kg |
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | Ingestion | Rat | LD50 > 1,000 mg/kg |
| Oxide glass chemicals | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Oxide glass chemicals | Ingestion | | LD50 estimated to be 2,000 - 5,000 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 |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | Ingestion | Rat | LD50 1,000 mg/kg |
| Acrylate Polymer | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Acrylate Polymer | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Silicon dioxide | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Silicon dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Silicon dioxide | Ingestion | Rat | LD50 > 5,110 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 |
| 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 |
| Carbon black | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| Carbon black | Ingestion | Rat | LD50 > 8,000 mg/kg |
| toluene | Dermal | Rat | LD50 12,000 mg/kg |
| toluene | Inhalation-Vapour (4 hours) | Rat | LC50 30 mg/l |
| toluene | Ingestion | Rat | LD50 5,550 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Rabbit | Mild irritant |
| Oxide glass chemicals | Professional judgement | No significant irritation |
| Silica, vitreous | Rabbit | No significant irritation |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | In vitro data | Irritant |
| Acrylate Polymer | Professional judgement | Minimal irritation |
| Silicon dioxide | Rabbit | No significant irritation |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | Rabbit | Mild irritant |
| Siloxanes and Silicones, di-Me, reaction products with silica | Rabbit | No significant irritation |
| Carbon black | Rabbit | No significant irritation |
| toluene | Rabbit | Irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Rabbit | Moderate irritant |
| Oxide glass chemicals | Professional judgement | No significant irritation |
| Silica, vitreous | Rabbit | No significant irritation |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | In vitro data | No significant irritation |
| Acrylate Polymer | Professional judgement | Mild irritant |
| Silicon dioxide | Rabbit | No significant irritation |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | Rabbit | Corrosive |
| Siloxanes and Silicones, di-Me, reaction products with silica | Rabbit | No significant irritation |
| Carbon black | Rabbit | No significant irritation |
| toluene | Rabbit | Moderate irritant |

Skin Sensitisation

| Name | Species | Value |
|---|-------------------|----------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Human and animal | Sensitising |
| Silica, vitreous | Human and animal | Not classified |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | similar compounds | Sensitising |
| Silicon dioxide | Human and animal | Not classified |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | Guinea pig | Not classified |
| Siloxanes and Silicones, di-Me, reaction products with silica | Human and | Not classified |

| | | |
|---------|------------|----------------|
| | animal | |
| toluene | Guinea pig | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|--|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | In vivo | Not mutagenic |
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Oxide glass chemicals | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Silica, vitreous | In Vitro | Not mutagenic |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl]oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | In Vitro | Mutagenic; structurally related to germ cell mutagens |
| Silicon dioxide | In Vitro | 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 |
| Siloxanes and Silicones, di-Me, reaction products with silica | In Vitro | Not mutagenic |
| Carbon black | In Vitro | Not mutagenic |
| Carbon black | In vivo | Some positive data exist, but the data are not sufficient for classification |
| toluene | In Vitro | Not mutagenic |
| toluene | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---|----------------|-------------------------|--|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Oxide glass chemicals | Inhalation | Multiple animal species | 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 |
| Silicon dioxide | Not specified. | Mouse | Some positive data exist, but the data are not sufficient for classification |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | Dermal | Mouse | Not carcinogenic |
| Siloxanes and Silicones, di-Me, reaction products with silica | Not specified. | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Carbon black | Dermal | Mouse | Not carcinogenic |
| Carbon black | Ingestion | Mouse | Not carcinogenic |
| Carbon black | Inhalation | Rat | Carcinogenic. |
| toluene | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| toluene | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| toluene | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|-----------|--|---------|-------------|-------------------|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 | 2 generation |

| | | | | mg/kg/day | |
|---|------------|--|--------|-----------------------|------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 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 |
| Silicon dioxide | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Silicon dioxide | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Silicon dioxide | 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 |
| 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 |
| toluene | Inhalation | Not classified for female reproduction | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | Not classified for male reproduction | Rat | NOAEL 2.3 mg/l | 1 generation |
| toluene | Ingestion | Toxic to development | Rat | LOAEL 520 mg/kg/day | during gestation |
| toluene | Inhalation | Toxic to development | Human | NOAEL Not available | poisoning and/or abuse |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|------------|-----------------------------------|--|------------------------|---------------------|-------------------|
| Rxn mass: 2-(\{1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propan-2-yl\}oxy\}methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |

| | | | | | | |
|---------|------------|-----------------------------------|-----------------------------------|-------|---------------------|------------------------|
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL 0.004 mg/l | 3 hours |
| toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|------------|---|--|-------------------------|--------------------------|------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Ingestion | auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Oxide glass chemicals | Inhalation | respiratory system | Not classified | Human | NOAEL not available | occupational exposure |
| Silica, vitreous | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Silicon dioxide | Inhalation | respiratory system silicosis | 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 |
| Siloxanes and Silicones, di-Me, reaction products with silica | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Carbon black | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | auditory system nervous system eyes olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| toluene | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2.3 mg/l | 15 months |
| toluene | Inhalation | heart liver kidney and/or bladder | Not classified | Rat | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Inhalation | endocrine system | Not classified | Rat | NOAEL 1.1 mg/l | 4 weeks |
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL Not available | 20 days |
| toluene | Inhalation | bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| toluene | Inhalation | hematopoietic system vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | gastrointestinal tract | Not classified | Multiple animal species | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 625 mg/kg/day | 13 weeks |
| toluene | Ingestion | heart | Not classified | Rat | NOAEL | 13 weeks |

| | | | | | | |
|---------|-----------|-------------------------------|----------------|-------------------------|-----------------------|----------|
| | | | | | 2,500 mg/kg/day | |
| toluene | Ingestion | liver kidney and/or bladder | Not classified | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| toluene | Ingestion | hematopoietic system | Not classified | Mouse | NOAEL 600 mg/kg/day | 14 days |
| toluene | Ingestion | endocrine system | Not classified | Mouse | NOAEL 105 mg/kg/day | 28 days |
| toluene | Ingestion | immune system | Not classified | Mouse | NOAEL 105 mg/kg/day | 4 weeks |

Aspiration Hazard

| Name | Value |
|---------|-------------------|
| toluene | Aspiration hazard |

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

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|---|------------|------------------|--------------------|----------|---------------|--------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Activated sludge | Analogous Compound | 3 hours | IC50 | >100 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Rainbow trout | Estimated | 96 hours | LC50 | 2 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Water flea | Estimated | 48 hours | EC50 | 1.8 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | ErC50 | >11 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | NOEC | 4.2 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Water flea | Experimental | 21 days | NOEC | 0.3 mg/l |
| Oxide glass chemicals | 65997-17-3 | Green algae | Experimental | 72 hours | EC50 | >1,000 mg/l |
| Oxide glass chemicals | 65997-17-3 | Water flea | Experimental | 72 hours | EC50 | >1,000 mg/l |
| Oxide glass chemicals | 65997-17-3 | Zebra Fish | Experimental | 96 hours | LC50 | >1,000 mg/l |
| Oxide glass chemicals | 65997-17-3 | Green algae | Experimental | 72 hours | NOEC | >=1,000 mg/l |
| Silica, vitreous | 60676-86-0 | Common Carp | Experimental | 72 hours | LC50 | >10,000 mg/l |

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| | | | | | | |
|--|--------------|--------------|---|----------|-------|----------|
| Rxn mass: 2-([1-chloro-3-(4-[methoxy(oxiran-2-yl)methyl]cyclohexyl)methoxy)propyl]oxy)methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | 946-427-4 | Green algae | Experimental | 72 hours | EC50 | 38 mg/l |
| Rxn mass: 2-([1-chloro-3-(4-[methoxy(oxiran-2-yl)methyl]cyclohexyl)methoxy)propyl]oxy)methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | 946-427-4 | Water flea | Experimental | 72 hours | EC50 | 71 mg/l |
| Rxn mass: 2-([1-chloro-3-(4-[methoxy(oxiran-2-yl)methyl]cyclohexyl)methoxy)propyl]oxy)methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxymethylene)]bisoxirane | 946-427-4 | Green algae | Experimental | 72 hours | EC10 | 18 mg/l |
| Acrylate Polymer | Trade Secret | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Silicon dioxide | 7631-86-9 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| [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 | Green algae | Experimental | 96 hours | ErC50 | 350 mg/l |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Invertebrate | Experimental | 48 hours | LC50 | 324 mg/l |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Green algae | Experimental | 96 hours | NOEC | 130 mg/l |

| | | | | | | |
|---|------------|------------------|---|----------|--------------------------------|------------------------------|
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Water flea | Experimental | 21 days | NOEC | 100 mg/l |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Activated sludge | Experimental | 3 hours | EC50 | >100 mg/l |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Carbon black | 1333-86-4 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| Carbon black | 1333-86-4 | Zebra Fish | Experimental | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Carbon black | 1333-86-4 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | 100 mg/l |
| Carbon black | 1333-86-4 | Activated sludge | Experimental | 3 hours | NOEC | >800 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 96 hours | LC50 | 5.5 mg/l |
| toluene | 108-88-3 | Grass Shrimp | Experimental | 96 hours | LC50 | 9.5 mg/l |
| toluene | 108-88-3 | Green algae | Experimental | 72 hours | EC50 | 12.5 mg/l |
| toluene | 108-88-3 | Leopard frog | Experimental | 9 days | LC50 | 0.39 mg/l |
| toluene | 108-88-3 | Pink Salmon | Experimental | 96 hours | LC50 | 6.41 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 48 hours | EC50 | 3.78 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 40 days | NOEC | 1.39 mg/l |
| toluene | 108-88-3 | Diatom | Experimental | 72 hours | NOEC | 10 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 7 days | NOEC | 0.74 mg/l |
| toluene | 108-88-3 | Activated sludge | Experimental | 12 hours | IC50 | 292 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 16 hours | NOEC | 29 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 24 hours | EC50 | 84 mg/l |
| toluene | 108-88-3 | Redworm | Experimental | 28 days | LC50 | >150 mg per kg of bodyweight |
| toluene | 108-88-3 | Soil microbes | Experimental | 28 days | NOEC | <26 mg/kg (Dry Weight) |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|--|------------|-------------------------------|----------|-----------------------------|------------------------------------|-------------------------------------|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | 1675-54-3 | Experimental Biodegradation | 28 days | BOD | 5 %BOD/COD | OECD 301F - Manometric respirometry |
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | 1675-54-3 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 117 hours (t 1/2) | OECD 111 Hydrolysis func of pH |
| Oxide glass chemicals | 65997-17-3 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Silica, vitreous | 60676-86-0 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Rxn mass: 2-(\{[1-chloro-3-(\{4-[methoxy(oxiran-2-yl)methyl]cyclohexyl\}methoxy)propyl]-2- | 946-427-4 | Experimental Biodegradation | 28 days | CO2 evolution | 1.3 %CO2 evolution/THCO2 evolution | OECD 301B - Modified sturm or CO2 |

| | | | | | | |
|---|--------------|------------------------------------|---------|--------------------------------|--------------------|--------------------------------|
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | | | | | | |
| Acrylate Polymer | Trade Secret | Data not available or insufficient | N/A | N/A | N/A | N/A |
| Silicon dioxide | 7631-86-9 | Data not available or insufficient | N/A | N/A | N/A | N/A |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Experimental Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 37 %removal of DOC | EC C.4.A. DOC Die-Away Test |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 6.5 hours (t 1/2) | OECD 111 Hydrolysis func of pH |
| Siloxanes and Silicones, di-Me, reaction products with silica | 67762-90-7 | Data not available or insufficient | N/A | N/A | N/A | N/A |
| Carbon black | 1333-86-4 | Data not available or insufficient | N/A | N/A | N/A | N/A |
| toluene | 108-88-3 | Experimental Biodegradation | 20 days | BOD | 80 %BOD/ThOD | APHA Std Meth Water/Wastewater |
| toluene | 108-88-3 | Experimental Photolysis | | Photolytic half-life (in air) | 5.2 days (t 1/2) | |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|--|--------------|---|----------|------------|-------------|------------------------------|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | 1675-54-3 | Experimental Bioconcentration | | Log Kow | 3.242 | OECD 117 log Kow HPLC method |
| Oxide glass chemicals | 65997-17-3 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Silica, vitreous | 60676-86-0 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Rxn mass: 2-(1-chloro-3-(4-[methoxy(oxiran-2-yl)methyl]cyclohexyl)methoxy)propan-2-yl)oxy)methyl)oxirane & 2,2'-[cis-cyclohexane-1,4-diylbis(methyleneoxy)methylene]bisoxirane & 2,2'-[trans-cyclohexane-1,4-diylbis(methyleneoxy)methylene]bisoxirane | 946-427-4 | Experimental Bioconcentration | | Log Kow | 2.05 | |
| Acrylate Polymer | Trade Secret | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Silicon dioxide | 7631-86-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|------------|---|----------|------------------------|------|-----------|
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Experimental Bioconcentration | | Log Kow | 0.5 | Episuite™ |
| 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 |
| Carbon black | 1333-86-4 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| toluene | 108-88-3 | Experimental BCF - Other | 72 hours | Bioaccumulation factor | 90 | |
| toluene | 108-88-3 | Experimental Bioconcentration | | Log Kow | 2.73 | |

12.4. Mobility in soil

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|--|-----------|-------------------------------|------------|-------------|-----------|
| bis-[4-(2,3-epoxypropoxy)phenyl]propane | 1675-54-3 | Modeled Mobility in Soil | Koc | 450 l/kg | Episuite™ |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 2530-83-8 | Modeled Mobility in Soil | Koc | 10 l/kg | Episuite™ |
| toluene | 108-88-3 | Experimental Mobility in Soil | Koc | 37-160 l/kg | |

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate 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

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|--|--|--|--|
| 14.1 UN number | UN3082 | UN3082 | UN3082 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN) |
| 14.3 Transport hazard class(es) | 9 | 9 | 9 |
| 14.4 Packing group | III | III | III |
| 14.5 Environmental hazards | Environmentally Hazardous | Not applicable | Marine Pollutant |
| 14.6 Special precautions for user | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code | No data available. | No data available. | No data available. |
| Control Temperature | No data available. | No data available. | No data available. |
| Emergency Temperature | No data available. | No data available. | No data available. |
| ADR Classification Code | M6 | Not applicable. | Not applicable. |
| IMDG Segregation Code | Not applicable. | Not applicable. | NONE |

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

| <u>Ingredient</u> | <u>CAS Nbr</u> | <u>Classification</u> | <u>Regulation</u> |
|---|----------------|-------------------------------|---|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| Carbon black | 1333-86-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| Silicon dioxide | 7631-86-9 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| toluene | 108-88-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

| <u>Ingredient</u> | <u>CAS Nbr</u> |
|---|-----------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 |
| toluene | 108-88-3 |

Restriction status: listed in UK REACH Annex XVII

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Industrial Safety and Health Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1

| Hazard Categories | Qualifying quantity (tonnes) for the application of | |
|---|---|-------------------------|
| | Lower-tier requirements | Upper-tier requirements |
| E2 Hazardous to the Aquatic environment | 200 | 500 |

Seveso named dangerous substances, Annex 1, Part 2

| Dangerous Substances | Identifier(s) | Qualifying quantity (tonnes) for the application of | |
|----------------------|---------------|---|-------------------------|
| | | Lower-tier requirements | Upper-tier requirements |
| toluene | 108-88-3 | 10 | 50 |

Regulation (EU) No 649/2012, as amended for GB

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H341 | Suspected of causing genetic defects. |
| H361d | Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

Revision information:

GB Section 02: CLP Ingredient table information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 09: Particle Characteristics N/A information was added.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M SDSs for Great Britain are available at www.3M.com/uk

For Northern Ireland documents, please contact your 3M representative to obtain a copy.