

Conforms to HazCom 2012/United States; WHMIS 2015/Canada

SAFETY DATA SHEET

Hydrated Lime

Section 1. Identification

GHS product identifier : Hydrated Lime

Other means of identification : Snowbright Hydrate, Hydrated Lime, Slaked Lime, Calcium Hydroxide $\text{Ca}(\text{OH})_2$

Identified uses : Water and wastewater treatment, Asphalt concrete treatment for anti-strip purposes, pH adjustment

Supplier's details : Garrison Minerals
11901 W 48th Ave Ste 300
Wheat Ridge, CO 80033

Emergency telephone : 720.389.7609

Section 2. Hazards identification

Classification of the substance or mixture : SKIN IRRITATION - Category 2
EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE [Respiratory System] - Category 3
SPECIFIC TARGET ORGAN TOXICITY REPEAT EXPOSURE [Respiratory System] - Category 1
CARCINOGEN - Category 1A

GHS label elements



Hazard pictograms :

Signal word : Danger

Hazard statements : Causes skin irritation. Causes serious eye damage. May cause cancer through inhalation. May cause respiratory irritation.

Precautionary statements

Prevention : Wear protective gloves/protective clothing/face protection /eye protection. Wash exposed skin thoroughly after handling. Avoid breathing dust. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Response : IF ON SKIN: Wash exposed skin with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Seek medical attention if you feel unwell
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 If exposed or concerned: Get medical advice

Storage : Store to minimize dust generation
Disposal : Dispose of contents or containers in accordance with applicable regulations.
Hazards not otherwise classified :
Ingredients with unknown toxicity : Not Applicable

Section 3. Composition/information on ingredients

Substance/mixture : Calcium Hydroxide (Ca(OH)₂)

CAS number/other identifiers

Component	CAS #	% by weight
Calcium Hydroxide	1305-62-0	>89
Magnesium Oxide	1309-48-4	<3
Crystalline Silica	14808-60-7	.0001-1

Impurities : Small quantities of calcium carbonate, calcium oxide and impurities. Impurities will vary from source to source.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact : Contact can cause severe irritation or burning of eyes, including permanent damage. Immediately flush eyes with generous amounts of water for at least 15 minutes. Pull back the eyelid to ensure that all hydrated lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.

Skin Contact : Contact can cause severe irritation or burning of skin. Wash exposed area with large amounts of water. Seek medical attention immediately.

Ingestion : Do not induce vomiting. Seek medical attention immediately.

Inhalation : This product can cause severe irritation of the respiratory system. Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration.

Most important symptoms/effects, acute and delayed : Irritation of skin, eyes, gastrointestinal tract or respiratory tract. Long-term exposure by inhalation may cause permanent damage. This product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

Indication of immediate medical attention and special treatment needed, if necessary: See first aid information above. Note to Physicians: Provide general supportive measures and treat symptomatically.

Section 5. Fire-fighting measures

Extinguishing Media : Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable Extinguishing Media: None known.

Fire Hazards : Hydrated lime is not combustible or flammable. Hydrated lime is not considered to be an explosion hazard.

Hazardous Combustion Products: None known

Special Protective Equipment and Fire Fighting Instructions:

No Special measures are required. Fire-fighters should wear appropriate protective equipment and self-contained apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Spill/Leak Procedures : Use proper protective equipment.

Small Spills : Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Residue on surfaces may be water washed.

Large Spills : Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure.

Methods and materials for containment and cleaning up

Containment : For large spills, as much as possible, avoid the generation of dusts. Prevent release to sewers or waterways.

Cleanup : Residual amounts of material can be flushed with large amounts of water. Equipment can be washed with either mild vinegar and water solution, or detergent and water.

Section 7. Handling and storage

Precautions for safe handling

Avoid direct skin contact with the material.

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below).

Long-term storage in aluminum containers is not recommended, as calcium oxide may corrode aluminum over long periods of time.

Section 8. Exposure controls/personal protection

Exposure limits

Component	CAS #	Exposure limits
Calcium Hydroxide	1305-62-0	OSHA PEL: 5mg/m ³ ACGIH TLV: 5mg/m ³
Magnesium Oxide	1309-48-4	OSHA PEL: 15mg/m ³ ACGIH TLV: 10mg/m ³
Crystalline Silica	14808-60-7	OSHA PEL: 0.050mg/m ³ as a 8hr TWA (respirable) ACGIH TLV: 0.025 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Calcium oxide (CaO) (CAS 1305-78-8)	TWA	2 mg/m ³

Impurities	Type	Value	Form
Quartz (CAS 14808-60-7)	TWA	0.05 mg/m ³	Respirable dust.

Biological limit values : No biological exposure limits noted for the ingredient(s).

Engineering controls : Provide ventilation adequate to maintain PELs.

Individual Protection Measures

Respiratory Protection : Use NIOSH/MSHA approved respirators if airborne concentration exceeds PEL.

Skin Protection : Use appropriate gloves to prevent skin contact. When there is a risk of skin contact, wear suitable clothing to prevent such contact. Clothing should fully cover arms and legs.

Eye Protection : Use safety glasses with side shields or safety goggles. Contact lenses should not be worn when working with lime products. When working with powders or dusts, wear dust-proof chemical goggles and face shield unless full facepiece respiratory protection is worn.

Other : Eye wash fountain and emergency showers are recommended.
Wear appropriate thermal protective clothing, when necessary.

Section 9. Physical and chemical properties

Physical State	: Solid
Appearance	: White or grayish-white material
Odor	: Sweet, soil like
Odor threshold	: Not applicable
pH at 25 degrees C	: 12.45
Melting point	: 1076°F, 580°C

Initial boiling point	: 5162°F, 2850°C
Flash point	: Not applicable
Evaporation rate	: No information available
Flammability (solid, gas)	: Not applicable.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapor pressure	: Not applicable.
Vapor density	: Not applicable.
Relative density	: 2.446
Solubility in water	: No Data Available
Partition coefficient: n octanol/water	: No Data Available
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No information available
Viscosity	: No information available

Section 10. Stability and reactivity

Reactivity : None known. See also Incompatibility below

Chemical stability : Hydrated lime is chemically stable

Possibility of : See above

hazardous reactions

Conditions to avoid : Avoid dust formation, incompatible products, excess heat, and exposure to air or moisture over prolonged periods

Incompatible materials : Hydrated lime should not be mixed or stored with the following materials:

ACIDS

REACTIVE FLUORIDATED COMPOUNDS

REACTIVE BROMINATED COMPOUNDS

REACTIVE POWDERED METALS

ALUMINUM POWDER

ORGANIC ACID ANHYDRIDES

NITRO-ORGANIC COMPOUNDS

REACTIVE PHOPHOROUS COMPOUNDS

INTERHALOGENATED COMPOUNDS

Hazardous : Calcium Oxides

decomposition products

Section 11. Toxicological Information

Information on the likely routes of exposure: See First Aid discussion above.

Symptoms related to the physical, chemical and toxicological characteristics: See First Aid discussion above.

Delayed and immediate effects and also chronic effects from exposure: See First Aid discussion above.

Numerical measures of toxicity: No LD50/LC50 have been identified for this product's components.

Carcinogen listing: Hydrated lime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled

Toxicological data

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (CAS 14808-60-7) 1 Carcinogenic to humans.

NTP Report on Carcinogens

Quartz (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Quartz (CAS 14808-60-7) Cancer

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

Section 12. Ecological information

Ecotoxicity	: Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.
Persistence and degradability	: There is no data available.
Bioaccumulative potential	: This material shows no bioaccumulation effects of food chain concentration toxicity.
Mobility in soil	: There is no data available.
Other adverse effects	: This material is alkaline and if released into water or moist soil will cause an increase in pH.

Section 13. Disposal considerations

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste. It will not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act.

Section 14. Transport information

UN Number: Not Regulated
 UN Proper Shipping Name: Not Regulated
 Transport Hazard Class(es): Not Regulated
 Packing Group: Not Regulated
 Marine Pollutant (y/n): This material is alkaline and if released into water or moist soil will cause an increase in pH.
 Special Precautions: None

Section 15. Regulatory information

National Chemical Inventory Listings:

All chemical ingredients are listed on the USEPA TSCA Inventory List.

US Regulations:

RCRA Hazardous Waste Number: not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261): not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity: not listed.

SARA 311/312 Codes: not listed.

SARA Toxic Chemical (40 CFR 372.65): not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ): not listed

State Regulations:

Consult state and local authorities for guidance.

California Proposition 65



WARNING: This product can expose you to SILICA, CRYSTALLINE QUARTZ, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

These naturally occurring impurities may also be regulated by other States.

Canada

Canadian lists

Canadian DSL	:Listed
Canadian NPRI	:None of the components are listed
CEPA Toxic Substances	:None of the components are listed

Section 16. Other information

History

Date of issue (mm/dd/yyyy)	: 08/01/2023
Replacing	: 09/30/2019
Version	: 3

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Garrison Minerals LLC makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving the information

will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Garrison Minerals LLC be responsible for damages of any nature whatsoever resulting from the use of or reliance upon

information. In addition, we shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

Prepared by Garrison Minerals, LLC

11901 W 48th Ave. Ste 300

Wheat Ridge, CO 80033

Phone: 720-389-7609