

**Section 1: PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** FireDefender™ FS II (Previously named Firestop)  
**Product Number:** (See product list found in section 16)  
**Product Use:** Fire-rated wood veneered door frames.  
**Manufacturer/Supplier:** Georgia-Pacific Gypsum LLC  
133 Peachtree Street, N.E., Atlanta, GA 30303  
**Phone Number:** (800) 225-6119 (Technical Information)  
(404) 652-5119 (MSDS Request)  
**Emergency Phone:** CHEMTREC (800) 424-9300  
**Date of Preparation:** June 4, 2007

**Section 2: HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW****CAUTION**

Sawing, sanding, drilling or routing this product may generate dust. Dust can be irritating to the eyes, skin, and respiratory system.

**Likely Routes of Exposure:** Skin contact, eye contact, and inhalation.

**Potential Health Effects:**

- Eye:** Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
- Skin:** Dust may cause skin irritation. Symptoms may include redness, drying, and cracking of the skin.
- Ingestion:** Not applicable under normal conditions of use. May result in obstruction and temporary irritation of the digestive tract.
- Inhalation:** May cause respiratory tract irritation.

**Medical Conditions Aggravated By Exposure:** Because of its irritating properties, dust may aggravate preexisting skin, eye, and respiratory conditions.

**Target Organs:** Skin, eyes and respiratory system.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Ingredient</b>	<b>CAS #</b>	<b>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
Silica, crystalline, quartz	14808-60-7	1 - 5
Vermiculite (Non asbestos containing)	1318-00-9	1 - 5

\* Contained only in low density FireDefender™ formulas.

Gypsum, perlite, and vermiculite may contain naturally occurring silica crystalline (quartz), which is listed as a lung carcinogen. Wood dust, a by-product generated from sawing, sanding, drilling or routing the wood veneered door frames, may be hazardous. See section 8 for exposure information.

**Section 4: FIRST AID MEASURES**

- Eye Contact:** In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.
- Skin Contact:** In case of contact, immediately flush skin with plenty of water. Call a physician if irritation develops and persists.
- Inhalation:** Remove to fresh air. If symptoms persist, obtain medical attention.
- Ingestion:** May result in obstruction and irritation if ingested. Get medical attention.

**Section 5: FIRE FIGHTING MEASURES**

**Flammability:** Not flammable by OSHA/WHMIS criteria, in purchased form. Sawing, sanding, drilling, or routing can produce wood dust by-product, which is an explosion hazard if a wood dust "cloud" contacts an ignition source.

**Flammable Limits:** This product is fire resistant and has the following surface burning characteristics reported by nationally recognized laboratories. Flame Spread, 0 - 25, and Smoke Development, 0.

**Means of Extinction:**

**Suitable Extinguishing Media:** Water.

**Unsuitable Extinguishing Media:** Not applicable.

**Products of Combustion:** May include and are not limited to: calcium oxide and sulfur dioxide.

**Explosion Data:**

**Sensitivity to Mechanical Impact:** Not applicable.

**Sensitivity to Static Discharge:** Not applicable.

**Protection of Firefighters:** Firefighters should wear full protective clothing including self contained breathing apparatus.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**Environmental Precautions:** Not applicable for product in purchased form. Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

**Methods for Containment:** Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

**Methods for Clean-Up:** Vacuum or sweep material and place in a disposal container.

**Section 7: HANDLING AND STORAGE****Handling:**

Avoid contact with skin and eyes. Do not breathe dust. Use only in well-ventilated areas. Handle and open container with care. Wear appropriate NIOSH approved dust mask or filtering facepiece if dust or mist is generated. When using do not eat or drink. Wash hands before eating, drinking, or smoking.

**Storage:**

Keep out of the reach of children. Store level and keep dry.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**
**Exposure Guidelines**

Ingredient	CAS #	Exposure Limits	
		OSHA-PEL	ACGIH-TLV
Gypsum (CaSO <sub>4</sub> )	7778-18-9	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (resp)	10 mg/m <sup>3</sup> (total)
Cellulose	9004-34-6	15 mg/m <sup>3</sup> (total)	10 mg/m <sup>3</sup> (total)
Perlite	93763-70-3	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (resp)	10 mg/m <sup>3</sup>
Continuous filament glass fibers	65997-17-3	Not available.	1 f/cc TWA (respirable fibers: length > 5 μm, aspect ratio equal to or greater than 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) related to continuous filament glass fibers).
Silica, crystalline, quartz	14808-60-7	((10 mg/m <sup>3</sup> )/(%SiO <sub>2</sub> +2) TWA (resp)); ((30 mg/m <sup>3</sup> )/(%SiO <sub>2</sub> +2) TWA (total)); ((250)/(%SiO <sub>2</sub> +5) mppcf TWA (resp))	0.025 mg/m <sup>3</sup>
Vermiculite (Non asbestos containing)	1318-00-9	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (resp)	10 mg/m <sup>3</sup> (total)
Wood dust; All soft and hard woods*	None	5 mg/m <sup>3</sup> TWA (total)	1 mg/m <sup>3</sup> (Inhalable)

\* Georgia-Pacific voluntarily elects to adhere to exposure limits contained in OSHA's 1989 Air Contaminants Rule, although certain limits were vacated in 1992. The present OSHA exposure limits governing wood dust are 15mg/m<sup>3</sup> (Total Dust) and 5mg/m<sup>3</sup> (Respirable Fraction).

**Engineering Controls:** When cutting, sanding, or otherwise machining this product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

**Personal Protective Equipment:**

**Eye/Face Protection:** Safety glasses or goggles are recommended for dust. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 133 (eye and face protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

**Skin Protection:** Impervious protective clothing and gloves recommended to prevent irritation. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

**Respiratory Protection:** Not applicable in purchased form. 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).

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Wood banded composite edge banding, blocking or components.
<b>Color:</b>	Gray or brown.
<b>Odor:</b>	Odorless.
<b>Odor Threshold:</b>	Not available.

<b>Physical State:</b>	Solid.
<b>pH:</b>	6.5-8.5
<b>Viscosity:</b>	Not applicable.
<b>Freezing Point:</b>	Not applicable.
<b>Boiling Point:</b>	Not applicable.
<b>Flash Point:</b>	Not applicable.
<b>Evaporation Rate:</b>	Not available.
<b>Lower Flammability Limit:</b>	Not applicable.
<b>Upper Flammability Limit:</b>	Not applicable.
<b>Vapor Pressure:</b>	Not applicable.
<b>Vapor Density:</b>	Not applicable.
<b>Specific Gravity:</b>	1 - 1.5
<b>Solubility in Water:</b>	< 0.2 @ 22°C
<b>Coefficient of Water/Oil Distribution:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not applicable.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.

<b>Section 10: STABILITY AND REACTIVITY</b>
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**Stability:** Stable under normal storage conditions.

**Conditions of Reactivity:** None identified.

**Incompatible Materials:** Oxidizers.

**Hazardous Decomposition Products:** May include and are not limited to: calcium oxide and sulfur dioxide.

**Possibility of Hazardous Reactions:** No dangerous reaction known under conditions of normal use.

<b>Section 11: TOXICOLOGY INFORMATION</b>
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**EFFECTS OF ACUTE EXPOSURE**
**Component Analysis**

<b>Ingredient</b>	<b>LD<sub>50</sub> (oral)</b>	<b>LC<sub>50</sub></b>
Gypsum (calcium sulfate)	Not available.	Not available.
Cellulose	5,000 mg/kg, rat	5,800 mg/m <sup>3</sup> 4hrs, rat
Perlite	Not available.	Not available.
Continuous filament glass fibers	Not available.	Not available.
Silica, crystalline, quartz	Not available.	Not available.
Vermiculite (Non asbestos containing)	Not available.	Not available.

**EFFECTS OF CHRONIC EXPOSURE**

**Target Organs:** Lungs.

**Chronic Effects:** Hazardous by OSHA/WHMIS criteria.

Respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by the International Agency for Research on Cancer (IARC) and National Toxicology Program (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 respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.

Wood dust generated from sawing, sanding or machining this product may cause nasal dryness, irritation, coughing and sinusitis. The International Agency for Research on Cancer (IARC), and National Toxicology Program (NTP) classifies wood dust as a carcinogen. This classification is based on the increased occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation noted insufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

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.

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

<b>Ingredient</b>	<b>Chemical Listed as Carcinogen or Potential Carcinogen</b>
Silica, crystalline, quartz	<b>ACGIH - A2 - Suspected human carcinogen;</b> <b>IARC - 1 - The agent is carcinogenic to humans;</b> <b>NTP - 1 - Known to be carcinogens;</b>
Wood dust	<b>IARC - 1 - The agent is carcinogenic to humans;</b> <b>NTP - 1 - Known to be carcinogens;</b>

**Mutagenicity; Reproductive Effects; Teratogenicity; Embryotoxicity; Respiratory Sensitization; Skin Sensitization:** Not hazardous by OSHA/WHMIS criteria.

**Toxicologically Synergistic Materials:** Not available.

<b>Section 12: ECOLOGICAL INFORMATION</b>
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**Ecotoxicity:** Not considered to be harmful to aquatic life.

**LC/EC<sub>50</sub>**

**Freshwater Fish Species Data:**

Gypsum (calcium sulfate)	7778-18-9	96 Hr LC50 <i>Lepomis macrochirus</i> : 2980 mg/L (static)
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**Water Flea Data:**

Gypsum (calcium sulfate)	7778-18-9	120 Hr EC50 <i>Nitscheria linearis</i> : 3200 mg/L
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<b>Section 13: DISPOSAL CONSIDERATIONS</b>
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**Disposal Instructions:**

This product, if discarded as supplied, is not considered a hazardous waste under Federal Waste Regulations 40 CFR 261. If processing, use, or contamination alters the material, the waste must be tested using methods described in 40 CFR 261 to determine if it meets applicable definition of hazardous waste.

<b>Section 14: TRANSPORTATION INFORMATION</b>
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**DOT Classification**

Not regulated

**TDG Classification**

Not regulated

**Section 15: REGULATORY INFORMATION**
**Federal Regulations**

**Canadian:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**US:** MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200).

**SARA Title III**

Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Gypsum (calcium sulfate)	Not listed.	Not listed.	Not listed.	Not listed.
Cellulose	Not listed.	Not listed.	Not listed.	Not listed.
Perlite	Not listed.	Not listed.	Not listed.	Not listed.
Continuous filament glass fibers	Not listed.	Not listed.	Not listed.	Not listed.
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.
Vermiculite (Non asbestos containing)	Not listed.	Not listed.	Not listed.	Not listed.

**Section 311-312:** Delayed (chronic) health hazard.

**Global Inventories**

Ingredient	Canada DSL/NDSL	USA TSCA
Gypsum (calcium sulfate)	DSL	Yes.
Cellulose	DSL	Yes.
Perlite	DSL	Yes.
Continuous filament glass fibers	DSL	Yes.
Silica, crystalline, quartz	DSL	Yes.
Vermiculite (Non asbestos containing)	DSL	Yes.

**HMIS - Hazardous Materials Identification System**

Health - 1\*      Flammability - 0      Physical Hazard - 0

**NFPA - National Fire Protection Association:**

Health - 1      Fire - 0      Reactivity - 0

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**WHMIS Classification(s):**

- Class D2A - Carcinogenicity
- Class D2A - Chronic Toxic Effects

**WHMIS Hazard Symbols:**

<b>Section 16: OTHER INFORMATION</b>
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**Other Information:**

Products on this MSDS do not contain asbestos.

**Product List:**

FireDefender™ FS II (Previously named Firestop) (Includes HDF and LDF)

**Disclaimer:**

IMPORTANT: 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 that the information and data are inaccurate, incomplete or otherwise misleading.

**Supersedes:** 7/31/00

**Prepared by:** Georgia-Pacific LLC  
(404) 652-5119 (MSDS Request)