



Safety Data Sheet

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Document group: 35-4172-9
Revision date: 11/09/2024
Transportation version number:

Version number: 6.00
Supersedes date: 13/12/2022

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

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

1.1. Product identifier

3M™ Scotch-Weld™ EC-2216 B/A

Product Identification Numbers

UU-0081-8187-5 UU-0082-9985-9

7100116472 7100115757

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 Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone: +353 1 280 3555
E Mail: tox.uk@mmm.com

Website: www.3M.com

1.4. Emergency telephone number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

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:

35-4158-8, 33-0784-0

TRANSPORTATION INFORMATION

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

KIT LABEL

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

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

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 CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

WARNING.

Symbols

GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms



Contains:

bis-[4-(2,3-epoxipropoxy)phenyl]propane; Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyl)oxy]dipropan-1-amine

HAZARD STATEMENTS:

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

| | |
|-------|-----------------------------------|
| P261A | Avoid breathing vapours. |
| P273 | Avoid release to the environment. |
| P280E | Wear protective gloves. |

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
P391

If skin irritation or rash occurs: Get medical advice/attention.
Collect spillage.

Revision information:

Kit: Component document group number(s) information was modified.

Label: CLP Ingredients - kit components information was modified.



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
| Document group: | 35-4158-8 | Version number: | 5.00 |
| Revision date: | 11/09/2024 | Supersedes date: | 13/12/2022 |

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

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

1.1. Product identifier

3M™ Scotch-Weld™ EC -2216 B/A : 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 Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18. |
| Telephone: | +353 1 280 3555 |
| E Mail: | tox.uk@mmm.com |
| Website: | www.3M.com |

1.4. Emergency telephone number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

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
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**CLP REGULATION (EC) No 1272/2008****SIGNAL WORD**

WARNING.

Symbols

GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms**Ingredients:**

| Ingredient | CAS Nbr | EC No. | % by Wt |
|---|---------|-----------|---------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropan-1-amine | | 701-270-9 | 55 - 65 |

HAZARD STATEMENTS:

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

| | |
|-------|-----------------------------------|
| P261A | Avoid breathing vapours. |
| P273 | Avoid release to the environment. |
| P280E | Wear protective gloves. |

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:**

| | |
|-------|-------------------------|
| P280E | Wear protective gloves. |
|-------|-------------------------|

Response:

P333 + P313

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

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] |
|---|--|----------|---|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropylamine | (EC-No.) 701-270-9 | 55 - 65 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1A, H317 STOT SE 3, H336 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 |
| Kaolin | (CAS-No.) 1332-58-7 (EC-No.) 310-194-1 | 35 - 45 | Substance with a national occupational exposure limit |
| Titanium dioxide | (CAS-No.) 13463-67-7 (EC-No.) 236-675-5 | < 1 | Carc. 2, H351 (inhalation) |

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 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 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). 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

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**

Carbon monoxide
Carbon dioxide.
Oxides of nitrogen.

Condition

During combustion.
During combustion.
During combustion.

5.3. Advice for fire-fighters

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

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. 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 in a well-ventilated place. Keep container tightly closed. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

| Ingredient | CAS Nbr | Agency | Limit type | Additional comments |
|------------------|------------|--------------|---|---------------------|
| Kaolin | 1332-58-7 | Ireland OELs | TWA(as respirable dust)(8 hours):2 mg/m ³ | |
| Titanium dioxide | 13463-67-7 | Ireland OELs | TWA(Total inhalable dust)(8 hours):10 mg/m ³ ;TWA(as respirable dust)(8 hours):4 mg/m ³ | |

Ireland OELs : Ireland. OELs

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.

Recommended monitoring procedures:Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

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 166

Skin/hand protection

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

Gloves made from the following material(s) are recommended:

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

Applicable Norms/Standards

Use gloves tested to EN 374

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

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

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|---|--|
| Physical state | Solid. |
| Specific Physical Form: | Paste |
| Colour | Dark Gray |
| Odor | Amine |
| Odour threshold | <i>No data available.</i> |
| Melting point/freezing point | <i>No data available.</i> |
| Boiling point/boiling range | ≥ 152.2 °C |
| Flammability | Not applicable. |
| Flammable Limits(LEL) | <i>No data available.</i> |
| Flammable Limits(UEL) | <i>No data available.</i> |
| Flash point | ≥ 151.7 °C [Test Method: Closed Cup] |
| Autoignition temperature | <i>No data available.</i> |
| Decomposition temperature | <i>No data available.</i> |
| pH | <i>substance/mixture is non-soluble (in water)</i> |
| Kinematic Viscosity | <i>No data available.</i> |
| Water solubility | <i>No data available.</i> |
| Solubility- non-water | <i>No data available.</i> |
| Partition coefficient: n-octanol/water | <i>No data available.</i> |
| Vapour pressure | <i>No data available.</i> |
| Density | <i>No data available.</i> |
| Relative density | 1.24 - 1.32 [Ref Std: WATER=1] |
| Relative Vapour Density | <i>No data available.</i> |
| Particle Characteristics | <i>Not applicable.</i> |

9.2. Other information**9.2.2 Other safety characteristics**

EU Volatile Organic Compounds

No data available.

Evaporation rate
Molecular weight
Percent volatile

No data available.
Not applicable.
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

None known.

10.5 Incompatible materials

Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
|------------------|------------------|

| | |
|-------------|--|
| None known. | |
|-------------|--|

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

May be harmful if swallowed.

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

Additional Health Effects:

Single exposure may cause target organ effects:

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

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-diylloxy)]dipropyl-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-diylloxy)]dipropyl-amine | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Kaolin | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Kaolin | Ingestion | Human | LD50 > 15,000 mg/kg |
| Titanium dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Titanium dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |

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-diylloxy)]dipropyl-amine | Rat | Irritant |
| Kaolin | Professional judgement | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-amine | In vitro data | Severe irritant |
| Kaolin | Professional judgement | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |

Skin Sensitisation

| Name | Species | Value |
|------|---------|-------|
|------|---------|-------|

| | | |
|---|------------------|----------------|
| | | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropylamine | Guinea pig | Sensitising |
| Titanium dioxide | Human and animal | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|---------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropylamine | In Vitro | Not mutagenic |
| Titanium dioxide | In Vitro | Not mutagenic |
| Titanium dioxide | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|------------------|------------|-------------------------|------------------|
| Kaolin | Inhalation | Multiple animal species | Not carcinogenic |
| Titanium dioxide | Ingestion | Multiple animal species | Not carcinogenic |
| Titanium dioxide | Inhalation | Rat | 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)]dipropylamine | 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)]dipropylamine | 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)]dipropylamine | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | premating into lactation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|------------|-----------------------------------|--|------------------------|---------------------|-------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropylamine | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | Irritation Positive | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diyloxy)]dipropylamine | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Rat | 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-diylloxy)]dipropyl-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 |
| Kaolin | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL NA | occupational exposure |
| Kaolin | Inhalation | pulmonary fibrosis | Not classified | Rat | NOAEL Not available | |
| Titanium dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| Titanium dioxide | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |

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 EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|---|-----------|----------------|--------------|----------|---------------|-------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-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-diylloxy)]dipropyl-amine | 701-270-9 | Green algae | Experimental | 72 hours | EL50 | 0.43 mg/l |

| | | | | | | |
|---|------------|------------------|--------------|----------|------|--------------|
| amine | | | | | | |
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-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-diylloxy)]dipropyl-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-diylloxy)]dipropyl-amine | 701-270-9 | Activated sludge | Experimental | 3 hours | EC50 | 410.3 mg/l |
| Kaolin | 1332-58-7 | Water flea | Experimental | 48 hours | LC50 | >1,100 mg/l |
| Titanium dioxide | 13463-67-7 | Activated sludge | Experimental | 3 hours | NOEC | >=1,000 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | EC50 | >10,000 mg/l |
| Titanium dioxide | 13463-67-7 | Fathead minnow | Experimental | 96 hours | LC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | NOEC | 5,600 mg/l |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|------------|------------------------------------|----------|------------|--------------|-------------------------------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-amine | 701-270-9 | Experimental Biodegradation | 28 days | BOD | 0 %BOD/ThO D | OECD 301F - Manometric respirometry |
| Kaolin | 1332-58-7 | Data not available or insufficient | N/A | N/A | N/A | N/A |
| Titanium dioxide | 13463-67-7 | Data not available or insufficient | N/A | N/A | N/A | N/A |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|---|-----------|---|----------|------------------------|-------------|------------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-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-diylloxy)]dipropyl-amine | 701-270-9 | Modeled Bioconcentration | | Log Kow | 11.7 | Episuite™ |
| Kaolin | 1332-58-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

| | | | | | | |
|------------------|------------|-------------------------|---------|------------------------|-----|--|
| Titanium dioxide | 13463-67-7 | Experimental BCF - Fish | 42 days | Bioaccumulation factor | 9.6 | |
|------------------|------------|-------------------------|---------|------------------------|-----|--|

12.4. Mobility in soil

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|---|-----------|--------------------------|------------|--------------------|----------|
| Reaction products of fatty acids, C18-unsaturated, dimers and trimers with 3,3'-[oxybis(ethane-2,1-diylloxy)]dipropyl-amine | 701-270-9 | Modeled Mobility in Soil | Koc | 3,780,000,000 l/kg | |

12.5. Results of the PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|-------------------------------------|--|---|--|
| 14.1 UN number or ID number | UN3077 | UN3077 | UN3077 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ALIPHATIC | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ALIPHATIC POLYMER DIAMINE) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ALIPHATIC |

| | | | |
|---|--|--|--|
| | POLYMER DIAMINE) | | POLYMER DIAMINE) |
| 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

Titanium dioxide

CAS Nbr

13463-67-7

Classification

Grp. 2B: Possible human carc.

Regulation

International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

DIRECTIVE 2012/18/EU

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

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.

SECTION 16: Other information

List of relevant H statements

| | |
|-------|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351i | Suspected of causing cancer by inhalation. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Revision information:

Section 8: Eye/face protection information information was modified.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 09: Particle Characteristics N/A information was added.

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 Ireland MSDSs are available at www.3M.com



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
| Document group: | 33-0784-0 | Version number: | 6.00 |
| Revision date: | 17/05/2024 | Supersedes date: | 13/12/2022 |

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

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

1.1. Product identifier

3M Scotch-Weld(TM) Epoxy Structural Adhesive EC-2216 B/A: Part B

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

Identified uses

Structural adhesive.

1.3. Details of the supplier of the safety data sheet

| | |
|-------------------|---|
| Address: | 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18. |
| Telephone: | +353 1 280 3555 |
| E Mail: | tox.uk@mmm.com |
| Website: | www.3M.com |

1.4. Emergency telephone number

Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

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

CLP REGULATION (EC) No 1272/2008**SIGNAL WORD**

WARNING.

Symbols

GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms**Ingredients:**

| Ingredient | CAS Nbr | EC No. | % by Wt |
|---|-----------|-----------|---------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | 216-823-5 | 60 - 90 |

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. |
| P280E | Wear protective gloves. |

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:**

| | |
|-------|-------------------------|
| P280E | Wear protective gloves. |
|-------|-------------------------|

Response:

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

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] |
|---|---|----------|--|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | (CAS-No.) 1675-54-3 (EC-No.) 216-823-5 (REACH-No.) 01-2119456619-26 | 60 - 90 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 |
| Kaolin | (CAS-No.) 1332-58-7 (EC-No.) 310-194-1 | 10 - 30 | Substance with a national occupational exposure limit |
| Titanium dioxide | (CAS-No.) 13463-67-7 (EC-No.) 236-675-5 | < 1 | Carc. 2, H351 (inhalation) |

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

Specific Concentration Limits

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

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

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

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

Skin contact

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

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If swallowed

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

4.2. Most important symptoms and effects, both acute and delayed

The most important symptoms and effects based on the 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

Aldehydes.
Carbon monoxide
Carbon dioxide.
Hydrogen Chloride

Condition

During combustion.
During combustion.
During combustion.
During combustion.

5.3. Advice for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. 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 in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

| Ingredient | CAS Nbr | Agency | Limit type | Additional comments |
|------------------|------------|--------------|---|---------------------|
| Kaolin | 1332-58-7 | Ireland OELs | TWA(as respirable dust)(8 hours):2 mg/m ³ | |
| Titanium dioxide | 13463-67-7 | Ireland OELs | TWA(Total inhalable dust)(8 hours):10 mg/m ³ ;TWA(as respirable dust)(8 hours):4 mg/m ³ | |

Ireland OELs : Ireland. OELs
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.

Derived no effect level (DNEL)

| Ingredient | Degradation Product | Population | Human exposure pattern | DNEL |
|---|---------------------|------------|--|------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Worker | Dermal, Long-term exposure (8 hours), Systemic effects | 8.3 mg/kg bw/d |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Worker | Dermal, Short-term exposure, Systemic effects | 8.3 mg/kg bw/d |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Worker | Inhalation, Long-term exposure (8 hours), Systemic effects | 12.3 mg/m ³ |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Worker | Inhalation, Short-term exposure, Systemic effects | 12.3 mg/m ³ |

Predicted no effect concentrations (PNEC)

| Ingredient | Degradation Product | Compartment | PNEC |
|---|---------------------|----------------------|----------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Freshwater | 0.003 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Freshwater sediments | 0.5 mg/kg d.w. |

| | | | |
|---|--|--------------------------------|----------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Intermittent releases to water | 0.013 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Marine water | 0.0003 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Marine water sediments | 0.5 mg/kg d.w. |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | | Sewage Treatment Plant | 10 mg/l |

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

8.2. Exposure controls

8.2.1. Engineering controls

Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. 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 166

Skin/hand protection

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

Gloves made from the following material(s) are recommended:

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

Applicable Norms/Standards

Use gloves tested to EN 374

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part

of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | Solid. |
| Specific Physical Form: | Paste |
| Colour | Cream |
| Odor | Slight Epoxy |
| Odour threshold | No data available. |
| Melting point/freezing point | No data available. |
| Boiling point/boiling range | >=200 °C |
| Flammability | Not applicable. |
| Flammable Limits(LEL) | Not applicable. |
| Flammable Limits(UEL) | Not applicable. |
| Flash point | >=150 °C [Test Method:Closed Cup] |
| Autoignition temperature | No data available. |
| Decomposition temperature | No data available. |
| pH | substance/mixture is non-soluble (in water) |
| Kinematic Viscosity | 55,556 mm ² /sec |
| Water solubility | Nil |
| Solubility- non-water | No data available. |
| Partition coefficient: n-octanol/water | No data available. |
| Vapour pressure | Not applicable. |
| Density | 1.35 g/ml |
| Relative density | 1.31 - 1.39 [Ref Std:WATER=1] |
| 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

Not applicable.

Percent volatile

0 %

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

None known.

10.5 Incompatible materials

Strong acids.

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

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

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

Eye contact

Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy 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 | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | Rat | LD50 > 1,600 mg/kg |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Ingestion | Rat | LD50 > 1,000 mg/kg |

3M Scotch-Weld(TM) Epoxy Structural Adhesive EC-2216 B/A: Part B

| | | | |
|------------------|--------------------------------|--------|------------------------------------|
| Kaolin | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Kaolin | Ingestion | Human | LD50 > 15,000 mg/kg |
| Titanium dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Titanium dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Rabbit | Mild irritant |
| Kaolin | Professional judgement | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Rabbit | Moderate irritant |
| Kaolin | Professional judgement | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |

Skin Sensitisation

| Name | Species | Value |
|---|------------------|----------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Human and animal | Sensitising |
| Titanium dioxide | Human and animal | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|--|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | In vivo | Not mutagenic |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Titanium dioxide | In Vitro | Not mutagenic |
| Titanium dioxide | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---|------------|-------------------------|--|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Kaolin | Inhalation | Multiple animal species | Not carcinogenic |
| Titanium dioxide | Ingestion | Multiple | Not carcinogenic |

| | | | |
|------------------|------------|----------------|---------------|
| | | animal species | |
| Titanium dioxide | Inhalation | Rat | Carcinogenic. |

Reproductive Toxicity

Reproductive and/or Developmental Effects

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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|------------|--|--|---------|-----------------------|-----------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Ingestion | auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Kaolin | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL NA | occupational exposure |
| Kaolin | Inhalation | pulmonary fibrosis | Not classified | Rat | NOAEL Not available | |
| Titanium dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| Titanium dioxide | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |

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 EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|---|------------|------------------|--------------------|----------|---------------|--------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Activated sludge | Analogous Compound | 3 hours | IC50 | >100 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Rainbow trout | Estimated | 96 hours | LC50 | 2 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Water flea | Estimated | 48 hours | EC50 | 1.8 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | ErC50 | >11 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Green algae | Experimental | 72 hours | NOEC | 4.2 mg/l |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Water flea | Experimental | 21 days | NOEC | 0.3 mg/l |
| Kaolin | 1332-58-7 | Water flea | Experimental | 48 hours | LC50 | >1,100 mg/l |
| Titanium dioxide | 13463-67-7 | Activated sludge | Experimental | 3 hours | NOEC | >=1,000 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | EC50 | >10,000 mg/l |
| Titanium dioxide | 13463-67-7 | Fathead minnow | Experimental | 96 hours | LC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Titanium dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | NOEC | 5,600 mg/l |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|------------|------------------------------------|----------|-----------------------------|-------------------|-------------------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Experimental Biodegradation | 28 days | BOD | 5 %BOD/COD | OECD 301F - Manometric respirometry |
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 117 hours (t 1/2) | OECD 111 Hydrolysis function of pH |
| Kaolin | 1332-58-7 | Data not available or insufficient | N/A | N/A | N/A | N/A |
| Titanium dioxide | 13463-67-7 | Data not available or insufficient | N/A | N/A | N/A | N/A |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|---|-----------|--|----------|------------|-------------|------------------------------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Experimental Bioconcentration | | Log Kow | 3.242 | OECD 117 log Kow HPLC method |
| Kaolin | 1332-58-7 | Data not available or insufficient for | N/A | N/A | N/A | N/A |

| | | | | | | |
|------------------|------------|-------------------------|---------|------------------------|-----|--|
| | | classification | | | | |
| Titanium dioxide | 13463-67-7 | Experimental BCF - Fish | 42 days | Bioaccumulation factor | 9.6 | |

12.4. Mobility in soil

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|---|-----------|--------------------------|------------|-------------|-----------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Modeled Mobility in Soil | Koc | 450 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. Endocrine disrupting properties

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

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

| | 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

| <u>Ingredient</u> | <u>CAS Nbr</u> | <u>Classification</u> | <u>Regulation</u> |
|---|-----------------------|-------------------------------|---|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | 1675-54-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| Titanium dioxide | 13463-67-7 | Grp. 2B: Possible human carc. | 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 through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The

components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. 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.

DIRECTIVE 2012/18/EU

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

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

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

| | |
|-------|--|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351i | Suspected of causing cancer by inhalation. |
| H411 | Toxic to aquatic life with long lasting effects. |

Revision information:

Section 3: Composition/ Information of ingredients table information was modified.

Section 8: DNEL table row information was added.

Section 8: Eye/face protection information information was modified.

Section 8: PNEC table row information was added.

Section 9: Flammability (solid, gas) information information was deleted.

Section 09: Flammability information information was added.

Section 09: Particle Characteristics N/A information was added.

Section 15: Chemical Safety Assessment information was modified.

Section 15: Seveso Hazard Category Text information was added.

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 Ireland MSDSs are available at www.3M.com