# Safety Data Sheet

Copyright,2026, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|---|---|---|---|
| **Document group:** | 39-2042-8 | **Version number:** | 3.02 |
| **Revision date:** | 25/08/2026 | **Supersedes date:** | 18/08/2026 |
| **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™ Scotch-Weld™ Structural Adhesive EC-7246-2 B/A FST: Kit

**Product Identification Numbers**

| | | |
|---|---|---|
| UU-0096-2093-9 | UU-0096-2152-3 | UU-0111-9619-1 |
| 7100185496 | 7100185478 | 7100242437 |

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

**1.3. Details of the supplier of the safety data sheet**

**Address:** 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
**Telephone:** +44 (0)1344 858 000
**E Mail:** ner-productstewardship@mmm.com

**Website:** www.3M.com/uk

**1.4. Emergency telephone number**
+44 (0)1344 858 000

**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:**

20-3377-7, 39-0438-0

## 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 1C - Skin Corr. 1C; H314
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Sensitization, Category 1 - Skin Sens. 1; H317
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) |GHS09 (Environment) |

**Pictograms**



**Contains:**
Nitric acid, calcium salt, tetrahydrate; 1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane; bis-[4-(2,3-epoxipropoxi)phenyl]propane; 3,3'-Oxybis(ethyleneoxy)bis(propylamine); Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane; Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine ; 2,4,6-tris(dimethylaminomethyl)phenol

**HAZARD STATEMENTS:**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P260A | Do not breathe vapours. |
| P273 | Avoid release to the environment. |
| P280D | Wear protective gloves, protective clothing, 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. |

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

**<=125 ml Hazard statements**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |

**<=125 ml Precautionary statements**

**Prevention:**

| | |
|---|---|
| P260A | Do not breathe vapours. |
| P280D | Wear protective gloves, protective clothing, 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. |

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

**Revision information:**
No revision information

# Safety Data Sheet

Copyright,2026, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|---|---|---|---|
| **Document group:** | 20-3377-7 | **Version number:** | 18.03 |
| **Revision date:** | 19/08/2026 | **Supersedes date:** | 18/08/2026 |

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

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

**1.1. Product identifier**
3M Scotch-Weld™ EC-7246-2 B/A FST: Part B

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

**Identified uses**
Part B of two-part epoxy adhesive

**1.3. Details of the supplier of the safety data sheet**

| | |
|---|---|
| **Address:** | 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT. |
| **Telephone:** | +44 (0)1344 858 000 |
| **E Mail:** | ner-productstewardship@mmm.com |
| **Website:** | www.3M.com/uk |

**1.4. Emergency telephone number**
+44 (0)1344 858 000

## SECTION 2: Hazard identification

**2.1. Classification of the substance or mixture**
**The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain**

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

**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
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) |GHS09 (Environment) |

**Pictograms**



| Ingredient | Identifier(s) | EC No. | % by Wt |
|---|---|---|---|
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | | 701-263-0 | < 20 |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | 216-823-5 | < 15 |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | 238-098-4 | < 10 |

**HAZARD STATEMENTS:**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H317 | May cause an allergic skin reaction. |
| H411 | Toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves and eye protection. |

**Response:**

| | |
|---|---|
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P391 | Collect spillage. |

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

**<=125 ml Hazard statements**

| | |
|---|---|
| H317 | May cause an allergic skin reaction. |

**<=125 ml Precautionary statements**

**Prevention:**

| | |
|---|---|
| P280 | Wear protective gloves and eye protection. |

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

6% of the mixture consists of components of unknown acute oral toxicity.
6% of the mixture consists of components of unknown acute dermal toxicity.
40% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 6% 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 |
|---|---|---|---|
| Aluminium hydroxide | (CAS-No.) 21645-51-2<br>(EC-No.) 244-492-7 | 40 - 60 | Substance with a national occupational exposure limit |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | (EC-No.) 701-263-0 | < 20 | Skin Irrit. 2, H315<br>Skin Sens. 1A, H317<br>Aquatic Chronic 2, H411 |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | (CAS-No.) 1675-54-3<br>(EC-No.) 216-823-5 | < 15 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | (CAS-No.) 14228-73-0<br>(EC-No.) 238-098-4 | < 10 | Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Aquatic Chronic 3, H412 |
| Phosphinic acid, diethyl-, aluminum salt | (CAS-No.) 225789-38-8 | 3 - 7 | Substance not classified as hazardous |
| Acrylic copolymer | Trade Secret | < 5 | Substance not classified as hazardous |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | (CAS-No.) 2530-83-8<br>(EC-No.) 219-784-2 | < 3 | Eye Dam. 1, H318<br>Aquatic Chronic 3, H412 |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | (CAS-No.) 2602-34-8<br>(EC-No.) 220-011-6 | < 3 | Substance not classified as hazardous |

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-epoxipropoxi)phenyl]propane | (CAS-No.) 1675-54-3<br>(EC-No.) 216-823-5 | (C >= 5%) Skin Irrit. 2, H315<br>(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.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During combustion. |
| Carbon dioxide. | During combustion. |

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

# SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

**6.2. Environmental precautions**
Avoid release to the environment.

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

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

# SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Avoid breathing 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.)

**7.2. Conditions for safe storage including any incompatibilities**
Store away from heat. Store away from acids. 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 | Identifier(s) | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| Dust, inhalable dust | 21645-51-2 | UK HSE | TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3 | |

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:
Safety glasses with side shields.
Indirect vented goggles.

*Applicable Norms/Standards*
Use eye protection conforming to EN 16321

**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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

**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
Half facepiece or full facepiece supplied-air respirator

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
Use a respirator conforming to EN 140 or EN 136: filter types A & P

**Thermal hazards**
Wear heat insulating gloves, indirect vented goggles, and a full face shield when handling hot material to prevent thermal burns.

# SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Solid. |
| **Specific Physical Form:** | Paste |
| **Colour** | Off-White |
| **Odor** | Light Epoxy |
| **Odour threshold** | *No data available.* |
| **Melting point/freezing point** | *No data available.* |
| **Boiling point/boiling range** | *Not applicable.* |
| **Flammability** | Not applicable. |
| **Flammable Limits(LEL)** | *Not applicable.* |
| **Flammable Limits(UEL)** | *Not applicable.* |
| **Flash point** | >=93 ºC [*Test Method:*Closed Cup] |
| **Autoignition temperature** | *No data available.* |
| **Decomposition temperature** | *No data available.* |
| **pH** | *substance/mixture is non-soluble (in water)* |
| **Kinematic Viscosity** | 100,000 mm²/sec |
| **Water solubility** | Nil |
| **Solubility- non-water** | *No data available.* |
| **Partition coefficient: n-octanol/water** | *No data available.* |
| **Vapour pressure** | *Not applicable.* |
| **Density** | 1.45 - 1.55 g/ml |
| **Relative density** | 1.45 - 1.55 [*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** | *No data available.* |
| **Evaporation rate** | *No data available.* |
| **Molecular weight** | *No data available.* |
| **Percent volatile** | <=1 % |

# SECTION 10: Stability and reactivity

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

**10.2 Chemical stability**
Stable.

**10.3 Possibility of hazardous reactions**
Hazardous polymerisation will not occur.

**10.4 Conditions to avoid**
Heat.

**10.5 Incompatible materials**

Amines.
Strong oxidising agents.

**10.6 Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

# SECTION 11: Toxicological information

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

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

**Signs and Symptoms of Exposure**

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

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

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

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

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

**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 >12.5 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Aluminium hydroxide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Aluminium hydroxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 2.3 mg/l |
| Aluminium hydroxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2- | Dermal | Rat | LD50 > 2,000 mg/kg |

| | | | |
|---|---|---|---|
| ([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | | | |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Ingestion | Rat | LD50 > 5,000 mg/kg |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | Rat | LD50 > 1,600 mg/kg |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | Rat | LD50 > 1,000 mg/kg |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.19 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Ingestion | Rat | LD50 1,098 mg/kg |
| Phosphinic acid, diethyl-, aluminum salt | Dermal | Rat | LD50 > 2,000 mg/kg |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Rat | LD50 > 2,000 mg/kg |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Dermal | Rabbit | LD50 4,000 mg/kg |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Dermal | Rabbit | LD50 4,250 mg/kg |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.3 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Ingestion | Rat | LD50 7,010 mg/kg |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.3 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Ingestion | Rat | LD50 > 2,000 mg/kg |

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

| Name | Species | Value |
|---|---|---|
| Aluminium hydroxide | Rabbit | No significant irritation |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Rabbit | Irritant |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Rabbit | Mild irritant |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | In vitro data | Irritant |
| Phosphinic acid, diethyl-, aluminum salt | Rabbit | No significant irritation |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Rabbit | Mild irritant |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Rabbit | No significant irritation |

### Serious Eye Damage/Irritation

| Name | Species | Value |
|---|---|---|
| Aluminium hydroxide | Rabbit | No significant irritation |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Rabbit | No significant irritation |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Rabbit | Moderate irritant |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | In vitro data | No significant irritation |
| Phosphinic acid, diethyl-, aluminum salt | Rabbit | Mild irritant |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Rabbit | Corrosive |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Rabbit | No significant irritation |

### Skin Sensitisation

| Name | Species | Value |
|---|---|---|
| Aluminium hydroxide | Guinea pig | Not classified |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Multiple animal species | Sensitising |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Human | Sensitising |

| | | |
|---|---|---|
| | and animal | |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Mouse | Sensitising |
| Phosphinic acid, diethyl-, aluminum salt | Guinea pig | Not classified |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Guinea pig | Not classified |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Guinea pig | Not classified |

### Respiratory Sensitisation

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

### Germ Cell Mutagenicity

| Name | Route | Value |
|---|---|---|
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | In vivo | Not mutagenic |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | In vivo | Not mutagenic |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | In vivo | Not mutagenic |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Phosphinic acid, diethyl-, aluminum salt | In Vitro | Not mutagenic |
| Phosphinic acid, diethyl-, aluminum salt | In vivo | Not mutagenic |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | In vivo | Some positive data exist, but the data are not sufficient for classification |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Aluminium hydroxide | Not specified. | Multiple animal species | Not carcinogenic |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Dermal | Mouse | Not carcinogenic |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | Dermal | Mouse | Not carcinogenic |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|
| Aluminium hydroxide | Ingestion | Not classified for development | Rat | NOAEL 768 mg/kg/day | during organogenesis |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | Not classified for development | Rabbit | NOAEL 300 | during |

| | | | | | |
|---|---|---|---|---|---|
| | | | | mg/kg/day | organogenesis |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Ingestion | Not classified for female reproduction | Rat | NOAEL 300 mg/kg/day | premating into lactation |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Ingestion | Not classified for male reproduction | Rat | NOAEL 300 mg/kg/day | 33 days |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Ingestion | Not classified for development | Rat | NOAEL 300 mg/kg/day | premating into lactation |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | Ingestion | Not classified for development | Rat | NOAEL 3,000 mg/kg/day | during organogenesis |

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL not available | |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

### Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | Ingestion | heart \| endocrine system \| gastrointestinal tract \| bone, teeth, nails, and/or hair \| hematopoietic system \| liver \| immune system \| nervous system \| eyes \| kidney and/or bladder \| respiratory system \| vascular system | Not classified | Rat | NOAEL 250 mg/kg/day | 13 weeks |
| bis-[4-(2,3- | Dermal | liver | Not classified | Rat | NOAEL | 2 years |

| | | | | | | |
|---|---|---|---|---|---|---|
| epoxipropoxi)phenyl]propane | | | | | 1,000 mg/kg/day | |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | auditory system \| heart \| endocrine system \| hematopoietic system \| liver \| eyes \| kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | Ingestion | endocrine system \| gastrointestinal tract \| liver \| heart \| hematopoietic system \| immune system \| nervous system \| kidney and/or bladder | Not classified | Rat | NOAEL 300 mg/kg/day | 33 days |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | hematopoietic system \| nervous system \| eyes \| kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 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 |

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

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

**11.2. Information on other hazards**

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

# SECTION 12: Ecological information

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

**12.1. Toxicity**

No product test data available.

| Material | Identifier(s) | Organism | Type | Exposure | Test endpoint | Test result |
|---|---|---|---|---|---|---|
| Aluminium hydroxide | 21645-51-2 | Fish | Experimental | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminium hydroxide | 21645-51-2 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminium hydroxide | 21645-51-2 | Water flea | Experimental | 48 hours | No tox obs at lmt of water sol | >100 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| Aluminium hydroxide | 21645-51-2 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | 100 mg/l |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | 701-263-0 | Green algae | Experimental | 72 hours | EbC50 | 1.8 mg/l |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | 701-263-0 | Rainbow trout | Experimental | 96 hours | LC50 | 2 mg/l |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | 701-263-0 | Water flea | Experimental | 48 hours | EC50 | 1.6 mg/l |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | 701-263-0 | Water flea | Analogous Compound | 21 days | NOEC | 0.3 mg/l |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2- | 701-263-0 | Activated sludge | Analogous Compound | 3 hours | IC50 | >100 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| ylmethoxy)benzyl] phenoxy]methyl)oxirane | | | | | | |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Activated sludge | Analogous Compound | 3 hours | IC50 | >100 mg/l |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Rainbow trout | Estimated | 96 hours | LC50 | 2 mg/l |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Water flea | Estimated | 48 hours | EC50 | 1.8 mg/l |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | ErC50 | >11 mg/l |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | NOEC | 4.2 mg/l |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Water flea | Experimental | 21 days | NOEC | 0.3 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Green algae | Analogous Compound | 72 hours | ErC50 | 26.7 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Rainbow trout | Analogous Compound | 96 hours | LC50 | 10.1 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Water flea | Analogous Compound | 48 hours | EC50 | 16.3 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Green algae | Analogous Compound | 72 hours | ErC10 | 21.4 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Water flea | Analogous Compound | 21 days | NOEC | 11.7 mg/l |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Bacteria | Analogous Compound | 18 hours | EC50 | 10,264 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Green algae | Experimental | 72 hours | EC50 | >180 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Water flea | Experimental | 48 hours | EC50 | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Zebra Fish | Experimental | 96 hours | LC50 | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Green algae | Experimental | 72 hours | NOEC | 180 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Water flea | Experimental | 21 days | NOEC | 10 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Zebra Fish | Experimental | 28 days | NOEC | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Activated sludge | Experimental | 3 hours | EC50 | 1,968 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Common Carp | Experimental | 96 hours | LC50 | 55 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Green algae | Experimental | 96 hours | ErC50 | 350 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl | 2530-83-8 | Invertebrate | Experimental | 48 hours | LC50 | 324 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ether | | | | | | |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Green algae | Experimental | 96 hours | NOEC | 130 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Water flea | Experimental | 21 days | NOEC | 100 mg/l |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Activated sludge | Experimental | 3 hours | EC50 | >100 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Activated sludge | Experimental | 3 hours | NOEC | >=1,000 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Green algae | Experimental | 72 hours | EC50 | >100 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Zebra Fish | Experimental | 96 hours | LC50 | >100 mg/l |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Green algae | Experimental | 72 hours | NOEC | 100 mg/l |

### 12.2. Persistence and degradability

| Material | Identifier(s) | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Aluminium hydroxide | 21645-51-2 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy]methyl)oxirane | 701-263-0 | Experimental Biodegradation | 28 days | CO2 evolution | 16 %CO2 evolution/THCO2 evolution | OECD 301B - Modified sturm or CO2 |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy]methyl)oxirane | 701-263-0 | Analogous Compound Hydrolysis | | Hydrolytic half-life (pH 7) | 117 hours (t 1/2) | OECD 111 Hydrolysis func of pH |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Experimental Biodegradation | 28 days | BOD | 5 %BOD/COD | OECD 301F - Manometric respirometry |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 117 hours (t 1/2) | OECD 111 Hydrolysis func of pH |
| 1,4-Bis[(2,3- | 14228-73-0 | Analogous | 28 days | BOD | 19.1 %BOD/ThOD | OECD 301F - Manometric |

| | | | | | | |
|---|---|---|---|---|---|---|
| Epoxypropoxy)Methyl]Cyclohexane | | Compound Biodegradation | | | | respirometry |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Biodegradation | 28 days | BOD | 1 %BOD/ThOD | OECD 301F - Manometric respirometry |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Aquatic Inherent Biodegrad. | 28 days | Percent degraded | 7 %degraded | OECD 302C - Modified MITI (II) |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Analogous Compound Hydrolysis | | Hydrolytic half-life | >30 years (t 1/2) | EC C.7 Hydrolysis at pH |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Experimental Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 37 %removal of DOC | EC C.4.A. DOC Die-Away Test |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 6.5 hours (t 1/2) | OECD 111 Hydrolysis func of pH |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Experimental Biodegradation | 28 days | BOD | 53 %BOD/ThOD | OECD 301F - Manometric respirometry |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Experimental Hydrolysis | | Hydrolytic half-life | 36 hours (t 1/2) | |

### 12.3 : Bioaccumulative potential

| Material | Identifier(s) | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Aluminium hydroxide | 21645-51-2 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy]methyl)oxirane | 701-263-0 | Experimental Bioconcentration | | Log Kow | 3.6 | OECD 117 log Kow HPLC method |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Experimental Bioconcentration | | Log Kow | 3.242 | OECD 117 log Kow HPLC method |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Modeled Bioconcentration | | Bioaccumulation factor | 3 | Catalogic™ |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Analogous Compound BCF - Fish | 60 days | Bioaccumulation factor | 76-190 | |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Estimated Bioconcentration | | Log Kow | -2 | |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Experimental Bioconcentration | | Log Kow | 0.5 | Episuite™ |
| Silane, triethoxy[3-(oxiranylmethoxy) propyl]- | 2602-34-8 | Estimated Bioconcentration | | Bioaccumulation factor | 2.5 | |

### 12.4. Mobility in soil

| Material | Identifier(s) | Test type | Study Type | Test result | Protocol |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-([2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy]methyl)oxirane | 701-263-0 | Experimental Mobility in Soil | Koc | 4,460 l/kg | OECD 121 Estim. of Koc by HPLC |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Modeled Mobility in Soil | Koc | 450 l/kg | Episuite™ |
| 1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane | 14228-73-0 | Modeled Mobility in Soil | Koc | 57 l/kg | Episuite™ |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Mobility in Soil | Koc | 0.38 l/kg | OECD 121 Estim. of Koc by HPLC |
| 3-(Trimethoxysilyl) Propyl Glycidyl Ether | 2530-83-8 | Modeled Mobility in Soil | Koc | 10 l/kg | Episuite™ |
| Silane, triethoxy[3-(oxiranylmethoxy)propyl]- | 2602-34-8 | Estimated Mobility in Soil | Koc | 2,700 l/kg | Episuite™ |

**12.5. Results of the PBT and vPvB assessment**

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

**12.6. Other adverse effects**

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

## SECTION 13: Disposal considerations

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

Dispose of waste product 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
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

## SECTION 14: Transportation information

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|---|---|---|---|
| **14.1 - UN Number or ID number** | UN3077 | UN3077 | UN3077 |
| **14.2 UN proper shipping name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(EPOXY RESIN) |
| **14.3 Transport hazard class(es)** | 9 | 9 | 9 |
| **14.4 Packing group** | III | III | III |
| **14.5 Environmental hazards** | Environmentally Hazardous | Not applicable. | Marine Pollutant |
| **14.6 Special precautions for user** | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| **14.7 Marine Transport in bulk according to IMO instruments** | No data available. | No data available. | No data available. |
| **Control Temperature** | No data available. | No data available. | No data available. |
| **Emergency Temperature** | No data available. | No data available. | No data available. |
| **ADR Classification Code** | M7 | Not applicable. | Not applicable. |
| **IMDG Segregation Code** | Not applicable. | Not applicable. | NONE |

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

## SECTION 15: Regulatory information

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

**Carcinogenicity**

| Ingredient | Identifier(s) | Classification | Regulation |
|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |

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

| Ingredient | Identifier(s) |
|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 |

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 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
None

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

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

## SECTION 16: Other information

**List of relevant H statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Revision information:**
No revision information

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

**3M SDSs for Great Britain are available at www.3M.com/uk**
For Northern Ireland documents, please contact your 3M representative to obtain a copy.

# Safety Data Sheet

Copyright,2026, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|---|---|---|---|
| **Document group:** | 39-0438-0 | **Version number:** | 4.00 |
| **Revision date:** | 25/08/2026 | **Supersedes date:** | 24/04/2024 |

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(tm) Scotch-Weld(tm) EC-7246-2 B/A FST : Part A

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

**Identified uses**
Industrial use.

**1.3. Details of the supplier of the safety data sheet**

| | |
|---|---|
| **Address:** | 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT. |
| **Telephone:** | +44 (0)1344 858 000 |
| **E Mail:** | ner-productstewardship@mmm.com |
| **Website:** | www.3M.com/uk |

**1.4. Emergency telephone number**
+44 (0)1344 858 000

## SECTION 2: Hazard identification

**2.1. Classification of the substance or mixture**
**The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain**

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

**CLASSIFICATION:**
Skin Corrosion/ Irritation, Category 1C - Skin Corr. 1C; H314
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Sensitization, Category 1 - Skin Sens. 1; H317
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) |GHS09 (Environment) |

**Pictograms**



| Ingredient | Identifier(s) | 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 | 30 - 60 |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | 224-207-2 | < 5 |
| Nitric acid, calcium salt, tetrahydrate | 13477-34-4 | 233-332-1 | 1 - 5 |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | 202-013-9 | < 5 |

**HAZARD STATEMENTS:**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P260A | Do not breathe vapours. |
| P273 | Avoid release to the environment. |
| P280D | Wear protective gloves, protective clothing, 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. |

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

**<=125 ml Hazard statements**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |

**<=125 ml Precautionary statements**

**Prevention:**

| | |
|---|---|
| P260A | Do not breathe vapours. |
| P280D | Wear protective gloves, protective clothing, 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. |

### 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 | 30 - 60 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1A, H317<br>STOT SE 3, H336<br>Aquatic Acute 1, H400,M=1<br>Aquatic Chronic 1, H410,M=1 |
| Aluminium hydroxide | (CAS-No.) 21645-51-2<br>(EC-No.) 244-492-7 | 15 - 40 | Substance with a national occupational exposure limit |
| 2,4,6-tris(dimethylaminomethyl)phenol | (CAS-No.) 90-72-2<br>(EC-No.) 202-013-9 | < 5 | Acute Tox. 4, H302<br>Skin Corr. 1C, H314<br>Eye Dam. 1, H318 |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | (CAS-No.) 4246-51-9<br>(EC-No.) 224-207-2 | < 5 | Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317 |
| Phosphinic acid, diethyl-, aluminum salt | (CAS-No.) 225789-38-8 | 1 - 5 | Substance not classified as hazardous |
| 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 | 1 - 5 | Skin Irrit. 2, H315<br>Skin Sens. 1A, H317 |
| Nitric acid, calcium salt, tetrahydrate | (CAS-No.) 13477-34-4<br>(EC-No.) 233-332-1 | 1 - 5 | Acute Tox. 4, H302<br>Eye Dam. 1, H318 |
| 2-piperazin-1-ylethylamine | (CAS-No.) 140-31-8<br>(EC-No.) 205-411-0 | < 0.3 | Acute Tox. 3, H311<br>Acute Tox. 4, H302<br>Skin Corr. 1B, H314 |

| | | | |
|---|---|---|---|
| | | | Skin Sens. 1B, H317<br>Aquatic Chronic 3, H412<br>Repr. 2, H361d<br>STOT RE 1, H372 |

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 flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During combustion. |
| Carbon dioxide. | During combustion. |
| Irritant vapours or gases. | During combustion. |

| | |
|---|---|
| Oxides of nitrogen. | During combustion. |

**5.3. Advice for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

**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**
Cover spill area with a fire extinguishing foam that is resistant to polar solvents. 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 using non-sparking tools. 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 handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. 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. Keep cool. Store away from heat. Store away from acids. Store away from strong bases. 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 | Identifier(s) | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| Dust, inhalable dust | 21645-51-2 | UK HSE | TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3 | |

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 16321

**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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

**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
Half facepiece or full facepiece supplied-air respirator

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
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:** | Paste |
| **Colour** | Off-White |
| **Odor** | Light Amine |
| **Odour threshold** | *No data available.* |
| **Melting point/freezing point** | *No data available.* |
| **Boiling point/boiling range** | *No data available.* |
| **Flammability** | Not applicable. |
| **Flammable Limits(LEL)** | *Not applicable.* |
| **Flammable Limits(UEL)** | *Not applicable.* |
| **Flash point** | >=93 ºC |
| **Autoignition temperature** | *No data available.* |
| **Decomposition temperature** | *No data available.* |
| **pH** | *substance/mixture is non-soluble (in water)* |
| **Kinematic Viscosity** | 77 mm²/sec |
| **Water solubility** | *No data available.* |
| **Solubility- non-water** | *No data available.* |
| **Partition coefficient: n-octanol/water** | *No data available.* |
| **Vapour pressure** | *Not applicable.* |
| **Density** | 1.2 - 1.3 g/ml |
| **Relative density** | 1.2 - 1.3 |
| **Relative Vapour Density** | *Not applicable.* |
| **Particle Characteristics** | *Not applicable.* |

**9.2. Other information**

**9.2.2 Other safety characteristics**

| | |
|---|---|
| **EU Volatile Organic Compounds** | *No data available.* |
| **Evaporation rate** | *Not applicable.* |
| **Molecular weight** | *No data available.* |
| **Percent volatile** | *No data available.* |

## SECTION 10: Stability and reactivity

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

**10.2 Chemical stability**
Stable.

**10.3 Possibility of hazardous reactions**
Hazardous polymerisation will not occur.

**10.4 Conditions to avoid**
Heat.

**10.5 Incompatible materials**
Strong acids.
Strong bases.
Strong oxidising agents.

**10.6 Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

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

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

**Signs and Symptoms of Exposure**

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

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

**Skin contact**
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 >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 |
| Aluminium hydroxide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Aluminium hydroxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 2.3 mg/l |
| Aluminium hydroxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Phosphinic acid, diethyl-, aluminum salt | Dermal | Rat | LD50 > 2,000 mg/kg |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Rat | LD50 > 2,000 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 |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | Rat | LD50 >300, <2000 mg/kg |
| Nitric acid, calcium salt, tetrahydrate | Dermal | similar compounds | LD50 > 2,000 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 |
| 2-piperazin-1-ylethylamine | Dermal | Rabbit | LD50 865 mg/kg |
| 2-piperazin-1-ylethylamine | Ingestion | Rat | LD50 1,470 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Rat | Irritant |
| Aluminium hydroxide | Rabbit | No significant irritation |
| Phosphinic acid, diethyl-, aluminum salt | 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 |
| Nitric acid, calcium salt, tetrahydrate | similar compounds | No significant irritation |
| 2,4,6-tris(dimethylaminomethyl)phenol | Rabbit | Corrosive |

| | | |
|---|---|---|
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Rabbit | Corrosive |
| 2-piperazin-1-ylethylamine | Rabbit | Corrosive |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| 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 |
| Aluminium hydroxide | Rabbit | No significant irritation |
| Phosphinic acid, diethyl-, aluminum salt | Rabbit | Mild irritant |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Rabbit | Mild irritant |
| Nitric acid, calcium salt, tetrahydrate | Rabbit | Corrosive |
| 2,4,6-tris(dimethylaminomethyl)phenol | Rabbit | Corrosive |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Rabbit | Corrosive |
| 2-piperazin-1-ylethylamine | Rabbit | Corrosive |

**Skin Sensitisation**

| Name | Species | Value |
|---|---|---|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | Guinea pig | Sensitising |
| Aluminium hydroxide | Guinea pig | Not classified |
| Phosphinic acid, diethyl-, aluminum salt | Guinea pig | Not classified |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Guinea pig | Sensitising |
| Nitric acid, calcium salt, tetrahydrate | similar compounds | Not classified |
| 2,4,6-tris(dimethylaminomethyl)phenol | Guinea pig | Not classified |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | Professional judgement | Sensitising |
| 2-piperazin-1-ylethylamine | Guinea pig | Sensitising |

**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 |
| Phosphinic acid, diethyl-, aluminum salt | In Vitro | Not mutagenic |
| Phosphinic acid, diethyl-, aluminum salt | In vivo | Not mutagenic |
| Nitric acid, calcium salt, tetrahydrate | In Vitro | Not mutagenic |
| 2,4,6-tris(dimethylaminomethyl)phenol | In Vitro | Not mutagenic |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 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 |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Aluminium hydroxide | Not specified. | Multiple animal species | Not carcinogenic |

## 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 | premating into lactation |
| 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 male reproduction | Rat | NOAEL 1,000 mg/kg/day | 29 days |
| 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 |
| Aluminium hydroxide | Ingestion | Not classified for development | Rat | NOAEL 768 mg/kg/day | during organogenesis |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | Not classified for female reproduction | similar compounds | NOAEL 1,500 mg/kg/day | premating into lactation |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | Not classified for male reproduction | similar compounds | NOAEL 1,500 mg/kg/day | 28 days |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | Not classified for development | similar compounds | NOAEL 1,500 mg/kg/day | premating into lactation |
| 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 |
| 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 |

## 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 | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | Irritation Positive | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 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 | 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-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL not available | |
| Nitric acid, calcium salt, tetrahydrate | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | methemoglobinemia | Causes damage to organs | Human | NOAEL Not available | environmental exposure |
| 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) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| 2-piperazin-1-ylethylamine | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |

## 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 |
| Phosphinic acid, diethyl-, aluminum salt | Ingestion | hematopoietic system \| nervous system \| eyes \| kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Nitric acid, calcium salt, tetrahydrate | Ingestion | heart \| skin \| endocrine system \| bone, teeth, nails, and/or hair \| hematopoietic system \| liver \| immune system \| nervous system \| eyes \| kidney and/or bladder \| respiratory system \| vascular system | Not classified | similar compounds | NOAEL 1,500 mg/kg/day | 28 days |
| 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 \| | Not classified | Rat | NOAEL 125 mg/kg/day | 4 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | hematopoietic system \| eyes | | | | |
| 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 \| skin \| gastrointestinal tract \| bone, teeth, nails, and/or hair \| immune system \| eyes | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |
| 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 |
| 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/m³ | 13 weeks |
| 2-piperazin-1-ylethylamine | Inhalation | hematopoietic system \| eyes \| kidney and/or bladder | Not classified | Rat | NOAEL 53.8 mg/m³ | 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 |

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

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

**11.2. Information on other hazards**

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

## SECTION 12: Ecological information

**The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and**

**data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.**

### 12.1. Toxicity

No product test data available.

| Material | Identifier(s) | 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-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | 701-270-9 | Green algae | Experimental | 72 hours | NOEL | 0.28 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 | Activated sludge | Experimental | 3 hours | EC50 | 410.3 mg/l |
| Aluminium hydroxide | 21645-51-2 | Fish | Experimental | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminium hydroxide | 21645-51-2 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminium hydroxide | 21645-51-2 | Water flea | Experimental | 48 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminium hydroxide | 21645-51-2 | Green algae | Experimental | 72 hours | No tox obs at lmt of water sol | 100 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 |
| 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 |
| Nitric acid, calcium salt, tetrahydrate | 13477-34-4 | Guppy | Estimated | 96 hours | LC50 | 1,378 mg/l |
| Nitric acid, calcium salt, tetrahydrate | 13477-34-4 | Fathead minnow | Estimated | 30 days | NOEC | 58 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Green algae | Experimental | 72 hours | EC50 | >180 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Water flea | Experimental | 48 hours | EC50 | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Zebra Fish | Experimental | 96 hours | LC50 | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Green algae | Experimental | 72 hours | NOEC | 180 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Water flea | Experimental | 21 days | NOEC | 10 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Zebra Fish | Experimental | 28 days | NOEC | 100 mg/l |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Activated sludge | Experimental | 3 hours | EC50 | 1,968 mg/l |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | N/A | Experimental | 96 hours | LC50 | 718 mg/l |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Common Carp | Experimental | 96 hours | LC50 | >100 mg/l |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Green algae | Experimental | 72 hours | EC50 | 46.7 mg/l |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Green algae | Experimental | 72 hours | NOEC | 6.44 mg/l |
| 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 |

### 12.2. Persistence and degradability

| Material | Identifier(s) | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Reaction products | 701-270-9 | Experimental | 28 days | BOD | 0 %BOD/ThOD | OECD 301F - Manometric |

| | | | | | | |
|---|---|---|---|---|---|---|
| of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropan-1-amine | | Biodegradation | | | | respirometry |
| Aluminium hydroxide | 21645-51-2 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| 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 availbl-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) | |
| Nitric acid, calcium salt, tetrahydrate | 13477-34-4 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Biodegradation | 28 days | BOD | 1 %BOD/ThOD | OECD 301F - Manometric respirometry |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Aquatic Inherent Biodegrad. | 28 days | Percent degraded | 7 %degraded | OECD 302C - Modified MITI (II) |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Analogous Compound Hydrolysis | | Hydrolytic half-life | >30 years (t 1/2) | EC C.7 Hydrolysis at pH |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Experimental Biodegradation | 28 days | BOD | 4 %BOD/ThOD | OECD 301D - Closed bottle test |
| 2-piperazin-1-ylethylamine | 140-31-8 | Experimental Biodegradation | 28 days | BOD | 0 %BOD/ThOD | OECD 301C - MITI test (I) |

### 12.3 : Bioaccumulative potential

| Material | Identifier(s) | 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™ |
| Aluminium hydroxide | 21645-51-2 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1- | 68683-29-4 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| piperazinyl)ethyl]amino]butyl-terminated | | | | | | |
| 3,3'-Oxybis(ethyleneoxy)bis(propylamine) | 4246-51-9 | Experimental Bioconcentration | | Log Kow | -1.25 | |
| Nitric acid, calcium salt, tetrahydrate | 13477-34-4 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Analogous Compound BCF - Fish | 60 days | Bioaccumulation factor | 76-190 | |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Estimated Bioconcentration | | Log Kow | -2 | |
| 2,4,6-tris(dimethylaminomethyl)phenol | 90-72-2 | Experimental Bioconcentration | | Log Kow | -0.66 | 830.7550 Part.Coef Shake Flask |
| 2-piperazin-1-ylethylamine | 140-31-8 | Experimental Bioconcentration | | Log Kow | 0.3 | |

### 12.4. Mobility in soil

| Material | Identifier(s) | 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™ |
| Phosphinic acid, diethyl-, aluminum salt | 225789-38-8 | Experimental Mobility in Soil | Koc | 0.38 l/kg | OECD 121 Estim. of Koc by HPLC |

### 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
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

## SECTION 14: Transportation information

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|---|---|---|---|
| **14.1 - UN Number or ID number** | UN3263 | UN3263 | UN3263 |
| **14.2 UN proper shipping name** | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONO METHYL)PHENOL) | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONO METHYL)PHENOL) | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(3,3'-OXYBIS(ETHYLENEOXY) BIS(PROPYLAMINE); TRIS(2,4,6-DIMETHYLAMINOMONO METHYL)PHENOL;ALIPHATIC POLYMER DIAMINE) |
| **14.3 Transport hazard class(es)** | 8 | 8 | 8 |
| **14.4 Packing group** | II | II | II |
| **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 Marine Transport in bulk according to IMO instruments** | 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** | C8 | Not applicable. | Not applicable. |
| **IMDG Segregation Code** | Not applicable. | Not applicable. | 18 - ALKALIS |

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**

**Global inventory status**
Contact 3M for more information. 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 |
| E1 Hazardous to the Aquatic environment | 100 | 200 |

Seveso named dangerous substances, Annex 1, Part 2
None

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

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

## SECTION 16: Other information

**List of relevant H statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361d | Suspected of damaging the unborn child. |
| H372 | Causes 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:**
EU Section 14 - Table Data information was added.
EU Section 14 - Table Headers information was added.
GB Section 04: First Aid - Symptoms and Effects (GB CLP) information was modified.
GBSDS Section 14 Transport in bulk - Main Heading information was deleted.

GBSDS Section 14 UN Number information was deleted.
Section 1: E-mail address information was modified.
Label: Graphic information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 08: Personal Protection - Apron Statement information was added.
Section 8: Personal Protection - Skin/body information information was deleted.
Section 8: Skin protection - protective clothing information information was deleted.
Section 09: Kinematic Viscosity information information was modified.
Section 09: Odor information was modified.
Section 9: Property description for optional properties information was modified.
Section 9: Vapour pressure value information was added.
Section 9: Vapour pressure value information was deleted.
Section 14 Classification Code – Main Heading information was deleted.
Section 14 Classification Code – Regulation Data information was deleted.
Section 14 Control Temperature – Main Heading information was deleted.
Section 14 Control Temperature – Regulation Data information was deleted.
Section 14 Emergency Temperature – Main Heading information was deleted.
Section 14 Emergency Temperature – Regulation Data information was deleted.
Section 14 Hazard Class + Sub Risk – Main Heading information was deleted.
Section 14 Hazard Class + Sub Risk – Regulation Data information was deleted.
Section 14 Other Dangerous Goods – Main Heading information was deleted.
Section 14 Other Dangerous Goods – Regulation Data information was deleted.
Section 14 Packing Group – Main Heading information was deleted.
Section 14 Packing Group – Regulation Data information was deleted.
Section 14 Proper Shipping Name information was deleted.
Section 14 Regulations – Main Headings information was deleted.
Section 14 Segregation – Regulation Data information was deleted.
Section 14 Segregation Code – Main Heading information was deleted.
Section 14 Special Precautions – Main Heading information was deleted.
Section 14 Special Precautions – Regulation Data information was deleted.
Section 14 Transport in bulk – Regulation Data information was deleted.
Section 14 UN Number Column data information was deleted.

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.