# Safety Data Sheet



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|---|---|---|---|
| **Document Group:** | 07-8309-2 | **Version Number:** | 5.00 |
| **Issue Date:** | 06/19/19 | **Supercedes Date:** | 11/07/17 |

## SECTION 1: Identification

### 1.1. Product identifier
ARMORCAST STRUCTURAL MATERIAL for 4560, 4561, AND FSC KITS

**Product Identification Numbers**

| ID Number | UPC | ID Number | UPC |
|---|---|---|---|
| 78-8069-0668-7 | | 78-8135-6650-8 | |
| 80-6109-3254-5 | 00-51138-57717-9 | 80-6109-3255-2 | 00-51138-57718-6 |
| 80-6109-3256-0 | 00-51138-57719-3 | 80-6109-3257-8 | 00-51138-57720-9 |

7000031606, 7100027552, 7000009604, 7000031607

### 1.2. Recommended use and restrictions on use

**Recommended use**
Telecommunication Industry, Protect telephone cable splices.

### 1.3. Supplier's details
**MANUFACTURER:** 3M
**DIVISION:** 3M Poland
Communication Markets Division
**ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA
**Telephone:** 1-888-3M HELPS (1-888-364-3577)

### 1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

### 2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Exclamation mark | Health Hazard |

**Pictograms**

**Hazard Statements**
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure:
respiratory system |

**Precautionary Statements**

**Prevention:**
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage:**
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

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

**Supplemental Information:**
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | 25322-69-4 | 35 - 40 Trade Secret * |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | 101-68-8 | 30 - 40 Trade Secret * |
| MDI HOMOPOLYMER | 39310-05-9 | 5 - 20 Trade Secret * |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | 5873-54-1 | 1 - 10 Trade Secret * |
| IRON OXIDE (FE3O4) | 1317-61-9 | 3 - 7 Trade Secret * |
| DIMORPHOLINODIETHYL ETHER | 6425-39-4 | < 2 Trade Secret * |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | 6683-19-8 | < 2 Trade Secret * |
| PROPYL P-HYDROXYBENZOATE | 94-13-3 | < 2 Trade Secret * |
| TRIETHYL PHOSPHATE | 78-40-0 | < 2 Trade Secret * |
| COPPER | 7440-50-8 | < 0.01 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## 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**
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. Suitable extinguishing media**
DO NOT USE WATER In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

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

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, 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**
Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial/occupational use only. Not for consumer sale or use. Do not breathe dust/fume/gas/mist/vapors/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 in a well-ventilated place. Keep container tightly closed. Store away from strong bases.

## 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 | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | 101-68-8 | ACGIH | TWA:0.005 ppm | |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | 101-68-8 | OSHA | CEIL:0.2 mg/m3(0.02 ppm) | |
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | 25322-69-4 | AIHA | TWA(as aerosol):10 mg/m3 | |
| COPPER | 7440-50-8 | OSHA | TWA(as Cu dust or mist):1 | |

| | | | | |
|---|---|---|---|---|
| | | | mg/m3;TWA(as Cu, fume):0.1 mg/m3 | |
| COPPER, DUSTS AND MISTS, AS CU | 7440-50-8 | ACGIH | TWA(as Cu dust or mist):1 mg/m3 | |
| COPPER, FUME AS CU | 7440-50-8 | ACGIH | TWA(as Cu, fume):0.2 mg/m3 | |
| TRIETHYL PHOSPHATE | 78-40-0 | AIHA | TWA:7.45 mg/m3(1 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**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/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

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

**Eye/face protection**

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

**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: Polymer laminate

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 vapors and particulates

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

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **General Physical Form:** | Solid |
| **Specific Physical Form:** | Resin Sat. Glass Tape |
| **Odor, Color, Grade:** | Black, viscous liquid-coated glass cloth, slight odor |
| **Odor threshold** | *No Data Available* |

| | |
|---|---|
| **pH** | *Not Applicable* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *Not Applicable* |
| **Flash Point** | 346 ºF [*Test Method:*Closed Cup] |
| **Evaporation rate** | *Not Applicable* |
| **Flammability (solid, gas)** | Not Classified |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Pressure** | *No Data Available* |
| **Vapor Density** | *No Data Available* |
| **Density** | *No Data Available* |
| **Specific Gravity** | *No Data Available* |
| **Solubility in Water** | Nil |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | *Not Applicable* |
| **Average particle size** | *No Data Available* |
| **Bulk density** | *No Data Available* |
| **Hazardous Air Pollutants** | *No Data Available* |
| **Molecular weight** | *No Data Available* |
| **Volatile Organic Compounds** | *No Data Available* |
| **Percent volatile** | Nil |
| **Softening point** | *No Data Available* |
| **VOC Less H2O & Exempt Solvents** | *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 polymerization will not occur.

**10.4. Conditions to avoid**
None known.

**10.5. Incompatible materials**
Strong bases

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |
| Hydrogen Cyanide | Not Specified |
| Oxides of Nitrogen | Not Specified |

## SECTION 11: Toxicological information

**The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

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

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

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

**Skin Contact:**
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

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

**Additional Health Effects:**

**Prolonged or repeated exposure may cause target organ effects:**
Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

**Additional Information:**
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

**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 >5,000 mg/kg |
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | Ingestion | Rat | LD50 > 2,000 mg/kg |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Inhalation-Dust/Mist | Rat | LC50 0.368 mg/l |

| | | | |
|---|---|---|---|
| | (4 hours) | | |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Ingestion | Rat | LD50 31,600 mg/kg |
| MDI HOMOPOLYMER | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| MDI HOMOPOLYMER | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.368 mg/l |
| MDI HOMOPOLYMER | Ingestion | Rat | LD50 31,600 mg/kg |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.368 mg/l |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Ingestion | Rat | LD50 31,600 mg/kg |
| IRON OXIDE (FE3O4) | Dermal | Not available | LD50 3,100 mg/kg |
| IRON OXIDE (FE3O4) | Ingestion | Not available | LD50 3,700 mg/kg |
| DIMORPHOLINODIETHYL ETHER | Dermal | Rabbit | LD50 3,030 mg/kg |
| DIMORPHOLINODIETHYL ETHER | Ingestion | Rat | LD50 2,020 mg/kg |
| PROPYL P-HYDROXYBENZOATE | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 1.95 mg/l |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | Rat | LD50 > 10,250 mg/kg |
| PROPYL P-HYDROXYBENZOATE | Ingestion | Rat | LD50 > 8,000 mg/kg |
| TRIETHYL PHOSPHATE | Dermal | Guinea pig | LD50 > 21,400 mg/kg |
| TRIETHYL PHOSPHATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 8.8 mg/l |
| TRIETHYL PHOSPHATE | Ingestion | Rat | LD50 1,131 mg/kg |
| COPPER | Dermal | Rat | LD50 > 2,000 mg/kg |
| COPPER | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.11 mg/l |
| COPPER | Ingestion | Rat | LD50 > 2,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | Rabbit | No significant irritation |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | official classification | Irritant |
| MDI HOMOPOLYMER | official classification | Irritant |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | official classification | Irritant |
| IRON OXIDE (FE3O4) | Rabbit | No significant irritation |
| DIMORPHOLINODIETHYL ETHER | Rabbit | Mild irritant |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Rabbit | No significant irritation |

| | | |
|---|---|---|
| TRIETHYL PHOSPHATE | Rabbit | No significant irritation |
| COPPER | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.-HYDRO-.OMEGA.-HYDROXY- | Rabbit | No significant irritation |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | official classification | Severe irritant |
| MDI HOMOPOLYMER | official classification | Severe irritant |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | official classification | Severe irritant |
| IRON OXIDE (FE3O4) | Rabbit | No significant irritation |
| DIMORPHOLINODIETHYL ETHER | Rabbit | Severe irritant |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Rabbit | Mild irritant |
| TRIETHYL PHOSPHATE | Rabbit | Severe irritant |
| COPPER | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | official classification | Sensitizing |
| MDI HOMOPOLYMER | official classification | Sensitizing |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | official classification | Sensitizing |
| IRON OXIDE (FE3O4) | Human | Not classified |
| DIMORPHOLINODIETHYL ETHER | Guinea pig | Not classified |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Human and animal | Not classified |
| TRIETHYL PHOSPHATE | Mouse | Not classified |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Human | Sensitizing |
| MDI HOMOPOLYMER | Human | Sensitizing |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Human | Sensitizing |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| MDI HOMOPOLYMER | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| IRON OXIDE (FE3O4) | In Vitro | Not mutagenic |
| DIMORPHOLINODIETHYL ETHER | In Vitro | Not mutagenic |

| | | |
|---|---|---|
| DIMORPHOLINODIETHYL ETHER | In vivo | Not mutagenic |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | In Vitro | Not mutagenic |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | In vivo | Not mutagenic |

## Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| MDI HOMOPOLYMER | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| IRON OXIDE (FE3O4) | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | Multiple animal species | Not carcinogenic |

## Reproductive Toxicity

## Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Inhalation | Not classified for development | Rat | NOAEL 0.004 mg/l | during organogenesis |
| MDI HOMOPOLYMER | Inhalation | Not classified for development | Rat | NOAEL 0.004 mg/l | during organogenesis |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Inhalation | Not classified for development | Rat | NOAEL 0.004 mg/l | during organogenesis |
| DIMORPHOLINODIETHYL ETHER | Ingestion | Not classified for female reproduction | Rat | NOAEL 300 mg/kg/day | premating into lactation |
| DIMORPHOLINODIETHYL ETHER | Ingestion | Not classified for male reproduction | Rat | NOAEL 300 mg/kg/day | 28 days |
| DIMORPHOLINODIETHYL ETHER | Ingestion | Not classified for development | Rat | NOAEL 300 mg/kg/day | premating into lactation |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | Not classified for female reproduction | Rat | NOAEL 688 mg/kg/day | 2 generation |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | Not classified for male reproduction | Rat | NOAEL 688 mg/kg/day | 2 generation |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | Not classified for development | Multiple animal species | NOAEL 1,000 mg/kg/day | during organogenesis |

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| MDI HOMOPOLYMER | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| DIMORPHOLINODIETHYL ETHER | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| TRIETHYL PHOSPHATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

### Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| MDI HOMOPOLYMER | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| DIPHENYLMETHANE-2,4'-DIISOCYANATE | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |
| IRON OXIDE (FE3O4) | Inhalation | pulmonary fibrosis \| pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| DIMORPHOLINODIETHYL ETHER | Ingestion | heart \| endocrine system \| hematopoietic system \| liver \| immune system \| nervous system \| kidney and/or bladder \| respiratory system | Not classified | Rat | NOAEL 300 mg/kg/day | 28 days |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | endocrine system | Not classified | Rat | NOAEL 450 mg/kg/day | 2 years |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | liver | Not classified | Dog | NOAEL 302 mg/kg/day | 90 days |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3- | Ingestion | hematopoietic system \| nervous system \| kidney and/or bladder | Not classified | Rat | NOAEL 2,500 mg/kg/day | 90 days |

| | | | | | | |
|---|---|---|---|---|---|---|
| [3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | | | | | | |
| BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3-[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY]METHYL]-1,3-PROPANEDIYL ESTER | Ingestion | auditory system \| eyes | Not classified | Dog | NOAEL 302 mg/kg/day | 90 days |

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

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

## SECTION 12: Ecological information

### Ecotoxicological information

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

### Chemical fate information

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

## SECTION 13: Disposal considerations

**13.1. Disposal 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.

**EPA Hazardous Waste Number (RCRA):** D007 (Chromium)

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations
Contact 3M for more information.

**EPCRA 311/312 Hazard Classifications:**

| Physical Hazards |
|---|
| Not applicable |

| Health Hazards |
|---|
| Respiratory or Skin Sensitization |
| Serious eye damage or eye irritation |
| Skin Corrosion or Irritation |
| Specific target organ toxicity (single or repeated exposure) |

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):**

| Ingredient | C.A.S. No | % by Wt |
|---|---|---|
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) | 101-68-8 | Trade Secret 30 - 40 |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (Benzene, 1,1'-methylenebis[4-isocyanato-) | 101-68-8 | 30 - 40 |
| P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (DIISOCYANATES (CERTAIN CHEMICALS ONLY)) | 101-68-8 | 30 - 40 |

## 15.2. State Regulations

Contact 3M for more information.

## 15.3. Chemical Inventories

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.

Contact 3M for more information.

## 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

# SECTION 16: Other information

**NFPA Hazard Classification**

**Health:** 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|---|---|---|---|
| **Document Group:** | 07-8309-2 | **Version Number:** | 5.00 |
| **Issue Date:** | 06/19/19 | **Supercedes Date:** | 11/07/17 |

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