SAFETY DATA SHEETS

This SDS packet was issued with item:

078918226

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078698020 078821743 078918225 078918227

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Scotchcast™ Plus Enhancing Performance Casting Tape (Standard Colors)
MANUFACTURER: 3M
DIVISION: 3M Germany
Skin & Wound Care Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000

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

Issue Date: 04/28/11
Supercedes Date: 04/28/11

Document Group: 19-0314-5

Product Use:
Intended Use: To immobilize broken bones.

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
Fibrous glass	65997-17-3	50 - 60
4,4'-Diphenylmethane diisocyanate-polypropylene glycol polymer	9048-57-1	20 - 35
Diphenylmethane diisocyanate	26447-40-5	8 - 14
Polyethylene glycol monooleyl ether	9004-98-2	5 - 10
Diphenylmethane diisocyanate homopolymer	39310-05-9	2 - 5
Wollastonite	13983-17-0	1 - 3
Colorant	Unknown	< 2
Zinc Sulfide (Copper Chloride Doped)	68611-70-1	< 2
Butylated hydroxy toluene	128-37-0	< 0.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Roll of Tape
Odor, Color, Grade: Liquid resin impregnated on knit fiberglass; slight odor; color varies.
General Physical Form: Solid
Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause severe skin irritation. May

cause allergic skin reaction. 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:
Results from air sampling for simulated dry and wet product application show that vapours of methylenediphenyl-diisocyanate as used in the product are not detectable during use. Detection limits were extremely low and far below international safety recommendations for working with isocyanates. People with bronchial problems or with isocyanate sensitivity may still respond to low isocyanate concentrations. Direct contact with the cast surface without the use of gloves should be avoided until curing has completed. The cast surface should be free of monomer and polymer isocyanate within 30 minutes when proper wetting techniques are used. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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	*No Data Available*
Flash Point	No flash point

Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*

5.2 EXTINGUISHING MEDIA
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid eye contact with vapors, mists, or spray. For industrial or professional use only. Avoid eye contact with dust or airborne particles. Please see package insert for additional precautionary warnings.

7.2 STORAGE
Keep container tightly closed. Store away from heat. Store out of direct sunlight. Store between 40 degrees F and 80 degrees F.

SECTION 8: EXPOSURE CONTROLS/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
Gloves must be worn while wrapping the casting tape. See Product Insert for additional precaution statements.

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: Nitrile Rubber
.

8.2.3 Respiratory Protection
Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

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

Ingredient	Authority	Type	Limit	Additional Information
Butylated hydroxy toluene	ACGIH	TWA, inhalable fraction and vapor	2 mg/m3	
FREE ISOCYANATES	3M	TWA	0.005 ppm	
FREE ISOCYANATES	3M	STEL	0.02 ppm	
Fibrous glass	3M	TWA, as dust	10 mg/m3	

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:	Roll of Tape
Odor, Color, Grade:	Liquid resin impregnated on knit fiberglass; slight odor; color varies.
General Physical Form:	Solid
Autoignition temperature	*No Data Available*
Flash Point	No flash point
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Boiling Point	*Not Applicable*
Density	1.1 g/ml
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*

Specific Gravity	1.1
pH	*Not Applicable*
Melting point	*No Data Available*
Solubility in Water	Nil
Evaporation rate	*Not Applicable*
Volatile Organic Compounds	*No Data Available*
Kow - Oct/Water partition coef	*No Data Available*
Percent volatile	*Not Applicable*
VOC Less H2O & Exempt Solvents	*No Data Available*
Viscosity	35000 - 65000 centipoise [@ 73.4 ºF]

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
Amines
Alcohols
Water

Additional Information: Product reacts with atmospheric moisture or water and may become unusable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Hydrogen Cyanide	Not Specified
Oxides of Nitrogen	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: Cure (harden, set, or react) the product according to product instructions.
Dispose of completely cured (or polymerized) wastes in a sanitary landfill.
Incinerate uncured product in a permitted hazardous waste incinerator in the presence of a combustible material.
As a disposal alternative, incinerate in an industrial or commercial facility.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14:TRANSPORT INFORMATION

ID Number(s):
70-2007-2415-4, 70-2007-2416-2, 70-2007-2417-0, 70-2007-2418-8, 70-2007-2419-6, 70-2007-2420-4, 70-2007-2421-2, 70-2007-2422-0, 70-2007-2423-8, 70-2007-2424-6, 70-2007-2425-3, 70-2007-2426-1, 70-2007-2427-9, 70-2007-2428-7, 70-2007-2429-5, 70-2007-2430-3, 70-2007-2431-1, 70-2007-2432-9, 70-2007-2433-7, 70-2007-2434-5, 70-2007-2435-2, 70-2007-2436-0, 70-2007-2437-8, 70-2007-2438-6, 70-2007-2439-4, 70-2007-2440-2, 70-2007-2441-0, 70-2007-2442-8, 70-2007-2443-6, 70-2007-2444-4, 70-2007-2445-1, 70-2007-2446-9, 70-2007-2447-7, 70-2007-2448-5, 70-2007-2449-3, 70-2007-2460-0, 70-2007-2461-8, 70-2007-2462-6, 70-2007-2463-4, 70-2007-4365-9, 70-2007-4366-7, 70-2007-4367-5, 70-2007-4368-3, 70-2007-4369-1, 70-2007-4372-5, 70-2007-4373-3, 70-2007-4374-1, 70-2007-4375-8, 70-2007-4376-6, 70-2007-4379-0, 70-2007-4380-8, 70-2007-4381-6, 70-2007-4382-4, 70-2007-4433-5, 70-2007-4434-3, 70-2007-4435-0, 70-2007-4436-8, 70-2007-4438-4, 70-2007-4439-2, 70-2007-4440-0, 70-2007-4442-6, 70-2007-4443-4, 70-2007-4444-2, 70-2007-4445-9, 70-2007-4446-7, 70-2007-4450-9, 70-2007-4451-7, 70-2007-4452-5, 70-2007-4453-3, 70-2007-4454-1, 70-2007-4455-8, FH-5000-5219-3, FH-5000-5228-4, FH-5000-5506-3, FH-5000-5577-4, FH-5000-5578-2, FH-5000-5579-0, FH-5000-5580-8, YP-2060-0000-9, YP-2060-0001-7, YP-2060-0002-5, YP-2060-0003-3, YP-2060-0004-1, YP-2060-0005-8, YP-2060-0007-4, YP-2060-0008-2, YP-2060-0009-0, YP-2060-0013-2, YP-2060-0014-0, YP-2060-0015-7, YP-2060-0016-5, YP-2060-0017-3, YP-2060-0018-1, YP-2060-0020-7, YP-2060-0021-5, YP-2060-0022-3, YP-2060-0026-4, YP-2060-0027-2, YP-2060-0028-0, YP-2060-0030-6, YP-2060-0031-4, YP-2060-0032-2, YP-2060-0033-0, YP-2060-0034-8, YP-2060-0035-5, YP-2060-0039-7, YP-2060-0040-5, YP-2060-0041-3, YP-2060-0043-9, YP-2060-0045-4, YP-2060-0047-0, YP-2060-0048-8, YP-2060-0052-0

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 - No Immediate Hazard - Yes Delayed Hazard - No

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
Zinc Sulfide (Copper Chloride Doped) (ZINC COMPOUNDS)	68611-70-1	< 2

STATE REGULATIONS
Contact 3M for more information.

CHEMICAL INVENTORIES

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

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.

Revision Changes:
Section 1: Division name was modified.
Section 16: Disclaimer (second paragraph) was modified.
Section 3: Immediate skin hazard(s) was modified.
Section 5: Extinguishing media information was modified.
Section 7: Handling information was modified.
Section 7: Storage information was modified.
Section 13: Waste disposal method information was modified.
Section 8: Skin protection - recommended gloves information was modified.
Section 14: Transportation legal text was modified.
Section 3: Other health effects information was modified.
Section 9: Boiling point information was modified.
Section 5: Flammable limits (UE) information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 14: ID Number(s) Template 1 was modified.
Section 2: Ingredient table was modified.
Section 15: EPCRA 313 information was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 8: Eye/face protection information was added.
Section 8: Eye/face protection text was added.
Section 8: Eye/face protection information - punctuation - was added.
Section 6: 6.2. Environmental precautions heading was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.
Section 10.1 Conditions to avoid heading was added.
Section 10.2 Materials to avoid heading was added.
Section 16: Web address was added.

Section 6: Personal precautions information was added.
Section 6: Environmental procedures information was added.
Section 6: Methods for cleaning up information was added.
Section 10: Materials to avoid physical property was added.
Section 10: Conditions to avoid physical property was added.
Section 8: Hand protection information was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.
Section 6: Clean-up methods heading was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Section 8: Eye/face protection comment was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.
Section 6: Release measures information was deleted.
Section 6: Release measures heading was deleted.
Section 8: Skin protection phrase was deleted.
Section 10: Materials and conditions to avoid physical property was deleted.
Section 3: Immediate other hazard(s) comment was deleted.
Section 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.
Section 2: Ingredients comment was deleted.

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3M USA MSDSs are available at www.3M.com

Safety Data Sheet

Document Group:	19-0314-5	**Version Number:**	16.00
Issue Date:	05/27/15	**Supercedes Date:**	01/09/14

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchcast™ Plus Enhancing Performance Casting Tape (Standard Colors)

Product Identification Numbers
70-2007-2415-4, 70-2007-2416-2, 70-2007-2417-0, 70-2007-2418-8, 70-2007-2419-6, 70-2007-2420-4, 70-2007-2421-2, 70-2007-2422-0, 70-2007-2423-8, 70-2007-2424-6, 70-2007-2425-3, 70-2007-2426-1, 70-2007-2427-9, 70-2007-2428-7, 70-2007-2429-5, 70-2007-2430-3, 70-2007-2431-1, 70-2007-2432-9, 70-2007-2433-7, 70-2007-2434-5, 70-2007-2435-2, 70-2007-2436-0, 70-2007-2437-8, 70-2007-2438-6, 70-2007-2439-4, 70-2007-2440-2, 70-2007-2441-0, 70-2007-2442-8, 70-2007-2443-6, 70-2007-2444-4, 70-2007-2445-1, 70-2007-2446-9, 70-2007-2447-7, 70-2007-2448-5, 70-2007-2449-3, 70-2007-2460-0, 70-2007-2461-8, 70-2007-2462-6, 70-2007-2463-4, 70-2007-4365-9, 70-2007-4366-7, 70-2007-4367-5, 70-2007-4368-3, 70-2007-4369-1, 70-2007-4372-5, 70-2007-4373-3, 70-2007-4374-1, 70-2007-4375-8, 70-2007-4376-6, 70-2007-4379-0, 70-2007-4380-8, 70-2007-4381-6, 70-2007-4382-4, 70-2007-4433-5, 70-2007-4434-3, 70-2007-4435-0, 70-2007-4436-8, 70-2007-4438-4, 70-2007-4439-2, 70-2007-4440-0, 70-2007-4442-6, 70-2007-4443-4, 70-2007-4444-2, 70-2007-4445-9, 70-2007-4446-7, 70-2007-4450-9, 70-2007-4451-7, 70-2007-4452-5, 70-2007-4453-3, 70-2007-4454-1, 70-2007-4455-8, FH-5000-5219-3, FH-5000-5228-4, FH-5000-5506-3, FH-5000-5577-4, FH-5000-5578-2, FH-5000-5579-0, FH-5000-5580-8, YP-2060-0000-9, YP-2060-0001-7, YP-2060-0002-5, YP-2060-0003-3, YP-2060-0004-1, YP-2060-0007-4, YP-2060-0008-2, YP-2060-0009-0, YP-2060-0013-2, YP-2060-0014-0, YP-2060-0015-7, YP-2060-0016-5, YP-2060-0017-3, YP-2060-0020-7, YP-2060-0021-5, YP-2060-0022-3, YP-2060-0026-4, YP-2060-0027-2, YP-2060-0028-0, YP-2060-0030-6, YP-2060-0032-2, YP-2060-0033-0, YP-2060-0034-8, YP-2060-0035-5, YP-2060-0039-7, YP-2060-0040-5, YP-2060-0041-3, YP-2060-0043-9, YP-2060-0045-4, YP-2060-0047-0, YP-2060-0048-8, YP-2060-0052-0

1.2. Recommended use and restrictions on use

Recommended use
Immobilization of upper and lower extremities

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M Poland Infection Prevention 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

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Health Hazard |

Pictograms

Hazard Statements
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

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

Precautionary Statements

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection.
Wear protective gloves.
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: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Get medical advice/attention if you feel unwell.

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

2.3. Hazards not otherwise classified
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
Fibrous glass	65997-17-3	50 - 60 Trade Secret *
4,4'-DIPHENYLMETHANE DIISOCYANATE-POLYPROPYLENE GLYCOL POLYMER	9048-57-1	15 - 40 Trade Secret *
Diphenylmethane diisocyanate	26447-40-5	8 - 14 Trade Secret *
CALCIUM METASILICATE	13983-17-0	1 - 5 Trade Secret *
BHT - BUTYLATED HYDROXYTOLUENE	128-37-0	0.1 - 1 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:
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
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
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
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion

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
Ventilate the area with fresh air. 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
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. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. 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. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed. Store away from strong bases. Store away from oxidizing agents.

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
BHT - BUTYLATED HYDROXYTOLUENE	128-37-0	ACGIH	TWA(inhalable fraction and vapor):2 mg/m3	A4: Not class. as human carcin
FREE ISOCYANATES	26447-40-5	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
Fibrous glass	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	

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

Under normal use conditions, eye exposure is not expected to be significant enough to require eye protection.
During cleanup or disposal of large amounts of product:
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
Gloves providing sufficient protection must be worn while applying the casting tape. E.g. nitrile gloves with a minimum thickness of 0.127 mm (5 mil, 0.005 inch) have proven to provide effective protection. The cast surface should be free of monomer and polymer isocyanate within 30 minutes when proper wetting techniques are used.

Respiratory protection

Results from air sampling during simulated product application show that vapours of methylenediphenyl-diisocyanate as used in the product are not detectable during use in Health Care facility cast rooms. Detection limits were extremely low and far below international safety recommendations for working with isocyanates. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. People with bronchial problems or with isocyanate sensitivity may still respond to low isocyanate concentrations. In general it is recommended to use synthetic casting material in rooms with normal general/dilution ventilation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Roll of Tape (Fiberglass knitted tape impregnated with moisture curable polyurethane prepolymer resin)
Odor, Color, Grade:	Slight odor; color is dependent on colorant used
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*No Data Available*
Flash Point	No flash point
Evaporation rate	Negligible
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	Negligible
Vapor Density	*No Data Available*
Density	1.1 g/ml
Specific Gravity	1.1 [*Ref Std:* WATER=1]
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	35,000 - 65,000 centipoise [@ 73.4 ºF]
Volatile Organic Compounds	*No Data Available*
Percent volatile	Negligible
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
Sparks and/or flames

10.5. Incompatible materials
Strong bases
Amines
Alcohols
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not 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:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. 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:

May be harmful if swallowed.
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.

Results from air sampling for simulated dry and wet product application show that vapours of methylenediphenyl-diisocyanate as used in the product are not detectable during use. Detection limits were extremely low and far below international safety recommendations for working with isocyanates. People with bronchial problems or with isocyanate sensitivity may still respond to low isocyanate concentrations.

Direct contact with the cast surface without the use of gloves should be avoided until curing has completed. The cast surface should be free of monomer and polymer isocyanate within 30 minutes when proper wetting techniques are used.

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 2,000 - 5,000 mg/kg
Fibrous glass	Dermal		LD50 estimated to be > 5,000 mg/kg
Fibrous glass	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
4,4'-DIPHENYLMETHANE DIISOCYANATE-POLYPROPYLENE GLYCOL POLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
4,4'-DIPHENYLMETHANE DIISOCYANATE-POLYPROPYLENE GLYCOL POLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Diphenylmethane diisocyanate	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Diphenylmethane diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Diphenylmethane diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
Diphenylmethane diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
CALCIUM METASILICATE	Dermal		LD50 estimated to be > 5,000 mg/kg
CALCIUM METASILICATE	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
BHT - BUTYLATED HYDROXYTOLUENE	Dermal	Rat	LD50 > 2,000 mg/kg
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	Rat	LD50 > 2,930 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Fibrous glass	Professional judgement	No significant irritation
Diphenylmethane diisocyanate	official classification	Irritant
BHT - BUTYLATED HYDROXYTOLUENE	Human and animal	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Fibrous glass	Professional judgement	No significant irritation
Diphenylmethane diisocyanate	official classification	Severe irritant
BHT - BUTYLATED HYDROXYTOLUENE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Diphenylmethane diisocyanate	official classification	Sensitizing
BHT - BUTYLATED HYDROXYTOLUENE	Human	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitization

Name	Species	Value
Diphenylmethane diisocyanate	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Fibrous glass	In Vitro	Some positive data exist, but the data are not sufficient for classification
Diphenylmethane diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
CALCIUM METASILICATE	In Vitro	Not mutagenic
BHT - BUTYLATED HYDROXYTOLUENE	In Vitro	Not mutagenic
BHT - BUTYLATED HYDROXYTOLUENE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Fibrous glass	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Diphenylmethane diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Diphenylmethane diisocyanate	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesis
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Diphenylmethane diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Fibrous glass	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
Diphenylmethane diisocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
CALCIUM METASILICATE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
CALCIUM METASILICATE	Inhalation	pulmonary fibrosis	All data are negative	Human and animal	NOAEL Not available	
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	liver	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 25 mg/kg/day	28 days
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	2 generation
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 420 mg/kg/day	40 days
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25 mg/kg/day	2 generation
BHT - BUTYLATED HYDROXYTOLUENE	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,480 mg/kg/day	10 weeks

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.

During cleanup or disposal of open, uncured product, gloves providing sufficient protection must be worn. E.g. nitrile gloves with a minimum thickness of 0.127 mm (5 mil, 0.005 inch) have proven to provide effective protection. Additionally the following skin protection may be needed: laboratory coat or long-sleeve protective gauntlets. 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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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): Not regulated

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.

311/312 Hazard Categories:

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

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA. Commercial use of this material is regulated by the FDA.

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:** 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.

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