

# Material Safety Data Sheet

## Section 1: PRODUCT AND COMPANY INFORMATION

**Product Name(s):** Lafarge Deicing Agent

**Product Identifiers:** Calcium Sand, Calcium Sand M1000

**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:** Calcium sand products are used for deicing and traction.

DO NOT use this product for abrasive blasting. This material safety data sheet and the information contained herein were not developed for abrasive blasting.

**Note:** This MSDS covers many types of calcium sand. Individual composition of hazardous constituents will vary between types of calcium sand.

## Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

| Component                           | Percent (By Weight) | CAS Number | OSHA PEL -TWA (mg/m <sup>3</sup> )                                       | ACGIH TLV-TWA (mg/m <sup>3</sup> ) | LD <sub>50</sub> (oral, rat) | LC <sub>50</sub> |
|-------------------------------------|---------------------|------------|--|------------------------------------|------------------------------|------------------|
| Crystalline Silica (quartz)         | 80-99               | 14808-60-7 | [(10) / (%SiO <sub>2</sub> +2)] (R); [(30) / (%SiO <sub>2</sub> +2)] (T) | 0.025 (R)                          | NA                           | NA               |
| Calcium Chloride                    | 10-15               | 10043-52-4 | NA   | NA                                 | 1g/kg                        | NA               |
| Magnesium Hydroxide                 | 10-15               | 1309-42-8  | NA   | NA                                 | 8.5 g/kg                     | NA               |
| Magnesium Chloride                  | 1-5                 | 7786-30-3  | NA   | NA                                 | 2.8 g/kg                     | NA               |
| Potassium Chloride                  | 1-5                 | 7447-40-7  | NA   | NA                                 | 2.6 g/kg                     | NA               |
| Sodium Chloride                     | 1-5                 | 7647-14-5  | NA   | NA                                 | 3 g/kg                       | NA               |
| Particulate Not Otherwise Regulated | -                   | NA         | 5 (R)<br>15 (T)  | 3 (R)<br>10 (T)                    | NA                           | NA               |

## Section 3: HAZARD IDENTIFICATION

|  |   |   |
|--|---|---|
|  | <b>WARNING</b>  | Respiratory Protection<br>Eye Protection<br>Waterproof Gloves<br>Waterproof Boots |
|  | <p>Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p>DO NOT use for Sand Blasting.</p> <p>Use proper engineering controls, work practices, and Personal Protective Equipment (PPE) to prevent exposure to dust.</p> <p>Read MSDS for details.</p> |   |

### Section 3: HAZARD IDENTIFICATION (continued)

---

|   |  |
|---|--|
| <b>Emergency Overview:</b>                        | Calcium sand is a white or light grey/brown solid material and is odorless. It is not combustible or explosive. A single, short-term exposure to calcium sand presents little or no hazard.  |
| <b>Potential Health Effects:</b>                  |  |
| <b>Eye Contact:</b>                               | Eye contact to airborne dust may cause immediate or delayed irritation or inflammation. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.  |
| <b>Skin Contact:</b>                              | Calcium sand may cause dry skin, abrasions, discomfort, and irritation. Prolonged or repeated exposure may cause skin irritation or burns. May cause more severe response if confined to skin or skin is scratched or cut.   |
| <b>Inhalation (acute):</b>                        | Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.  |
| <b>Inhalation (chronic):</b>                      | Risk of injury depends on duration and level of exposure.  |
| <u>Silicosis:</u>                                 | This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.  |
| <u>Carcinogenicity:</u>                           | Crystalline silica is classified by IARC and NTP as a known human carcinogen.  |
| <u>Autoimmune Disease:</u>                        | Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. |
| <u>Tuberculosis:</u>                              | Silicosis increases the risk of tuberculosis.  |
| <u>Renal Disease:</u>                             | Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.  |
| <b>Ingestion:</b>                                 | Do not ingest calcium sand. Ingestion of small quantities of calcium sand is not known to be harmful, large quantities can cause intestinal distress.  |
| <b>Medical Conditions Aggravated by Exposure:</b> | Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.   |

### Section 4: FIRST AID MEASURES

---

|                      |  |
|----------------------|--|
| <b>Eye Contact:</b>  | Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions, irritation and burns. |
| <b>Skin Contact:</b> | Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash or irritation.  |
| <b>Inhalation:</b>   | Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.   |
| <b>Ingestion:</b>    | Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.                        |

---

**Section 4: FIRST AID MEASURES (continued)**


---

**Note to Physician:** The three types of silicosis include:

- Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).
- Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

---

**Section 5: FIREFIGHTING MEASURES**


---

|                             |  |                                 |  |
|-----------------------------|--|---------------------------------|--|
| <b>General Hazard:</b>      | Avoid breathing dust.  | <b>Flashpoint &amp; Method:</b> | Non-combustible  |
| <b>Extinguishing Media:</b> | Use extinguishing media appropriate for surrounding fire.                | <b>Firefighting Equipment:</b>  | Sand poses no fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any fire. |
| <b>Combustion Products:</b> | When heated to decomposition, may emit chlorine gas and potassium oxide. |                                 |  |

---

**Section 6: ACCIDENTAL RELEASE MEASURES**


---

**General:** Place spilled material into a container. Avoid actions that cause the calcium sand to become airborne. Avoid inhalation of dust. Wear appropriate protective equipment as described in Section 8.

**Waste Disposal Method:** Dispose of calcium sand according to Federal, State, Provincial, and Local regulations.

---

**Section 7: HANDLING AND STORAGE**


---

**General:** 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 calcium sand. Calcium sand can buildup or adhere to the walls of a confined space. The calcium sand can release, collapse or fall unexpectedly.

**Usage:** This product is NOT to be used for abrasive blasting.

Calcium sand products are used for deicing and traction.

Cutting, crushing or grinding 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.

## Section 7: HANDLING AND STORAGE (continued)

---

|                             |  |                          |            |
|-----------------------------|--|--------------------------|------------|
| <b>Clothing:</b>            | Remove and launder clothing that is dusty before it is reused.   |                          |            |
| <b>Housekeeping:</b>        | Avoid actions that cause the calcium sand 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.  |                          |            |
| <b>Storage Temperature:</b> | Unlimited.   | <b>Storage Pressure:</b> | Unlimited. |
| <b>Warning:</b>             | Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870° C it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470° C it can change to a form of crystalline silica known as cristobalite. Crystalline silica as tridymite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz); the ACGIH TLV crystalline silica as tridymite and cristobalite is 0.05 mg/m <sup>3</sup> (R). |                          |            |

## 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 to prevent contact with eyes. Wearing contact lenses when using sand, under dusty conditions, is not recommended.   |
| Skin Protection:        | When prolonged or frequently repeated contact could occur, use protective clothing impervious to chemicals. Wear gloves in situations where abrasion from sand may occur. If hands are cut or scratched, use gloves impervious to this material even for brief exposures. Remove clothing and protective equipment that becomes dusty and launder before reusing. |

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

---

|                          |                                 |                             |              |
|--------------------------|---------------------------------|-----------------------------|--------------|
| <b>Physical State:</b>   | Granular Solid.                 | <b>Evaporation Rate:</b>    | NA           |
| <b>Appearance:</b>       | White or light gray/brown sand. | <b>pH (in water):</b>       | Neutral      |
| <b>Odor:</b>             | None.                           | <b>Boiling Point:</b>       | > 1000° C    |
| <b>Vapor Pressure:</b>   | NA                              | <b>Freezing Point:</b>      | None, solid. |
| <b>Vapor Density:</b>    | NA                              | <b>Viscosity:</b>           | None, solid. |
| <b>Specific Gravity:</b> | 2.7                             | <b>Solubility in Water:</b> | Insoluble    |

**Note:** The information presented in this section is for sand.

---

**Section 10: STABILITY AND REACTIVITY**

---

- Stability:** Stable. Deicing compounds are hygroscopic (absorb/attract water). Avoid contact with incompatible materials.
- Incompatibility:** Sand dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. Deicing compounds are corrosive to some metals, such as brass, mild steel, aluminum or ferrous metals. Avoid contact with strong oxidizers and strong acids.
- Hazardous Polymerization:** None.
- Hazardous Decomposition:** When heated to decomposition, may emit chlorine gas and potassium oxide.

---

**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.
- TSCA:** Crystalline silica is exempt from reporting under the inventory update rule.
- California Proposition 65:** Crystalline silica (airborne particulates of respirable size) is 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 <sub>50</sub>  | Lethal Concentration   | TLV   | Threshold Limit Value                                 |
| LD <sub>50</sub>  | Lethal Dose  | TWA   | Time Weighted Average (8 hour)                        |
| mg/m <sup>3</sup> | 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](http://www.lafarge-na.com) under the Sustainability section.

Lafarge North America Inc. (LNA) believes the information contained herein is accurate; however, LNA makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.