

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Synthetic Gypsum

Product Identifiers: Synthetic Gypsum, Flue Gas Desulfurization Gypsum, FGD Gypsum, FGD, Calcium Sulfate Dihydrate

Manufacturer: Lafarge North America Inc.
12018 Sunrise Valley Drive, Suite 500
Reston, VA 20191

Information Telephone Number: 703-480-3600 (9am to 5pm EST)

Emergency Telephone Number: 1-800-451-8346 (3E Hotline)

Product Use: Synthetic gypsum is used in the manufacturing of drywall, drywall compounds, cement, concrete and concrete products.

Note: This MSDS covers many types of synthetic gypsum. Individual composition of hazardous constituents will vary between types of synthetic gypsum.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Percent (By Weight) | CAS Number | OSHA PEL -TWA (mg/m ³) | ACGIH TLV-TWA (mg/m ³) | LD ₅₀ (mouse, intraperitoneal) | LC ₅₀ |
|------------------------------------|---------------------|------------|--|------------------------------------|---|------------------|
| Calcium Sulfate Dihydrate (gypsum) | 90-99 | 13397-24-5 | 15 (T), 5 (R) | 10 (T) | NA | NA |
| Calcium Carbonate* | 0-2 | 1317-65-3 | 15 (T), 5 (R) | 3 (R); 10 (T) | NA | NA |
| Crystalline Silica | 0-2 | 14808-60-7 | [(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T) | 0.025 (R) | NA | NA |
| Magnesium Oxide | 0-2 | 1309-48-4 | 15 (T) | 10 (T) | NA | NA |
| Calcium Oxide | 0-2 | 1305-78-8 | 5 (T) | 2 (T) | 3059 mg/kg | NA |
| Calcium Hydroxide | 0-2 | 1305-62-0 | 15 (T); 5 (R) | 5 (T) | 7300mg/kg, oral | NA |

Note: Exposure limits for components noted with an * contain no asbestos and <1% crystalline silica

Synthetic gypsum is formed from the reaction between lime or limestone and gaseous sulfur dioxide, formed from the combustion of coal. Trace amounts of fly ash and other chemicals may be detected during chemical analysis. Depending on the composition of the coal and the lime or limestone used, synthetic gypsum may contain trace amounts of magnesium sulfate, sulfur compounds, and other trace compounds.

Section 3: HAZARD IDENTIFICATION

| | | |
|--|--|--|
| | WARNING | Respiratory Protection Eye Protection |
| | <p>Irritant: Causes eye, skin and inhalation irritation</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product.</p> <p>Read MSDS for details.</p> | |

Emergency Overview: Synthetic gypsum is a solid, white or off-white, odorless powder. It is not combustible or explosive. A single, short-term exposure to the dry powder presents little or no hazard.

Section 3: HAZARD IDENTIFICATION (continued)

Potential Health Effects:

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of synthetic gypsum can cause moderate eye irritation, redness, and burning. Eye exposures require immediate first aid to prevent damage to the eye.

Skin Contact: Synthetic gypsum may cause dry skin, discomfort, irritation, and dermatitis.

Dermatitis: Synthetic gypsum is capable of causing dermatitis by irritation. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of synthetic gypsum including moisture and abrasion.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.

Inhalation (chronic): Risk of injury depends on duration and level of exposure.

Silicosis: This product contains trace amounts of crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease.

Carcinogenicity: Synthetic gypsum is not listed as a carcinogen by IARC or NTP; however, synthetic gypsum contains trace amounts of crystalline silica that is classified by IARC and NTP as known human carcinogen.

Ingestion: Do not ingest synthetic gypsum. Although ingestion of small quantities of synthetic gypsum is not known to be harmful, ingestion of large quantities can cause an obstruction causing pain and distress in the digestive tract.

Medical Conditions Aggravated by Exposure: Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact: Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions.

Skin Contact: Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash, irritation, dermatitis, and prolonged unprotected exposures to wet synthetic gypsum.

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Ingestion: Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Section 5: FIREFIGHTING MEASURES

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|---------------------------------|---|--------------------------------|--|
| Flashpoint & Method: | Non-combustible | Firefighting Equipment: | Synthetic gypsum poses no fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any fire. |
| General Hazard: | Avoid breathing dust. | Combustion Products: | Above 1450° C decomposed to calcium oxide and sulfur dioxide. |
| Extinguishing Media: | Use extinguishing media appropriate for surrounding fire. | | |

Section 6: ACCIDENTAL RELEASE MEASURES

General: Place spilled material into a container. Avoid actions that cause the synthetic gypsum to become airborne. Avoid inhalation of synthetic gypsum and contact with skin. Wear appropriate protective equipment as described in Section 8.

Waste Disposal Method: Dispose of synthetic gypsum according to Federal, State, Provincial and Local regulations.

Section 7: HANDLING AND STORAGE

General: Handle with care and use appropriate control measures. Keep bulk synthetic gypsum dry until used.

Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains synthetic gypsum. Synthetic gypsum can buildup or adhere to the walls of a confined space. The synthetic gypsum can release, collapse or fall unexpectedly.

Usage: Cutting, crushing, sanding or grinding drywall, hardened cement, concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Housekeeping: Avoid actions that cause the synthetic gypsum to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.

Storage Temperature: Unlimited. **Storage Pressure:** Unlimited.

Clothing: Promptly remove and launder clothing that is dusty or wet with synthetic gypsum. Thoroughly wash skin after exposure to synthetic gypsum.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

Personal Protective Equipment (PPE):

Respiratory Protection: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust or wet synthetic gypsum to prevent contact with eyes. Wearing contact lenses when using synthetic gypsum, under dusty conditions, is not recommended.

Skin Protection: Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves. Remove clothing and protective equipment that becomes saturated with wet synthetic gypsum and immediately wash exposed areas.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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|--------------------------|-----------------------|-----------------------------|--------------|
| Physical State: | Solid (powder). | Evaporation Rate: | NA. |
| Appearance: | White or off-white. | pH (in water): | 5-8 |
| Odor: | None. | Boiling Point: | >1000° C |
| Vapor Pressure: | NA. | Freezing Point: | None, solid. |
| Vapor Density: | NA. | Viscosity: | None, solid. |
| Specific Gravity: | 2.3 g/cm ³ | Solubility in Water: | Negligible |

Section 10: STABILITY AND REACTIVITY

Stability: Stable. Keep dry until use. These products may react with water, resulting in a slight release of heat, depending on the amount of lime (Calcium oxide) present. Avoid contact with incompatible materials.

Incompatibility: Synthetic gypsum is incompatible with acids, diazomethane, phosphorus, aluminum metal and strong oxidizing agents.

Hazardous Polymerization: None.

Hazardous Decomposition: Decomposes to calcium oxide and sulfur dioxide above 1450° C.

Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.

Section 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations.

Section 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section 15: REGULATORY INFORMATION

OSHA/MSHA Hazard Communication: This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.


CERCLA/SUPERFUND: This product is not listed as a CERCLA hazardous substance.

EPCRA SARA Title III: This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous chemical and a delayed health hazard.

EPCRA SARA Section 313: This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

RCRA: If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

Section 15: REGULATORY INFORMATION (continued)

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| TSCA: | Synthetic gypsum and crystalline silica are exempt from reporting under the inventory update rule. |
| California Proposition 65: | Crystalline silica (airborne particulates of respirable size) and Chromium (hexavalent compounds) are substances known by the State of California to cause cancer. |
| WHMIS/DSL:  | Products containing crystalline silica and calcium carbonate are classified as D2A, E and are subject to WHMIS requirements. |

Section 16: OTHER INFORMATION
Abbreviations:

| | | | |
|-------------------|--|-------|---|
| > | Greater than | NA | Not Applicable |
| ACGIH | American Conference of Governmental Industrial Hygienists | NFPA | National Fire Protection Association |
| CAS No | Chemical Abstract Service number | NIOSH | National Institute for Occupational Safety and Health |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act | NTP | National Toxicology Program |
| | | OSHA | Occupational Safety and Health Administration |
| CFR | Code for Federal Regulations | PEL | Permissible Exposure Limit |
| CL | Ceiling Limit | pH | Negative log of hydrogen ion |
| DOT | U.S. Department of Transportation | PPE | Personal Protective Equipment |
| EST | Eastern Standard Time | R | Respirable Particulate |
| HEPA | High-Efficiency Particulate Air | RCRA | Resource Conservation and Recovery Act |
| HMIS | Hazardous Materials Identification System | SARA | Superfund Amendments and Reauthorization Act |
| IARC | International Agency for Research on Cancer | T | Total Particulate |
| | | TDG | Transportation of Dangerous Goods |
| LC ₅₀ | Lethal Concentration | TLV | Threshold Limit Value |
| LD ₅₀ | Lethal Dose | TWA | Time Weighted Average (8 hour) |
| mg/m ³ | Milligrams per cubic meter | WHMIS | Workplace Hazardous Materials Information System |
| MSHA | Mine Safety and Health Administration | | |

This MSDS (Sections 1-16) was revised on March 1, 2011.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability section.

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