Material Safety Data Sheet

Copyright, 2011, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Fire Barrier Composite Sheet CS-195+
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division
ADDRESS: 3M Center
St. Paul, MN 55144-1000

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

Issue Date: 02/15/11
Supercedes Date: 02/05/08
Document Group: 18-6856-1

Product Use:
Intended Use: Fire stopping penetrations in floors & walls to prevent flame and smoke passage.

SECTION 2: INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM SILICATE</td>
<td>1344-09-8</td>
<td>15 - 40</td>
</tr>
<tr>
<td>Galvanized Sheet Steel</td>
<td>12597-69-2</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Chloroprene Rubber</td>
<td>9010-98-4</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Metal hydrate</td>
<td>Trade Secret</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Petroleum Distillates</td>
<td>Trade Secret</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Hexagonal Metal Netting</td>
<td>7440-66-6</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Poly(ethylene terephthalate)</td>
<td>25038-59-9</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Metal oxide</td>
<td>Trade Secret</td>
<td>0.5 - 1.5</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>0.5 - 1.5</td>
</tr>
<tr>
<td>Metal oxide</td>
<td>Trade Secret</td>
<td>0.5 - 1.5</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>0.5 - 1.5</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW
Odor, Color, Grade: Material is dark brown to brick red, laminated on one or both sides with aluminum foil or poly, negligible odor
General Physical Form: Solid
Immediate health, physical, and environmental hazards:

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:
Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:
No health effects are expected.

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: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

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

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoignition temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits(LEL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits(UEL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>OSHA Flammability Classification:</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
5.2 EXTINGUISHING MEDIA
Non-combustible. Choose material suitable for surrounding fire.

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
Not applicable.

6.2. Environmental precautions
Not applicable.

Clean-up methods
Not applicable.

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. Avoid breathing of dust created by cutting, sanding, grinding or machining.

7.2 STORAGE
Store under normal warehouse conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Provide ventilation adequate to control dust concentrations below recommended exposure limits and/or control dust.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
During cutting:
Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields
8.2.2 Skin Protection
Avoid prolonged or repeated skin contact. During cutting:
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.

8.2.3 Respiratory Protection
During cutting:
Avoid breathing of dust created by cutting, sanding, grinding or machining.

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 N95 particulate filters
- Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing
Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Authority</th>
<th>Type</th>
<th>Limit</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>ACGIH</td>
<td>TWA, respirable</td>
<td>1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>OSHA</td>
<td>TWA, as Al</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Petroleum Distillates</td>
<td>OSHA</td>
<td>TWA, Al total</td>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Petroleum Distillates</td>
<td>CMRG</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>ACGIH</td>
<td>TWA, respirable</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>OSHA</td>
<td>TWA, as fume</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Poly(ethylene terephthalate)</td>
<td>CMRG</td>
<td>TWA, as dust</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>ACGIH</td>
<td>TWA, as total</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>CMRG</td>
<td>TWA, respirable</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>ACGIH</td>
<td>STEL, respirable</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>OSHA</td>
<td>TWA, as fume</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>OSHA</td>
<td>TWA, respirable</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Metal oxide</td>
<td>OSHA</td>
<td>TWA, as dust</td>
<td>15 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

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
Odor, Color, Grade: Material is dark brown to brick red, laminated on one or both sides with aluminum foil or poly, negligible odor

General Physical Form: Solid
Autoignition temperature No Data Available
Flash Point Not Applicable
Flammable Limits(LEL) Not Applicable
Flammable Limits(UEL) Not Applicable
Boiling Point Not Applicable

Specific Gravity 1.56 g/cm³
pH Not Applicable
Melting point Not Applicable
Solubility In Water No Data Available

Volatile Organic Compounds < 1 % weight
Kow - Oct/Water partition coef No Data Available
VOC Less H2O & Exempt Solvents < 1 g/l
Viscosity Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:
10.1 Conditions to avoid
None known

10.2 Materials to avoid
None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Oxides of Nitrogen</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Oxides of Sulfur</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

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:** Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HCl. Facility must be capable of handling halogenated materials.

As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

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

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

**SECTION 14: TRANSPORT INFORMATION**

**ID Number(s):**


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 - No

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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal oxide (ZINC COMPOUNDS)</td>
<td>Trade Secret</td>
<td>0.5 - 1.5</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>0.5 - 1.5</td>
</tr>
</tbody>
</table>
Aluminum (Aluminum)  
7429-90-5  
0.5 - 1.5

STATE REGULATIONS
Contact 3M for more information.

CHEMICAL INVENTORIES
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: 1 Flammability: 1 Reactivity: 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.

Revision Changes:
Section 1: Product name was modified.
Copyright was modified.
Section 5: Extinguishing media information was modified.
Section 5: Fire fighting procedures information was modified.
Section 8: Skin protection phrase was modified.
Section 8: Respiratory protection information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 13: Waste disposal method information was modified.
Section 8: Eye/face protection information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 14: Transportation legal text was modified.
Page Heading: Product name was modified.
Section 15: Inventories 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 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 12: Ecotoxicological phrase was modified.
Section 12: Chemical Fate phrase was modified.
Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 15: EPCRA 313 information was added.
Section 15: EPCRA 313 text 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 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 6: Clean-up methods heading was added.
Section 6: Release measures information was deleted.
Section 6: Release measures heading was deleted.
Section 15: WHMIS regulations heading was deleted.
Section 15: WHMIS regulations information was deleted.
Section 10: Materials and conditions to avoid physical property was deleted.
Section 8: Exposure guidelines legend was deleted.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

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