

## 1. Product and Company Identification

<b>Material name</b>	<b>FireDefender® FS</b>
<b>Product use</b>	Edge banding, blocking and components for fire doors and frames
<b>Product List</b>	See Product List found in Section 16
<b>Manufacturer information</b>	Georgia-Pacific Gypsum LLC 133 Peachtree Street, NE Atlanta, GA 30303 MSDS Request 404.652.5119 Technical Information 800.225.6119 Chemtrec - Emergency 800.424.9300

## 2. Hazards Identification

<b>Emergency overview</b>	CAUTION!  Sawing, sanding, drilling, or routing this product may generate dust. Dust can be irritating to the eyes, skin, and respiratory system.
<b>Potential health effects</b>	
<b>Eyes</b>	Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
<b>Skin</b>	Dust may produce itching, rash, and redness. Handling can cause dry skin.
<b>Inhalation</b>	Dust may cause respiratory tract irritation.
<b>Ingestion</b>	Not applicable under normal conditions of use. May result in obstruction or temporary irritation of the digestive tract.

## 3. Composition / Information on Ingredients

<b>Components</b>	<b>CAS #</b>	<b>Percent/Wt</b>
GYPSUM (CALCIUM SULFATE)	7778-18-9	60 - 100
CELLULOSE	9004-34-6	7 - 13
PERLITE*	93763-70-3	5 - 10
CONTINUOUS FILAMENT GLASS FIBERS	65997-17-3	1 - 5
VERMICULITE (NON-ASBESTOS CONTAINING)*	1318-00-9	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	1 - 5

**Composition comments** \* - Contained only in low density FireDefender® formulas.

Gypsum (calcium sulfate), perlite, and vermiculite contain naturally occurring crystalline silica (quartz) which is listed as a lung carcinogen. See Section 8 for exposure information.

The weight percent for crystalline silica represents total crystalline silica and not the respirable fraction. Testing conducted by Georgia-Pacific did not detect respirable crystalline silica during activities associated with the normal use of this product; however, jobsite air monitoring should be conducted to determine actual exposure when permissible exposure limits may be exceeded.

## 4. First Aid Measures

<b>First aid procedures</b>	
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.
<b>Skin contact</b>	For skin contact, wash immediately with soap and water. Get medical attention if irritation develops or persists.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, obtain medical attention.
<b>Ingestion</b>	May result in obstruction and irritation if ingested. Get medical attention.

## 5. Fire Fighting Measures

<b>Flammable properties</b>	Not flammable by OSHA/WHMIS criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Not applicable.
<b>Protection of firefighters</b>	
<b>Protective equipment and precautions for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Explosion data</b>	
<b>Sensitivity to static discharge</b>	Not applicable.
<b>Sensitivity to mechanical impact</b>	Not applicable.
<b>Hazardous combustion products</b>	May include, and are not limited to: calcium oxide and sulfur dioxide.

## 6. Accidental Release Measures

<b>Personal precautions</b>	Use personal protection recommended in Section 8. Keep unnecessary personnel away from the release.
<b>Environmental precautions</b>	Keep out of drains, sewers, ditches, and waterways.
<b>Methods for containment</b>	Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use personal protection recommended in Section 8.
<b>Methods for cleaning up</b>	Vacuum or sweep up material and place in a disposal container.

## 7. Handling and Storage

<b>Handling</b>	Avoid contact with skin and eyes. Do not breathe dust. Use only in well-ventilated areas. Handle with care. Do not eat or drink while using the product. Wash hands before eating, drinking, or smoking.
<b>Storage</b>	Keep away from children. Store level and keep dry.

## 8. Exposure Controls / Personal Protection

### GYPSUM (CALCIUM SULFATE) (CAS # 7778-18-9)

	TWA	STEL	Ceiling
ACGIH	10 mg/m <sup>3</sup> TWA (inhalable fraction)	Not established	Not established
OSHA	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established

### CELLULOSE (CAS # 9004-34-6)

	TWA	STEL	Ceiling
ACGIH	10 mg/m <sup>3</sup> TWA	Not established	Not established
OSHA	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established

### PERLITE\* (CAS # 93763-70-3)

	TWA	STEL	Ceiling
ACGIH	10 mg/m <sup>3</sup> TWA (inhalable fraction); 3 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established
OSHA	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established

### CONTINUOUS FILAMENT GLASS FIBERS (CAS # 65997-17-3)

	TWA	STEL	Ceiling
ACGIH	1 fiber/cm <sup>3</sup> TWA (respirable fibers, length >5 μm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination); 5 mg/m <sup>3</sup> TWA (inhalable fraction)	Not established	Not established
OSHA	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established

### VERMICULITE (NON-ASBESTOS CONTAINING)\* (CAS # 1318-00-9)

	TWA	STEL	Ceiling
ACGIH	10 mg/m <sup>3</sup> TWA (inhalable fraction); 3 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established
OSHA	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established

### CRYSTALLINE SILICA (QUARTZ) (CAS # 14808-60-7)

	TWA	STEL	Ceiling
ACGIH	0.025 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established
OSHA	((10)/(SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA (respirable)); ((30)/(SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA (total dust)); ((250)/(SiO <sub>2</sub> + 5) mppcf TWA (respirable))	Not established	Not established

<b>Engineering controls</b>	When sawing, sanding, drilling, or routing this product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce generation of dust.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Ensure compliance with OSHA's PPE standard (29 CFR 1910.132 and .133) for eye and face protection. Safety glasses or goggles are recommended when using this product. Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).
<b>Skin protection</b>	Impervious protective clothing and gloves recommended to prevent drying or irritation of skin. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain is recommended in the workplace area (29 CFR 1910.151 (c)).
<b>Respiratory protection</b>	A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2)

## 9. Physical & Chemical Properties

<b>Color</b>	Grey or Brown
<b>Odor</b>	Odorless
<b>pH</b>	6.5 - 8.5
<b>Freezing point</b>	Not applicable
<b>Boiling point</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Flammability</b>	Not Flammable
<b>Flammability limits in air, upper, % by volume</b>	Not applicable
<b>Flammability limits in air, lower, % by volume</b>	Not applicable
<b>Vapor pressure</b>	Not applicable
<b>Vapor density</b>	Not applicable
<b>Specific gravity</b>	1 - 1.5
<b>Solubility (water)</b>	<0.2 at 22°C
<b>Auto-ignition temperature</b>	Not applicable
<b>VOC</b>	Not available
<b>Percent volatile</b>	Not available

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions.
<b>Conditions of Reactivity</b>	None known.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	May include and are not limited to: calcium oxide and sulfur dioxide.

## 11. Toxicological Information

### Toxicological information (Ingredients)

#### GYPSUM (CALCIUM SULFATE) (CAS # 7778-18-9)

Toxicology Data - Selected LD50s and LC50s

Oral LD50 Mouse: 5824 mg/kg

Oral LD50 Rat: 3000 mg/kg

#### CELLULOSE (CAS # 9004-34-6)

Toxicology Data - Selected LD50s and LC50s

Oral LD50 Rat: 5000 mg/kg

Dermal LD50 Rabbit: 2000 mg/kg

Inhalation LC50 Rat: 5800 mg/l/4h

#### CRYSTALLINE SILICA (QUARTZ) (CAS # 14808-60-7)

Toxicology Data - Selected LD50s and LC50s

Oral LD50 Rat: 500 mg/kg

**Sensitization** Not expected to be hazardous by OSHA/WHMIS criteria.

**Acute effects** In 1987, IARC classified continuous filament glass fibers as a Group 3 substance, "not classifiable as to its carcinogenicity to humans." In 2001, IARC reaffirmed this designation. Continuous filament glass fibers are not considered respirable due to their large diameter.

**Chronic effects** Not expected to be hazardous by OSHA/WHMIS criteria.

Exposure to respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by IARC and NTP as a lung carcinogen. Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to a respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of respirable crystalline silica exposure and the length of time (usually years) of exposure.

The weight percent for crystalline silica represents total crystalline silica and not the respirable fraction. Testing conducted by Georgia-Pacific did not detect respirable crystalline silica during activities associated with the normal use of this product; however, jobsite air monitoring should be conducted to determine actual exposure when permissible exposure limits may be exceeded.

**Carcinogenicity** Hazardous by OSHA/WHMIS criteria.

**CRYSTALLINE SILICA (QUARTZ) (CAS # 14808-60-7)**

ACGIH - Threshold Limit Values - Carcinogens

IARC - Group 1 (Carcinogenic to Humans)

NTP (National Toxicology Program) - Report on Carcinogens - Known Human Carcinogens

U.S. - OSHA - Hazard Communication Carcinogens

A2 - Suspected Human Carcinogen

Monograph 68 [1997] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources)

Known Human Carcinogen

Present

**Mutagenicity** Not expected to be hazardous by OSHA/WHMIS criteria.

**Reproductive effects** Not expected to be hazardous by OSHA/WHMIS criteria.

**Teratogenicity** Not expected to be hazardous by OSHA/WHMIS criteria.

**Synergistic materials** Not available.

## 12. Ecological Information

**Ecotoxicity** Not considered to be harmful to aquatic life.

**GYPSUM (CALCIUM SULFATE) (CAS # 7778-18-9)**

Ecotoxicity - Freshwater Fish Species Data

96 Hr LC50 Lepomis macrochirus: 2980 mg/L [static]; 96 Hr LC50 Pimephales promelas:>1970 mg/L [static]

## 13. Disposal Considerations

**Disposal instructions** This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

## 14. Transport Information

### Department of Transportation (DOT) Requirements

This product is not regulated as a hazardous material by the United States (DOT) transportation regulations.

### Canadian Transportation of Dangerous Goods (TDG) Requirements

Not regulated as dangerous goods.

## 15. Regulatory Information

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Section 313 hazardous chemical** No

**Canadian regulations**

**CRYSTALLINE SILICA (QUARTZ) (CAS # 14808-60-7)**

Canada - WHMIS - Ingredient Disclosure List

1 %

**16. Other Information**

**Product list**

FireDefender® FS (includes HDF and LDF)

MO-003, 004

**HMIS® ratings**

Health: 1  
Flammability: 0  
Physical hazard: 0

**NFPA ratings**

Health: 1  
Flammability: 0  
Instability: 0

**Other information**

Products on this MSDS do not contain asbestos.

**Disclaimer**

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Georgia-Pacific and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Georgia-Pacific and its subsidiaries will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.

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