



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ARMORCAST STRUCTURAL MATERIAL for 4560, 4561, AND FSC KITS  
**MANUFACTURER:** 3M  
**DIVISION:** Communication Markets Division  
**ADDRESS:** 3M Center, St. Paul, MN 55144-1000

**EMERGENCY PHONE:** 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 01/25/12

**Supersedes Date:** 01/09/12

**Document Group:** 07-8309-2

**Product Use:**

Intended Use: Telecommunication Industry  
 Specific Use: Protect telephone cable splices.

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
POLY(OXY (METHYL-1,2-ETHANEDIYL)). ALPHA-HYDRO-OMEGA-HYDROXY.	25322-69-4	35 - 40
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	30 - 40
DIPHENYLMETHANE-2,4-DIISOCYANATE	5873-54-1	1 - 10
IRON OXIDE (FE3O4)	1317-61-9	3 - 7
PROPYL P-HYDROXYBENZOATE	94-13-3	0 - 2
TRIETHYL PHOSPHATE	78-40-0	0 - 2
DIMORPHOLINODIETHYL ETHER	6425-39-4	0 - 2
BENZENEROPANOIC 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	0 - 1
MDI HOMOPOLYMER	39310-05-9	5 - 10

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Resin Sat. Glass Tape

**Odor, Color, Grade:** Black, viscous liquid-coated glass cloth, slight odor

**General Physical Form:** Solid

**Immediate health, physical, and environmental hazards:** May cause severe eye irritation. May cause allergic skin reaction. May cause severe skin irritation. May cause allergic respiratory reaction. May cause target organ effects.

### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

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

**Skin Contact:**

Severe 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.

**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.

Prolonged or repeated exposure may cause:

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.

**Ingestion:**

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

**Target Organ Effects:**

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

### 3.3 POTENTIAL ENVIRONMENTAL EFFECTS

Not determined.

## SECTION 4: FIRST AID MEASURES

#### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

## 5.1 FLAMMABLE PROPERTIES

Autoignition temperature  
Flash Point  
Flammable Limits(LEL)  
Flammable Limits(UEL)

*No Data Available*  
346 °F [Test Method: Closed Cup]  
*No Data Available*  
*No Data Available*

## 5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam). Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide). DO NOT USE WATER

## 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Not applicable.

**Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.**

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**6.1. Personal precautions, protective equipment and emergency procedures**  
Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air.

**6.2. Environmental precautions**  
Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

**Clean-up methods**  
Observe precautions from other sections. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. 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 MSDS.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

For industrial or professional use only. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid breathing of airborne material. Avoid skin contact. Avoid eye contact. Decontaminate work surfaces frequently to avoid exposure by contact. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

### 7.2 STORAGE

Store away from areas where product may come into contact with food or pharmaceuticals. Store away from strong bases.

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Indirect Vented Goggles

#### 8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

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

Neoprene

Nitrile Rubber

Polyvinyl Alcohol (PVA)

The following protective clothing material(s) are recommended: Boots - Nitrile  
Apron - Neoprene

#### 8.2.3 Respiratory Protection

Avoid breathing of vapors.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges and N95 particulate prefilters

Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

#### 8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

### 8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
BENZENE	ACGIH	TWA	0.005 ppm	
PROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, 2,2-BIS[[3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXYPHENYL]-1-OXOPROPOXY[METHYL]-1,3-PROPANEDIYL ESTER	CMRG	TWA	10 mg/m <sup>3</sup>	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	OSHA	CEIL	0.2 mg/m <sup>3</sup>	
POLYOXY(METHYL-1,2-ETHANEDIYL), ALPHA,-HYDRO,-OMEGA,-HYDROXY-TRIETHYL PHOSPHATE	AIHA	TWA, as aerosol	10 mg/m <sup>3</sup>	
	AIHA	TWA	7.45 mg/m <sup>3</sup>	

#### SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA : American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Resin Sat. Glass Tape
Odor, Color, Grade:	Black, viscous liquid-coated glass cloth, slight odor
General Physical Form:	Solid
Autoignition temperature	<i>No Data Available</i>
Flash Point	346 °F [Test Method: Closed Cup]
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Boiling Point	<i>Not Applicable</i>
Density	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Specific Gravity	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility in Water	Nil
Evaporation rate	<i>Not Applicable</i>
Volatile Organic Compounds	<i>No Data Available</i>
Kow - Oct/Water partition coef	<i>No Data Available</i>
Percent volatile	Nil
VOC Less H2O & Exempt Solvents	<i>No Data Available</i>
Viscosity	<i>Not Applicable</i>

## SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid  
None known

10.2 Materials to avoid  
Strong bases

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance  
Carbon monoxide  
Carbon dioxide  
Hydrogen Cyanide  
Oxides of Nitrogen

Condition  
Not Specified  
Not Specified  
Not Specified  
Not Specified

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

### SECTION 12: ECOLOGICAL INFORMATION

#### ECOTOXICOLOGICAL INFORMATION

Not determined.

#### CHEMICAL FATE INFORMATION

Not determined.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility in the presence of a combustible material.

**EPA Hazardous Waste Number (RCRA):** Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

### SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**

78-8069-0668-7, 78-8135-6650-8, 80-6109-3254-5, 80-6109-3255-2, 80-6109-3256-0, 80-6109-3257-8

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

### SECTION 15: REGULATORY INFORMATION

#### US FEDERAL REGULATIONS

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

**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	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

#### STATE REGULATIONS

Contact 3M for more information.

## CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information.

## INTERNATIONAL REGULATIONS

Contact 3M for more information.

**This MSDS 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 Reactivity: 0 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.

**Reason for Reissue: Add 3MID YP-2061-0000-7, YP-2061-0001-5, YP-2061-0002-3**

### Revision Changes:

Section 13: Waste disposal method information was modified.

Section 14: ID Number(s) Template 1 was modified.

Section 2: Ingredient table was modified.

Section 6: Environmental procedures information was modified.

Section 6: Methods for cleaning up information was modified.

Section 3: Immediate physical hazard(s) was deleted.

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