


SAFETY DATA SHEET

1. Identification

Product identifier	FireDefender® FS (LDF)
Other means of identification	
SDS number	GP-73E
Recommended use	Edge banding, blocking, mineral core and components for fire doors and frames
Recommended restrictions	Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.
Manufacturer/Importer/Supplier/Distributor information	
Company name	Georgia-Pacific Gypsum LLC
Address	133 Peachtree Street, NE Atlanta, GA 30303
Telephone	Technical Information 800.225.6119 (M)SDS Request 404.652.5119
E-mail	MSDSREQ@GAPAC.COM
Emergency phone number	Chemtrec - Emergency 800.424.9300

2. Hazard(s) identification

Emergency overview	This product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous by downstream activities such as cutting, sanding, or otherwise working with this product that generate large amount of dusts. Those hazards associated with large amount of dusts are described below.	
Physical hazards	Not classified.	
Health hazards	Skin irritation	Category 2
	Serious eye damage	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 1A
	Specific target organ toxicity, repeated exposure	Category 1 (lung)
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause cancer. Causes damage to organs (lung) through prolonged or repeated exposure.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Specific treatment (see section 4 on the SDS).
Storage	Store away from incompatible materials (see Section 10 of the SDS).
Disposal	Dispose of contents/container in accordance with applicable regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CALCIUM SULFATE DIHYDRATE		10101-41-4	60 - < 100
CELLULOSE		9004-34-6	7 - < 13
PERLITE		93763-70-3	5 - < 10
PORTLAND CEMENT		65997-15-1	4 - < 8
CONTINUOUS FILAMENT GLASS FIBERS		65997-17-3	1 - < 3
CRYSTALLINE SILICA (QUARTZ)		14808-60-7	1 - < 6
VERMICULITE		1318-00-9	1 - < 5
IRON OXIDE		1309-37-1	< 2

The specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Use personal protection recommended in Section 8. Keep unnecessary personnel away.
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Methods and materials for containment and cleaning up

Minimize dust generation. Sweep up or gather material and place in an appropriate container for disposal. Utilize wet methods, if appropriate, to minimize dust. For waste disposal, see section 13 of the SDS.

Environmental precautions

Keep out of drains, sewers, ditches, and waterways.

7. Handling and storage**Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Do not breathe dust. Do not get this material in contact with eyes. Do not taste or swallow. Avoid prolonged exposure. Observe good industrial hygiene practices. Use only in well-ventilated areas. Wear appropriate NIOSH/MSHA approved dust mask or filtering facepiece if dust is generated. Do not eat or drink while using the product. Wash hands before eating, drinking, or smoking.

Conditions for safe storage, including any incompatibilities

Store level and keep dry. Dewpoint or other conditions causing the presence of moisture can damage the product during storage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US OSHA Table Z-3: Time Weighted Average (TWA) (mg/m3)**

Components	Type	Value	Form
PERLITE (CAS 93763-70-3)	TWA	5 mg/m3	Respirable fraction.
VERMICULITE (CAS 1318-00-9)	TWA	15 mg/m3	Total dust.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)	PEL	5 mg/m3	Respirable fraction.
CELLULOSE (CAS 9004-34-6)	PEL	15 mg/m3	Total dust.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
CRYSTALLINE SILICA (QUARTZ) (CAS 14808-60-7)	PEL	0.05 mg/m3	
IRON OXIDE (CAS 1309-37-1)	PEL	10 mg/m3	Fume.
PORTLAND CEMENT (CAS 65997-15-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

ACGIH

Components	Type	Value	Form
CONTINUOUS FILAMENT GLASS FIBERS (CAS 65997-17-3)	TWA	5 mg/m3	Inhalable fraction.
PERLITE (CAS 93763-70-3)	TWA	3 mg/m3	Respirable particles.

US ACGIH Threshold Limit Values: Time Weighted Average (TWA): mg/m3, non-standard units

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)	TWA	10 mg/m3	Inhalable fraction.
CELLULOSE (CAS 9004-34-6)	TWA	10 mg/m3	
CONTINUOUS FILAMENT GLASS FIBERS (CAS 65997-17-3)	TWA	1 fibers/cm3	Fiber.
CRYSTALLINE SILICA (QUARTZ) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US ACGIH Threshold Limit Values: Time Weighted Average (TWA): mg/m3, non-standard units

Components	Type	Value	Form
IRON OXIDE (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.
PERLITE (CAS 93763-70-3)	TWA	10 mg/m3	Inhalable particles.
PORTLAND CEMENT (CAS 65997-15-1)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)	TWA	5 mg/m3	Respirable.
CELLULOSE (CAS 9004-34-6)	TWA	10 mg/m3 5 mg/m3	Total Respirable.
CONTINUOUS FILAMENT GLASS FIBERS (CAS 65997-17-3)	TWA	10 mg/m3 5 mg/m3	Total Fiber, total
CRYSTALLINE SILICA (QUARTZ) (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
IRON OXIDE (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume.
PERLITE (CAS 93763-70-3)	TWA	5 mg/m3	Respirable.
PORTLAND CEMENT (CAS 65997-15-1)	TWA	10 mg/m3 5 mg/m3 10 mg/m3	Total Respirable. Total

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Appropriate engineering controls

When sawing, sanding, drilling, or routing this product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles). Ensure compliance with OSHA's PPE standard (29 CFR 1910.132 and .133) for eye and face protection. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection**Hand protection**

For prolonged or repeated skin contact use suitable protective gloves.

Other

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)).

Respiratory protection

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).

Thermal hazards

Not applicable.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Keep away from food and drink.

9. Physical and chemical properties**Appearance**

Composite edge banding, blocking or components

Physical state

Solid.

Form

Powder. Solid

Color	Grey or Brown
Odor	Odorless.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	2642 °F (1450 °C) estimated
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	Not available
Solubility(ies)	
Solubility (water)	<0.2 at 22°C
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flash point class	Not flammable
Oxidizing properties	Not oxidizing.
Percent volatile	Not available
Specific gravity	1 - 1.5
VOC	Not available

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	Acids.
Hazardous decomposition products	May include and are not limited to: calcium oxide and sulfur dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. Dust may irritate respiratory system.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Not applicable under normal conditions of use. May cause gastrointestinal irritation if ingested.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects**Acute toxicity**

Components	Species	Test Results
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)		
<u>Acute</u>		
<u>Oral</u>		
LD50	Rat	> 1581 mg/kg
IRON OXIDE (CAS 1309-37-1)		
<u>Acute</u>		
<u>Oral</u>		
LD50	Rat	> 10000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization**Respiratory sensitization**

Not a respiratory sensitizer.

Skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

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.

IARC Monographs. Overall Evaluation of Carcinogenicity

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

1 Carcinogenic to humans.

IRON OXIDE (CAS 1309-37-1)

3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

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

Known To Be Human Carcinogen.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Causes damage to organs (lung) through prolonged or repeated exposure.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)		
<u>Aquatic</u>		
<u>Acute</u>		
Fish	LC50	Fathead minnow (Pimephales promelas) > 1970 mg/l, 96 hours

Components	Species	Test Results
CRYSTALLINE SILICA (QUARTZ) (CAS 14808-60-7)		
Aquatic		
Acute		
Fish	LC50	Zebra danio (Danio rerio)
		> 10000 mg/l, 96 Hours OECD SIDS
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
13. Disposal considerations		
Disposal instructions	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. Dispose of contents/container in accordance with local/regional/national/international regulations.	
Local disposal regulations	Dispose in accordance with all applicable regulations.	
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.	
Waste from residues / unused products	Dispose of in accordance with local regulations.	
Contaminated packaging	Not available.	
14. Transport information		
DOT		
Not regulated as dangerous goods.		
IATA		
Not regulated as dangerous goods.		
IMDG		
Not regulated as dangerous goods.		
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.	
15. Regulatory information		
US federal regulations	This product is not hazardous in the form in which it is sold and shipped by the manufacturer. However, the large amount of dusts generated by downstream activities such as cutting, sanding, or otherwise working with this product is considered hazardous and is regulated under the Hazard Communication Standard 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
Not regulated.		
CERCLA Hazardous Substance List (40 CFR 302.4)		
Not listed.		
SARA 304 Emergency release notification		
Not regulated.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not regulated.		
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No	
SARA 302 Extremely hazardous substance		
Not listed.		
SARA 311/312 Hazardous chemical	Yes	

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

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

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

CRYSTALLINE SILICA (QUARTZ) (CAS 14808-60-7) Listed: October 1, 1988

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** May-14-2015**Revision date** May-19-2017**Version #** 03**HMIS® ratings** Health: 3*
Flammability: 0
Physical hazard: 0**NFPA ratings** Health: 2
Flammability: 0
Instability: 0

Disclaimer This SDS is intended to quickly provide useful information to the user(s) of this material or product. It is not intended to serve as a comprehensive discussion of all possible risks or hazards, and it assumes a reasonable use of the product. The information contained in this SDS is believed to be accurate as of the date of preparation of this SDS and has been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. The user or handler (or their employer) should consider the specific conditions in which this material will be used, handled, or stored and determine what specific safety or other precautions are required. Employers should ensure that their employees, agents, contractors, and customers who will use the product receive adequate warnings and safe handling procedures, including a current SDS. Product users or handlers (or their employer) who are unsure of what specific precautions are required should consult their employer, product supplier, or safety or health professionals before handling or working with this product. Please notify us immediately if you believe this SDS or other safety and health information about this product is inaccurate or incomplete.

Revision information Product and Company Identification: Product Codes