

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 1d
SRM Name: Limestone, Argillaceous
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended primarily for use in evaluating chemical and instrumental methods of analysis of limestone and related materials. A unit of SRM 1d consists of a single bottle containing approximately 70 g of argillaceous limestone which 97 % passes a 75 µm (No. 200) sieve.

Company Information

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 Standard Reference Materials Program
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 1-800-424-9300 (North America)
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2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements

Symbol
 No Symbol/No Pictogram

Signal Word
 No Signal Word

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Limestone, Argillaceous

Other Designations: Agricultural limestone; natural calcium carbonate; calcium carbonate

Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the NIST Certificate of Analysis.

| Hazardous Component(s) | CAS Number | EC Number (EINECS) | Nominal Mass Concentration (%) |
|------------------------|------------|-----------------------|-----------------------------------|
| Limestone | 1317-65-3 | 215-279-6 | 100 |

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water for at least 15 minutes. Thoroughly clean and dry contaminated clothing before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Negligible fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:

Suitable: Use extinguishing agents appropriate for surrounding fire.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1

Fire = 0

Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

Safe Handling Precautions: Minimize dust generation. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards. Keep separated from incompatible substances (See Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

ACGIH (TLV): No occupational exposure limits established.

OSHA (PEL): 5 mg/m³ (TWA, respirable dust)
15 mg/m³ (TWA, total dust)

NIOSH (REL): 5 mg/m³ (TWA, respirable dust)
10 mg/m³ (TWA, total dust)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eyewash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--------------------------------|
| Descriptive Properties: | Limestone, Argillaceous |
| Appearance (physical state, color, etc.): | white to brown powder |
| Molecular Formula: | varies |
| Molar Mass (g/mol): | varies |
| Odor: | odorless |
| Odor threshold: | not available |
| pH: | not applicable |
| Evaporation rate: | not applicable |
| Melting point/freezing point (°C): | not available |
| Relative Density as Specific Gravity (water = 1): | 2.71 to 2.95 |
| Vapor Pressure (mmHg): | not applicable |
| Vapor Density (air = 1): | not applicable |
| Viscosity (cP): | not applicable |
| Solubility(ies): | 0.0014 % (water); dilute acids |
| Partition coefficient (n-octanol/water): | not available |
| Particle Size: | 75 µm (sieve) |
| Thermal Stability Properties: | |
| Autoignition Temperature (°C): | not applicable |
| Thermal Decomposition (°C): | 898 (190.4 °F) |
| Initial boiling point and boiling range (°C): | not applicable |
| Explosive Limits, LEL (Volume %): | not applicable |
| Explosive Limits, UEL (Volume %): | not applicable |
| Flash Point (°C): | not applicable |
| Flammability (solid, gas): | not applicable |

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: Stable Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: Halogens, acids, metals.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of calcium and carbon.

Hazardous Polymerization: Will Occur Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: Inhalation Skin Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: May cause irritation.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Inhalation of nuisance dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes X No
Limestone is not listed by NTP, IARC, or OSHA as a carcinogen.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (STOT), Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity (STOT), Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: No.
CHRONIC HEALTH: Yes.
FIRE: No.
REACTIVE: No.
PRESSURE: No.

State Regulations:

California Proposition 65: Not listed.

U.S. TSCA Inventory: Limestone is listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 02 May 2017

Sources: ChemAdvisor, Inc., MSDS *Limestone*, 09 December 2015.

Key of Acronyms:

| | | | |
|--------|---|-------|--|
| ACGIH | American Conference of Governmental Industrial Hygienists | NIST | National Institute of Standards and Technology |
| ALI | Annual Limit on Intake | NRC | Nuclear Regulatory Commission |
| CAS | Chemical Abstracts Service | NTP | National Toxicology Program |
| CEN | European Committee for Standardization | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL | Permissible Exposure Limit |
| CFR | Code of Federal Regulations | RCRA | Resource Conservation and Recovery Act |
| CPSU | Coal Mine Dust Personal Sample Unit | REL | Recommended Exposure Limit |
| DOT | Department of Transportation | RM | Reference Material |
| EC50 | Effective Concentration, 50 % | RQ | Reportable Quantity |
| EINECS | European Inventory of Existing Commercial Chemical Substances | RTECS | Registry of Toxic Effects of Chemical Substances |
| EPCRA | Emergency Planning and Community Right-to-Know Act | SARA | Superfund Amendments and Reauthorization Act |
| IARC | International Agency for Research on Cancer | SCBA | Self-Contained Breathing Apparatus |
| IATA | International Air Transport Association | SRM | Standard Reference Material |
| IDLH | Immediately Dangerous to Life and Health | STEL | Short Term Exposure Limit |
| ISO | International Organization for Standardization | STOT | Specific Target Organ Toxicity |
| LC50 | Lethal Concentration, 50 % | TDLo | Toxic Dose Low |
| LD50 | Lethal Dose, 50 % | TLV | Threshold Limit Value |
| LEL | Lower Explosive Limit | TPQ | Threshold Planning Quantity |
| MSDS | Material Safety Data Sheet | TSCA | Toxic Substances Control Act |
| NFPA | National Fire Protection Association | TWA | Time Weighted Average |
| MSHA | Mine Safety and Health Administration | UEL | Upper Explosive Limit |
| NIOSH | National Institute for Occupational Safety and Health | WHMIS | Workplace Hazardous Materials Information System |

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at <http://www.nist.gov/srm>.