# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document group:** | 30-2817-2 | **Version number:** | 3.01 |
| **Revision date:** | 26/01/2021 | **Supersedes date:** | 27/07/2016 |

**Transportation version number:** 5.00 (04/12/2017)

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 Aerospace Sealant AC-770 B-1

**Product Identification Numbers**
70-0052-0442-8

7000048242

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

**Identified uses**
Sealant.

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

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

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

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

30-2815-6, 30-2816-4

## TRANSPORTATION INFORMATION

70-0052-0442-8

**ADR/RID:** UN3082, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, III, --.
**IMDG-CODE:** UN3082, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, III,

IMDG-Code segregation code: NONE, EMS: --.
**ICAO/IATA:** UN3082, NOT RESTRICTED AS PER SPECIAL PROVISION A197, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXCEPTION, III.

# KIT LABEL

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

**CLASSIFICATION:**
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Reproductive Toxicity, Category 1A - Repr. 1A; H360
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
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**
DANGER.

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

**Pictograms**

Contains:
manganese dioxide; lead powder; [particle diameter < 1 mm]

**HAZARD STATEMENTS:**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H360D | May damage the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure: nervous system \| |
| H410 | Very toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P260B | Do not breathe dust. |

| | |
|---|---|
| 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. |
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |

**Disposal:**

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

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

**<=125 ml Hazard statements**

| | |
|---|---|
| H360D | May damage the unborn child. |

**<=125 ml Precautionary statements**

**Prevention:**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P280E | Wear protective gloves. |

**Response:**

| | |
|---|---|
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |

**SUPPLEMENTAL INFORMATION:**

| | |
|---|---|
| EUH208 | Contains 2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer. \| Formaldehyde, oligomeric reaction products with phenol.May produce an allergic reaction. |

**Supplemental Precautionary Statements:**
Restricted to professional users.

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

**Revision information:**
Kit Information: CLP Target Organ Hazard Statement information was added.
Kit: Component document group number(s) information was modified.
Label: CLP Ingredients - kit components information was added.
Section 01: SAP Material Numbers information was added.
Section 2: <125ml Hazard - Health information was added.
Section 2: <125ml Precautionary - Prevention information was added.
Section 2: <125ml Precautionary - Response information was added.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was modified.
Label: Graphic information was modified.
Label: Signal Word information was modified.
Section 02: SDS Elements: CLP Supplemental Precautionary Statements information was added.

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document group:** | 30-2815-6 | **Version number:** | 3.02 |
| **Revision date:** | 05/01/2024 | **Supersedes date:** | 27/06/2023 |

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

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

**1.1. Product identifier**
3M Aerospace Sealant AC-770 B-1 Base

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

**Identified uses**
Sealant.

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

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

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

## SECTION 2: Hazard identification

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

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.
The carcinogenicity classification for titanium dioxide is not applicable based on physical form (material is not a powder).

**CLASSIFICATION:**
This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended for Great Britain, on classification, labelling, and packaging of substances and mixtures.

**2.2. Label elements**
**The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain**

Not applicable

**SUPPLEMENTAL INFORMATION:**

**Supplemental Hazard Statements:**

| | |
|---|---|
| EUH210 | Safety data sheet available on request. |
| EUH211 | Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. |
| EUH208 | Contains Formaldehyde, oligomeric reaction products with phenol. \| bis-[4-(2,3-epoxipropoxi)phenyl]propane. \| formaldehyde. May produce an allergic reaction. |

**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 |
|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | (CAS-No.) 68611-50-7 | 70 - 75 | Substance not classified as hazardous |
| Calcium carbonate | (CAS-No.) 471-34-1<br>(EC-No.) 207-439-9 | 15 - 20 | Substance with a national occupational exposure limit |
| Titanium dioxide | (CAS-No.) 13463-67-7<br>(EC-No.) 236-675-5 | < 5 | Carc. 2, H351 (inhalation) |
| formaldehyde | (CAS-No.) 50-00-0<br>(EC-No.) 200-001-8 | < 0.05 | Acute Tox. 2, H330<br>Acute Tox. 3, H311<br>Acute Tox. 3, H301<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1A, H317<br>Muta. 2, H341<br>Carc. 1B, H350<br>STOT SE 3, H335<br>Nota B,D |
| Formaldehyde, oligomeric reaction products with phenol | (CAS-No.) 9003-35-4<br>(EC-No.) 500-005-2 | < 1 | Skin Sens. 1, H317 |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | (CAS-No.) 1675-54-3<br>(EC-No.) 216-823-5 | < 1 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |

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 |
| formaldehyde | (CAS-No.) 50-00-0<br>(EC-No.) 200-001-8 | (C >= 25%) Skin Corr. 1B, H314<br>(5% =< C < 25%) Skin Irrit. 2, H315<br>(C >= 25%) Eye Dam. 1, H318<br>(5% =< C < 25%) Eye Irrit. 2, H319<br>(C >= 0.2%) Skin Sens. 1A, H317<br>(C >= 5%) STOT SE 3, H335 |

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**
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

## SECTION 5: Fire-fighting measures

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

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

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| formaldehyde | During combustion. |

| | |
|---|---|
| Carbon monoxide | During combustion. |
| Carbon dioxide. | During combustion. |
| Hydrogen Chloride | During combustion. |

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

## SECTION 6: Accidental release measures

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

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

**7.2. Conditions for safe storage including any incompatibilities**
Store away from acids. Store away from strong bases.

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

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

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

| Ingredient | CAS Nbr | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| Titanium dioxide | 13463-67-7 | UK HSC | TWA(respirable):4 mg/m3;TWA(Inhalable):10 mg/m3 | |

| | | | |
|---|---|---|---|
| DUST, INERT OR NUISANCE | 471-34-1 | UK HSC | TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3 |
| formaldehyde | 50-00-0 | UK HSC | TWA:2.5 mg/m3(2 ppm);STEL:2.5 mg/m3(2 ppm) |

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

**Biological limit values**
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

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

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

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

*Applicable Norms/Standards*
Use gloves tested to EN 374

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

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

*Applicable Norms/Standards*
Use a respirator conforming to EN 140 or EN 136: filter types A & P

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid. |
| **Specific Physical Form:** | Thixotropic Paste |
| **Colour** | White |
| **Odor** | Sulfuric |
| **Odour threshold** | *No data available.* |
| **Melting point/freezing point** | *Not applicable.* |
| **Boiling point/boiling range** | *No data available.* |
| **Flammability (solid, gas)** | Not applicable. |
| **Flammable Limits(LEL)** | *No data available.* |
| **Flammable Limits(UEL)** | *No data available.* |
| **Flash point** | >=93.3 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** | *No data available.* |
| **Water solubility** | Nil |
| **Solubility- non-water** | *No data available.* |
| **Partition coefficient: n-octanol/water** | *No data available.* |
| **Vapour pressure** | *No data available.* |
| **Density** | 1.1 g/ml |
| **Relative density** | 1.1 [*Ref Std:*WATER=1] |
| **Relative Vapour Density** | *No data available.* |

**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.* |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
This material is considered to be non reactive under normal use conditions

**10.2 Chemical stability**
Stable.

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

**10.4 Conditions to avoid**
None known.

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

**10.6 Hazardous decomposition products**

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

Refer to section 5.2 for hazardous decomposition products during combustion.

# SECTION 11: Toxicological information

**The information below may not agree with the 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**
Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

**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 |
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2- chloroethane] and sodium sulfide (Na2(Sx)), reduced | Dermal | Rat | LD50 > 7,800 mg/kg |
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2- chloroethane] and sodium sulfide (Na2(Sx)), reduced | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Calcium carbonate | Dermal | Rat | LD50 > 2,000 mg/kg |
| Calcium carbonate | Inhalation-Dust/Mist (4 hours) | Rat | LC50 3 mg/l |
| Calcium carbonate | Ingestion | Rat | LD50 6,450 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 |

| | | | |
|---|---|---|---|
| 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 |
| Formaldehyde, oligomeric reaction products with phenol | Dermal | Rat | LD50 > 2,000 mg/kg |
| Formaldehyde, oligomeric reaction products with phenol | Ingestion | Rat | LD50 > 2,900 mg/kg |
| formaldehyde | Dermal | Rabbit | LD50 270 mg/kg |
| formaldehyde | Inhalation-Gas (4 hours) | Rat | LC50 470 ppm |
| formaldehyde | Ingestion | Rat | LD50 800 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | Rabbit | No significant irritation |
| Calcium carbonate | Rabbit | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Rabbit | Mild irritant |
| Formaldehyde, oligomeric reaction products with phenol | Human and animal | Mild irritant |
| formaldehyde | official classification | Corrosive |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | Rabbit | No significant irritation |
| Calcium carbonate | Rabbit | No significant irritation |
| Titanium dioxide | Rabbit | No significant irritation |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Rabbit | Moderate irritant |
| Formaldehyde, oligomeric reaction products with phenol | Human and animal | Moderate irritant |
| formaldehyde | official classification | Corrosive |

**Skin Sensitisation**

| Name | Species | Value |
|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | | Not classified |
| Titanium dioxide | Human and animal | Not classified |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Human and animal | Sensitising |
| Formaldehyde, oligomeric reaction products with phenol | Human and animal | Sensitising |
| formaldehyde | Guinea pig | Sensitising |

**Respiratory Sensitisation**

| Name | Species | Value |
|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Human | Not classified |
| Formaldehyde, oligomeric reaction products with phenol | Human | Not classified |

| | | |
|---|---|---|
| formaldehyde | Human | Some positive data exist, but the data are not sufficient for classification |

### Germ Cell Mutagenicity

| Name | Route | Value |
|---|---|---|
| Titanium dioxide | In Vitro | Not mutagenic |
| Titanium dioxide | In vivo | Not mutagenic |
| 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 |
| formaldehyde | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| formaldehyde | In vivo | Mutagenic |

### Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Titanium dioxide | Ingestion | Multiple animal species | Not carcinogenic |
| Titanium dioxide | Inhalation | Rat | Carcinogenic. |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| formaldehyde | Not specified. | Human and animal | Carcinogenic. |

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|
| Calcium carbonate | Ingestion | Not classified for development | Rat | NOAEL 625 mg/kg/day | premating & during gestation |
| 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 mg/kg/day | during organogenesis |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| formaldehyde | Ingestion | Not classified for male reproduction | Rat | NOAEL 100 mg/kg | not applicable |
| formaldehyde | Inhalation | Not classified for development | Rat | NOAEL 10 ppm | during gestation |

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| Calcium carbonate | Inhalation | respiratory system | Not classified | Rat | NOAEL 0.812 mg/l | 90 minutes |
| Formaldehyde, oligomeric reaction products with phenol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| formaldehyde | Inhalation | respiratory system | Causes damage to organs | Rat | LOAEL 128 ppm | 6 hours |
| formaldehyde | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| Calcium carbonate | Inhalation | respiratory system | Not classified | Human | NOAEL Not available | occupational exposure |
| Titanium dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| Titanium dioxide | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| 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 |
| Formaldehyde, oligomeric reaction products with phenol | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| formaldehyde | Dermal | respiratory system | Not classified | Mouse | NOAEL 80 mg/kg/day | 60 weeks |
| formaldehyde | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | NOAEL 0.3 ppm | 28 months |
| formaldehyde | Inhalation | liver | Not classified | Rat | NOAEL 20 ppm | 13 weeks |
| formaldehyde | Inhalation | hematopoietic system | Not classified | Mouse | NOAEL 15 ppm | 3 weeks |
| formaldehyde | Inhalation | nervous system | Not classified | Mouse | NOAEL 10 ppm | 13 weeks |
| formaldehyde | Inhalation | endocrine system \| immune system \| muscles \| kidney and/or bladder | Not classified | Rat | NOAEL 15 ppm | 28 months |
| formaldehyde | Inhalation | gastrointestinal tract | Not classified | Rat | NOAEL 15 ppm | 2 years |
| formaldehyde | Inhalation | eyes \| vascular system | Not classified | Rat | NOAEL 14.3 ppm | 2 years |
| formaldehyde | Inhalation | heart | Not classified | Mouse | NOAEL 14.3 ppm | 2 years |
| formaldehyde | Ingestion | liver | Not classified | Rat | NOAEL 300 mg/kg/day | 2 years |
| formaldehyde | Ingestion | immune system | Not classified | Rat | NOAEL 20 mg/kg/day | 4 weeks |
| formaldehyde | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 15 mg/kg/day | 24 months |
| formaldehyde | Ingestion | nervous system | Not classified | Rat | NOAEL 109 mg/kg/day | 2 years |
| formaldehyde | Ingestion | heart \| endocrine system \| hematopoietic system \| respiratory system \| vascular system | Not classified | Rat | NOAEL 300 mg/kg/day | 2 years |
| formaldehyde | Ingestion | skin \| muscles \| eyes | Not classified | Rat | NOAEL 109 mg/kg/day | 2 years |

**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 | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|---|---|---|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | 68611-50-7 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Calcium carbonate | 471-34-1 | Green algae | Experimental | 72 hours | EC50 | >100 mg/l |
| Calcium carbonate | 471-34-1 | Rainbow trout | Experimental | 96 hours | LC50 | >100 mg/l |
| Calcium carbonate | 471-34-1 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Calcium carbonate | 471-34-1 | Green algae | Experimental | 72 hours | EC10 | 100 mg/l |
| formaldehyde | 50-00-0 | Green algae | Experimental | 72 hours | ErC50 | 4.89 mg/l |
| formaldehyde | 50-00-0 | Striped bass | Experimental | 96 hours | LC50 | 6.7 mg/l |
| formaldehyde | 50-00-0 | Water flea | Experimental | 48 hours | EC50 | 5.8 mg/l |
| formaldehyde | 50-00-0 | Medaka | Experimental | 28 days | NOEC | >=48 mg/l |
| formaldehyde | 50-00-0 | Water flea | Experimental | 21 days | NOEC | >=6.4 mg/l |
| formaldehyde | 50-00-0 | Activated sludge | Experimental | 3 hours | EC50 | 19 |
| 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 |
| 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 |
| Formaldehyde, oligomeric reaction products with phenol | 9003-35-4 | N/A | Data not available or insufficient for classification | N/A | N/A | n/a |

### 12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | 68611-50-7 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Calcium carbonate | 471-34-1 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| formaldehyde | 50-00-0 | Experimental Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 99 %removal of DOC | OECD 301A - DOC Die Away Test |
| formaldehyde | 50-00-0 | Experimental Biodegradation | 160 days | BOD | 99.5 %BOD/COD | OECD 303A - Simulated Aerobic |
| Titanium dioxide | 13463-67-7 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| 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 |
| Formaldehyde, oligomeric reaction products with phenol | 9003-35-4 | Estimated Biodegradation | 28 days | BOD | 3 %BOD/ThOD | |

### 12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na2(Sx)), reduced | 68611-50-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Calcium carbonate | 471-34-1 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| formaldehyde | 50-00-0 | Experimental Bioconcentration | | Log Kow | 0.35 | |
| Titanium dioxide | 13463-67-7 | Experimental BCF - Fish | 42 days | Bioaccumulation factor | 9.6 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Experimental Bioconcentration | | Log Kow | 3.242 | OECD 117 log Kow HPLC method |
| Formaldehyde, oligomeric reaction products with phenol | 9003-35-4 | Estimated Bioconcentration | | Bioaccumulation factor | 2.57 | |

**12.4. Mobility in soil**

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|---|---|---|---|---|---|
| formaldehyde | 50-00-0 | Estimated Mobility in Soil | Koc | 15.9 l/kg | |
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Modeled Mobility in Soil | Koc | 450 l/kg | Episuite™ |
| Formaldehyde, oligomeric reaction products with phenol | 9003-35-4 | Experimental Mobility in Soil | Koc | 637 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. 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 10 Waste adhesives and sealants other than those mentioned in 08 04 09

## SECTION 14: Transportation information

Not hazardous for transportation.

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|---|---|---|---|
| **14.1 UN number** | No data available. | No data available. | No data available. |

| | | | |
|---|---|---|---|
| **14.2 UN proper shipping name** | No data available. | No data available. | No data available. |
| **14.3 Transport hazard class(es)** | No data available. | No data available. | No data available. |
| **14.4 Packing group** | No data available. | No data available. | No data available. |
| **14.5 Environmental hazards** | No data available. | No data available. | No data available. |
| **14.6 Special precautions for user** | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| **14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code** | No data available. | No data available. | No data available. |
| **Control Temperature** | No data available. | No data available. | No data available. |
| **Emergency Temperature** | No data available. | No data available. | No data available. |
| **ADR Classification Code** | No data available. | No data available. | No data available. |
| **IMDG Segregation Code** | No data available. | No data available. | No data available. |

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 | CAS Nbr | Classification | Regulation |
|---|---|---|---|
| bis-[4-(2,3-epoxipropoxi)phenyl]propane | 1675-54-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| formaldehyde | 50-00-0 | Carc. 1B | The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list |
| formaldehyde | 50-00-0 | Grp. 1: Carcinogenic to humans | 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 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 | CAS Nbr |
|---|---|
| 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

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

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

**Global inventory status**
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional 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
None

Seveso named dangerous substances, Annex 1, Part 2

| Dangerous Substances | Identifier(s) | Qualifying quantity (tonnes) for the application of | |
|---|---|---|---|
| | | Lower-tier requirements | Upper-tier requirements |
| formaldehyde | 50-00-0 | 5 | 50 |

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

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

## SECTION 16: Other information

**List of relevant H statements**

| | |
|---|---|
| H301 | Toxic 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. |
| H330 | Fatal if inhaled. |
| H335 | May cause respiratory irritation. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer. |
| 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: Occupational exposure limit table information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14: Transportation classification 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.

# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document group:** | 30-2816-4 | **Version number:** | 5.02 |
| **Revision date:** | 29/08/2023 | **Supersedes date:** | 27/06/2023 |

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

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

**1.1. Product identifier**
3M Aerospace Sealant AC-770 B-1 Catalyst

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

**Identified uses**
Hardener

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

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

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

## SECTION 2: Hazard identification

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

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

**CLASSIFICATION:**
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Reproductive Toxicity, Category 1A - Repr. 1A; H360D
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
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**
GHS07 (Exclamation mark) |GHS08 (Health Hazard) |GHS09 (Environment) |

**Pictograms**

| Ingredient | CAS Nbr | EC No. | % by Wt |
|---|---|---|---|
| manganese dioxide | 1313-13-9 | 215-202-6 | 20 - 60 |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | 231-100-4 | <= 0.1 |

**HAZARD STATEMENTS:**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H360D | May damage the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure: nervous system. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P260G | Do not breathe vapours or dust. |
| P273 | Avoid release to the environment. |
| P280F | Wear respiratory 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. |
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |

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

**<=125 ml Hazard statements**

| | |
|---|---|
| H360D | May damage the unborn child. |

**<=125 ml Precautionary statements**

**Prevention:**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P280F | Wear respiratory protection. |

**Response:**

| | |
|---|---|
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |

**SUPPLEMENTAL INFORMATION:**

**Supplemental Precautionary Statements:**
Restricted to professional users.

18% of the mixture consists of components of unknown acute oral toxicity.

Contains 70% of components with unknown hazards to the aquatic environment.

**2.3. Other hazards**

Contains a substance that meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII, as amended by UK REACH Regulations SI 2019/758

## 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 |
|---|---|---|---|
| manganese dioxide | (CAS-No.) 1313-13-9<br>(EC-No.) 215-202-6 | 20 - 60 | Acute Tox. 4, H332<br>Acute Tox. 4, H302<br>EUH031<br>STOT RE 2, H373 |
| Hydrogenated terphenyl | (CAS-No.) 61788-32-7<br>(EC-No.) 262-967-7 | 20 - 60 | Aquatic Chronic 2, H411 |
| Polyphenyls, quater- and higher, partially hydrogenated | (CAS-No.) 68956-74-1<br>(EC-No.) 273-316-1 | < 15 | Substance not classified as hazardous |
| Natural Amorphous compounds | Trade Secret | < 10 | Substance not classified as hazardous |
| Water | (CAS-No.) 7732-18-5<br>(EC-No.) 231-791-2 | < 10 | Substance not classified as hazardous |
| Zeolites | (CAS-No.) 1318-02-1<br>(EC-No.) 215-283-8 | < 5 | Substance with a national occupational exposure limit |
| Bis(piperidinothiocarbonyl) hexasulphide | (CAS-No.) 971-15-3<br>(EC-No.) 213-537-2 | < 5 | Substance not classified as hazardous |
| Terphenyl | (CAS-No.) 26140-60-3<br>(EC-No.) 247-477-3 | < 5 | Aquatic Acute 1, H400,M=10<br>Aquatic Chronic 1, H410,M=10 |

| | | | |
|---|---|---|---|
| sodium hydroxide | (CAS-No.) 1310-73-2<br>(EC-No.) 215-185-5 | < 2 | Skin Corr. 1A, H314<br>Eye Dam. 1, H318<br>Met. Corr. 1, H290 |
| ferbam (ISO) | (CAS-No.) 14484-64-1<br>(EC-No.) 238-484-2 | < 1 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Aquatic Acute 1, H400,M=10<br>Aquatic Chronic 1, H410,M=100<br>Acute Tox. 2, H330 |
| lead powder; [particle diameter < 1 mm] | (CAS-No.) 7439-92-1<br>(EC-No.) 231-100-4 | <= 0.1 | Repr. 1A, H360FD<br>Lact., H362<br>STOT SE 2, H371<br>STOT RE 2, H373<br>Aquatic Acute 1, H400,M=1<br>Aquatic Chronic 1, H410,M=10 |

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 |
|---|---|---|
| lead powder; [particle diameter < 1 mm] | (CAS-No.) 7439-92-1<br>(EC-No.) 231-100-4 | (C >= 0.03%) Repr. 1A, H360D |
| sodium hydroxide | (CAS-No.) 1310-73-2<br>(EC-No.) 215-185-5 | (C >= 5%) Skin Corr. 1A, H314<br>(2% =< C < 5%) Skin Corr. 1B, H314<br>(0.5% =< C < 2%) Skin Irrit. 2, H315<br>(C >= 2%) Eye Dam. 1, H318<br>(0.5% =< C < 2%) 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 for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Harmful if swallowed. Target organ effects. See Section 11 for additional details.

**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. |
| Oxides of nitrogen. | During combustion. |
| Oxides of Lead | During combustion. |
| Oxides of sulphur. | During combustion. |

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

## SECTION 6: Accidental release measures

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

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

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

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

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective

equipment (eg. gloves, respirators…) as required.

**7.2. Conditions for safe storage including any incompatibilities**
Store away from heat. Store away from acids.

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

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

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

| Ingredient | CAS Nbr | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| sodium hydroxide | 1310-73-2 | UK HSC | STEL:2 mg/m3 | |
| Manganese, inorganic compounds | 1313-13-9 | UK HSC | TWA(as Mn, respirable fraction):0.05 mg/m3;TWA(as Mn):0.5 mg/m3 | |
| Aluminium oxides | 1318-02-1 | UK HSC | TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3 | |
| Terphenyl | 26140-60-3 | UK HSC | STEL:4.8 mg/m3(0.5 ppm) | |
| Hydrogenated terphenyl | 61788-32-7 | UK HSC | TWA:19 mg/m3(2 ppm);STEL:48 mg/m3(5 ppm) | |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | UK HSC | TWA(as Pb):0.15 mg/m3 | |

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

**Biological limit values**
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

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

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

**Skin/hand protection**

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

| Material | Thickness (mm) | Breakthrough Time |
|---|---|---|
| Butyl rubber. | 0.5 | =>8 hours |
| Neoprene. | 0.5 | =>8 hours |
| Nitrile rubber. | 0.35 | =>8 hours |

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

*Applicable Norms/Standards*
Use gloves tested to EN 374

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

*Applicable Norms/Standards*
Use a respirator conforming to EN 140 or EN 136: filter types A & P

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid. |
| **Colour** | Dark Brown |
| **Odor** | Slight Odor |
| **Odour threshold** | *No data available.* |
| **Melting point/freezing point** | *Not applicable.* |
| **Boiling point/boiling range** | *No data available.* |
| **Flammability (solid, gas)** | Not applicable. |
| **Flammable Limits(LEL)** | *No data available.* |
| **Flammable Limits(UEL)** | *No data available.* |
| **Flash point** | >=93.3 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** | *No data available.* |
| **Water solubility** | Nil |
| **Solubility- non-water** | *No data available.* |
| **Partition coefficient: n-octanol/water** | *No data available.* |
| **Vapour pressure** | *No data available.* |
| **Density** | 1.58 g/ml |
| **Relative density** | 1.58 [*Ref Std:*WATER=1] |
| **Relative Vapour Density** | >=1 [*Ref Std:*AIR=1] |

**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.* |

## 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**
Reducing agents.
Strong acids.

**10.6 Hazardous decomposition products**

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

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

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

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

**Signs and Symptoms of Exposure**

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

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

**Skin contact**
May be harmful in contact with skin. Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.

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

**Additional Health Effects:**

**Prolonged or repeated exposure may cause target organ effects:**
Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which may interfere with lactation or be harmful to breastfed children.

**Carcinogenicity:**
Contains a chemical or chemicals which can cause cancer.

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

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| manganese dioxide | Dermal | Rat | LD50 2,000 mg/kg |
| manganese dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 1.5 mg/l |
| manganese dioxide | Ingestion | Rat | LD50 > 2,197 mg/kg |
| Hydrogenated terphenyl | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Hydrogenated terphenyl | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 4.7 mg/l |
| Hydrogenated terphenyl | Ingestion | Rat | LD50 > 10,000 mg/kg |
| Terphenyl | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Terphenyl | Inhalation-Dust/Mist (4 hours) | Rat | LD50 > 3.8 mg/l |
| Terphenyl | Ingestion | Rat | LD50 2,304 mg/kg |
| Bis(piperidinothiocarbonyl) hexasulphide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Zeolites | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Zeolites | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 4.57 mg/l |
| Zeolites | Ingestion | Rat | LD50 > 5,000 mg/kg |
| ferbam (ISO) | Dermal | Rabbit | LD50 > 4,000 mg/kg |
| ferbam (ISO) | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.4 mg/l |
| ferbam (ISO) | Ingestion | Rat | LD50 1,130 mg/kg |
| lead powder; [particle diameter < 1 mm] | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| manganese dioxide | Rabbit | No significant irritation |
| Hydrogenated terphenyl | Rabbit | No significant irritation |
| Terphenyl | Rabbit | No significant irritation |
| Zeolites | Rabbit | No significant irritation |
| sodium hydroxide | Rabbit | Corrosive |
| ferbam (ISO) | Rabbit | No significant irritation |
| lead powder; [particle diameter < 1 mm] | similar compounds | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| manganese dioxide | Rabbit | Mild irritant |
| Hydrogenated terphenyl | Rabbit | No significant irritation |
| Terphenyl | Rabbit | No significant irritation |
| Zeolites | Rabbit | Mild irritant |
| sodium hydroxide | Rabbit | Corrosive |
| ferbam (ISO) | Rabbit | Severe irritant |
| lead powder; [particle diameter < 1 mm] | similar compounds | Mild irritant |

**Skin Sensitisation**

| Name | Species | Value |
|---|---|---|
| manganese dioxide | Mouse | Not classified |
| Hydrogenated terphenyl | Human | Not classified |
| sodium hydroxide | Human | Not classified |
| ferbam (ISO) | Guinea pig | Not classified |

**Respiratory Sensitisation**

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

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| manganese dioxide | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| manganese dioxide | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Hydrogenated terphenyl | In Vitro | Not mutagenic |
| Hydrogenated terphenyl | In vivo | Not mutagenic |
| Terphenyl | In Vitro | Not mutagenic |
| Terphenyl | In vivo | Not mutagenic |
| Bis(piperidinothiocarbonyl) hexasulphide | In Vitro | Not mutagenic |
| sodium hydroxide | In Vitro | Not mutagenic |
| lead powder; [particle diameter < 1 mm] | In vivo | Some positive data exist, but the data are not sufficient for classification |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| ferbam (ISO) | Ingestion | Rat | Not carcinogenic |
| lead powder; [particle diameter < 1 mm] | Not specified. | official classification | Carcinogenic. |

## Reproductive Toxicity

### Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|
| manganese dioxide | Inhalation | Not classified for female reproduction | Rat | NOAEL 20 mg/m³ | 2 generation |
| manganese dioxide | Inhalation | Not classified for male reproduction | Rabbit | LOAEL 250 mg/kg | 1 days |
| manganese dioxide | Ingestion | Not classified for development | Rat | LOAEL 354 mg/kg/day | premating into lactation |
| manganese dioxide | Inhalation | Not classified for development | Rat | LOAEL 61 mg/m³ | gestation into lactation |
| Hydrogenated terphenyl | Ingestion | Not classified for female reproduction | Rat | NOAEL 81 mg/kg/day | 2 generation |
| Hydrogenated terphenyl | Ingestion | Not classified for male reproduction | Rat | NOAEL 62 mg/kg/day | 2 generation |
| Hydrogenated terphenyl | Ingestion | Not classified for development | Rat | NOAEL 500 mg/kg/day | during organogenesis |
| ferbam (ISO) | Ingestion | Not classified for female reproduction | Rat | NOAEL 25 mg/kg/day | 3 generation |
| ferbam (ISO) | Ingestion | Not classified for male reproduction | Rat | NOAEL 25 mg/kg/day | 3 generation |
| ferbam (ISO) | Ingestion | Not classified for development | Rat | NOAEL 11 mg/kg/day | during organogenesis |
| lead powder; [particle diameter < 1 mm] | Not specified. | Toxic to female reproduction | Human | LOAEL 10 ug/dl blood | |
| lead powder; [particle diameter < 1 mm] | Not specified. | Toxic to male reproduction | Human | LOAEL 37 ug/dl blood | |
| lead powder; [particle diameter < 1 mm] | Not specified. | Toxic to development | Human | NOAEL Not available | |

### Lactation

| Name | Route | Species | Value |
|---|---|---|---|
| ferbam (ISO) | Ingestion | Rat | Causes effects on or via lactation |

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| sodium hydroxide | Inhalation | respiratory irritation | May cause respiratory irritation | Human | NOAEL Not available | |
| lead powder; [particle diameter < 1 mm] | Ingestion | nervous system | May cause damage to organs | Human | LOAEL 90 ug/dl blood | poisoning and/or abuse |
| lead powder; [particle diameter < 1 mm] | Ingestion | heart | Not classified | Human | NOAEL Not available | poisoning and/or abuse |

### Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| manganese dioxide | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Monkey | LOAEL 1.1 mg/m³ | 10 months |
| manganese dioxide | Inhalation | nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Hydrogenated terphenyl | Dermal | skin | Not classified | Rabbit | NOAEL 500 mg/kg/day | 3 weeks |
| Hydrogenated terphenyl | Dermal | hematopoietic system | Not classified | Rabbit | NOAEL 2,000 mg/kg/day | 3 weeks |
| Hydrogenated terphenyl | Inhalation | liver \| hematopoietic system \| eyes | Not classified | Rat | NOAEL 0.5 mg/l | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrogenated terphenyl | Ingestion | hematopoietic system \| kidney and/or bladder \| liver \| eyes \| respiratory system | Not classified | Rat | NOAEL 120 mg/kg/day | 14 weeks |
| lead powder; [particle diameter < 1 mm] | Inhalation | kidney and/or bladder | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 60 ug/dl blood | occupational exposure |
| lead powder; [particle diameter < 1 mm] | Inhalation | hematopoietic system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 50 ug/dl blood | occupational exposure |
| lead powder; [particle diameter < 1 mm] | Inhalation | nervous system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 40 ug/dl blood | occupational exposure |
| lead powder; [particle diameter < 1 mm] | Inhalation | gastrointestinal tract | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| lead powder; [particle diameter < 1 mm] | Inhalation | heart \| endocrine system \| immune system \| vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| lead powder; [particle diameter < 1 mm] | Ingestion | bone, teeth, nails, and/or hair | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 20 ug/dl blood | 3 months |
| lead powder; [particle diameter < 1 mm] | Ingestion | eyes | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 0.5 mg/kg/day | 20 days |
| lead powder; [particle diameter < 1 mm] | Ingestion | hematopoietic system \| kidney and/or bladder | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 40 ug/dl blood | environmental exposure |
| lead powder; [particle diameter < 1 mm] | Ingestion | nervous system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 11 ug/dl blood | environmental exposure |
| lead powder; [particle diameter < 1 mm] | Ingestion | auditory system \| heart \| endocrine system \| vascular system | Not classified | Human | NOAEL Not available | environmental 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 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 |
|---|---|---|---|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | Activated sludge | Experimental | 3 hours | NOEC | 103 mg/l |
| manganese dioxide | 1313-13-9 | Rainbow trout | Endpoint not reached | 96 hours | LC50 | >100 mg/l |
| manganese dioxide | 1313-13-9 | Green algae | Experimental | 72 hours | EC50 | >100 mg/l |
| manganese dioxide | 1313-13-9 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| manganese dioxide | 1313-13-9 | Green algae | Experimental | 72 hours | EC10 | 100 mg/l |
| manganese dioxide | 1313-13-9 | Water flea | Experimental | 8 days | NOEC | 100 mg/l |
| Polyphenyls, quater- and higher, partially hydrogenated | 68956-74-1 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Bis(piperidinothiocarbonyl) hexasulphide | 971-15-3 | Green algae | Experimental | 72 hours | EC50 | >100 mg/l |
| Bis(piperidinothiocarbonyl) hexasulphide | 971-15-3 | Green algae | Experimental | 72 hours | NOEC | 100 mg/l |
| Terphenyl | 26140-60-3 | Water flea | Estimated | 48 hours | EC50 | 0.022 mg/l |
| Terphenyl | 26140-60-3 | Green algae | Experimental | 72 hours | EC50 | 0.102 mg/l |
| Terphenyl | 26140-60-3 | Rainbow trout | Experimental | 96 hours | LC50 | 27 mg/l |
| Terphenyl | 26140-60-3 | Fathead minnow | Experimental | 34 days | NOEC | 0.064 mg/l |
| Terphenyl | 26140-60-3 | Green algae | Experimental | 72 hours | NOEC | 0.003 mg/l |
| Terphenyl | 26140-60-3 | Water flea | Experimental | 21 days | NOEC | 0.005 mg/l |
| Zeolites | 1318-02-1 | African clawed frog | Analogous Compound | 96 hours | LC50 | 1,800 mg/l |
| Zeolites | 1318-02-1 | Fathead minnow | Analogous Compound | 96 hours | LC50 | >680 mg/l |
| Zeolites | 1318-02-1 | Green algae | Analogous Compound | 72 hours | EC50 | 130 mg/l |
| Zeolites | 1318-02-1 | Sediment organism | Analogous Compound | 22 days | EC50 | 364.9 mg/l |
| Zeolites | 1318-02-1 | Water flea | Analogous Compound | 48 hours | EC50 | >100 mg/l |
| Zeolites | 1318-02-1 | Fathead minnow | Analogous Compound | 30 days | NOEC | 86.7 mg/l |
| Zeolites | 1318-02-1 | Green algae | Analogous Compound | 72 hours | NOEC | 18 mg/l |
| Zeolites | 1318-02-1 | Water flea | Analogous Compound | 21 days | NOEC | 32 mg/l |
| Zeolites | 1318-02-1 | Bacteria | Experimental | 16 hours | EC50 | 950 mg/l |
| Zeolites | 1318-02-1 | Radish | Experimental | 23 days | EC50 | 4,000 mg/kg (Dry Weight) |
| sodium hydroxide | 1310-73-2 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| ferbam (ISO) | 14484-64-1 | Green algae | Experimental | 96 hours | ErC50 | 2.4 mg/l |
| ferbam (ISO) | 14484-64-1 | Guppy | Experimental | 96 hours | LC50 | 0.09 mg/l |
| ferbam (ISO) | 14484-64-1 | Water flea | Experimental | 48 hours | LC50 | 0.09 mg/l |
| ferbam (ISO) | 14484-64-1 | Rainbow trout | Experimental | 60 days | NOEC | 0.00056 mg/l |
| lead powder; [particle diameter < | 7439-92-1 | Fathead minnow | Analogous Compound | 96 hours | LC50 | 0.0408 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 mm] | | | | | | |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Green algae | Analogous Compound | 72 hours | ErC50 | 0.0205 mg/l |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Water flea | Analogous Compound | 48 hours | EC50 | 0.026 mg/l |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | N/A | Analogous Compound | 30 days | EC10 | 0.0017 mg/l |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Green algae | Analogous Compound | 72 hours | ErC10 | 0.0061 mg/l |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Rainbow trout | Analogous Compound | 578 days | NOEC | 0.003 mg/l |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Activated sludge | Analogous Compound | 24 hours | EC50 | 9 mg/l |

### 12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | Experimental Biodegradation | 35 days | CO2 evolution | 1 %CO2 evolution/THCO2 evolution | OECD 301B - Modified sturm or CO2 |
| Hydrogenated terphenyl | 61788-32-7 | Experimental Photolysis | | Photolytic half-life(in water) | 86 days (t 1/2) | |
| Hydrogenated terphenyl | 61788-32-7 | Experimental Soil Metabolism Aerobic | | Half-life (t 1/2) | 202 days (t 1/2) | |
| manganese dioxide | 1313-13-9 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Polyphenyls, quater- and higher, partially hydrogenated | 68956-74-1 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Bis(piperidinothiocarbonyl) hexasulphide | 971-15-3 | Experimental Biodegradation | 28 days | BOD | 0 %BOD/ThOD | OECD 301F - Manometric respirometry |
| Terphenyl | 26140-60-3 | Experimental Biodegradation | 14 days | BOD | 0.5 %BOD/ThOD | OECD 301C - MITI test (I) |
| Zeolites | 1318-02-1 | Analogous Compound Hydrolysis | | Hydrolytic half-life | 60 days (t 1/2) | |
| sodium hydroxide | 1310-73-2 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| ferbam (ISO) | 14484-64-1 | Analogous Compound Biodegradation | 14 days | BOD | 0 %BOD/ThOD | OECD 301C - MITI test (I) |
| ferbam (ISO) | 14484-64-1 | Experimental Hydrolysis | | Hydrolytic half-life | ≤31 minutes (t 1/2) | |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Data not availbl-insufficient | N/A | N/A | N/A | N/A |

### 12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | Analogous Compound BCF - Fish | 42 days | Bioaccumulation factor | 5200 | similar to OECD 305 |
| Hydrogenated terphenyl | 61788-32-7 | Experimental Bioconcentration | | Log Kow | >5.3 | OECD 117 log Kow HPLC method |
| manganese dioxide | 1313-13-9 | Data not available | N/A | N/A | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | or insufficient for classification | | | | |
| Polyphenyls, quater- and higher, partially hydrogenated | 68956-74-1 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Bis(piperidinothiocarbonyl) hexasulphide | 971-15-3 | Estimated Bioconcentration | | Bioaccumulation factor | 2.8 | |
| Terphenyl | 26140-60-3 | Estimated BCF - Fish | 60 days | Bioaccumulation factor | 2300 | OECD305-Bioconcentration |
| Zeolites | 1318-02-1 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| sodium hydroxide | 1310-73-2 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| ferbam (ISO) | 14484-64-1 | Experimental Bioconcentration | | Log Kow | -1.597 | OECD 107 log Kow shke flsk mtd |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Experimental BCF - Other | | Bioaccumulation factor | 1322 | |

### 12.4. Mobility in soil

| Material | Cas No. | Test type | Study Type | Test result | Protocol |
|---|---|---|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | Experimental Mobility in Soil | Koc | ≥8400 l/kg | OECD 121 Estim. of Koc by HPLC |
| Bis(piperidinothiocarbonyl) hexasulphide | 971-15-3 | Modeled Mobility in Soil | Koc | 37,000 l/kg | Episuite™ |

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

| Ingredient | CAS Nbr | PBT/vPvB status |
|---|---|---|
| Hydrogenated terphenyl | 61788-32-7 | Meets UK REACH vPvB criteria |

### 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. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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

**EU waste code (product as sold)**

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

## SECTION 14: Transportation information

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

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

## SECTION 15: Regulatory information

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

**Carcinogenicity**

| Ingredient | CAS Nbr | Classification | Regulation |
|---|---|---|---|
| ferbam (ISO) | 14484-64-1 | Gr. 3: Not classifiable | International Agency for Research on Cancer |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| Zeolites | 1318-02-1 | 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 | CAS Nbr |
|---|---|
| lead powder; [particle diameter < 1 mm] | 7439-92-1 |

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

**Authorisation status under UK REACH:**
The following substance/s contained in this product might be or is/are subject to authorisation in accordance with UK REACH:

| Ingredient | CAS Nbr |
|---|---|
| Hydrogenated terphenyl | 61788-32-7 |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 |

Authorisation status: listed in the UK REACH Candidate List of Substances of Very High Concern for Authorisation

**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 product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

**COMAH Regulation, SI 2015/483**
Seveso hazard categories, Annex 1, Part 1

| Hazard Categories | Qualifying quantity (tonnes) for the application of | |
|---|---|---|
| | Lower-tier requirements | Upper-tier requirements |
| E1 Hazardous to the Aquatic environment | 100 | 200 |

Seveso named dangerous substances, Annex 1, Part 2

| Dangerous Substances | Identifier(s) | Qualifying quantity (tonnes) for the application of | |
|---|---|---|---|
| | | Lower-tier requirements | Upper-tier requirements |
| ferbam (ISO) | 14484-64-1 | 100 | 200 |
| lead powder; [particle | 7439-92-1 | 100 | 200 |

| | | | |
|---|---|---|---|
| diameter < 1 mm] | | | |

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

| Chemical | Identifier(s) | Annex I |
|---|---|---|
| ferbam (ISO) | 14484-64-1 | Part 1 and Part 2 |
| lead powder; [particle diameter < 1 mm] | 7439-92-1 | Part 1 |

**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**

| | |
|---|---|
| EUH031 | Contact with acid liberates toxic gas. |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H360D | May damage the unborn child. |
| H360FD | May damage fertility. May damage the unborn child. |
| H362 | May cause harm to breast-fed children. |
| H371 | May cause damage to organs. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure: nervous system. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Revision information:**
Section 14: Transportation classification 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.