Bonide Hydrated Lime

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Bonide Hydrated Lime

Product code : 978, 979

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Soil Amendment

1.3. Details of the supplier of the safety data sheet

Bonide Products, LLC
6301 Sutliff Road
Oriskany, NY 13424

Telephone Number: (315) 736-8231
Comment: Bonide hours of operation are 8:00 a.m. to 4:30 p.m EST.

Website: www.bonide.com

Email address: sales@bonide.com

1.4. Emergency telephone numbers (24 hour)

Medical : SafetyCall - (833) 972-1101

Spills : CHEMTREC - 1 (800) 424-9300 and/or 1 (703) 527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin corrosion/irritation 2	H315
Eye damage/irritation 1	H318
Carcinogenicity (inhalation) 1A	H350
Specific target organ toxicity (single exposure) (Respiratory tract irritation) 3	H335
Specific target organ toxicity (repeated exposure) 1	H372

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H318 - Causes serious eye damage.
H315 - Causes skin irritation.
H350 - May cause cancer if inhaled.
H335 - May cause respiratory irritation.
H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :
Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P280 - Wear protective gloves. Wear eye or face protection.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe dust.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical attention if you feel unwell.
P308+P313 - IF exposed or concerned: Get medical attention.
P304+P340+P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P302+P352+P362+P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 + P310 - 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 or physician.
Storage : P401 - Store to minimize dust generation.
Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 3: Composition/information on ingredients

Mixture

Name	Product identifier	%
Calcium hydroxide	(CAS No) 1305-62-0	90 - 100
Crystalline Silica, Quartz	(CAS No) 14808-60-7	0 - 0.1

Crystalline silica has been found in some products at or above detection level 0.1%. Concentration is dependent upon limestone source.
Any concentration shown as a range is to protect confidentiality or is due to batch variation.
There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Get medical attention immediately. Call a poison center or physician.

First-aid measures after ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband..

4.2. Most important symptoms and effects, both acute and delayed

Potential acute health effects:
Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Ingestion: No known significant effects or critical hazards.
Skin contact: Causes skin irritation.

Over-exposure signs/symptoms: (Adverse symptoms may include the following)
Eye contact: pain, watering, redness
Inhalation: respiratory tract irritation, coughing, burning sensation
Ingestion: burning sensation, abdominal cramps and pain, vomiting
Skin contact: pain or irritation, redness, blistering may occur.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water. Sand.

Unsuitable extinguishing media : Known known

5.2. Special hazards arising from the substance or mixture

No specific fire or explosion hazard.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment..

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Hygiene measures : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters (United States Occupational exposure limits)

Calcium Hydroxide

OSHA PEL (United States, 2/2013).	TWA: 5 mg/m³ 8 hours. Form: Respirable fraction; TWA: 15 mg/m³ 8 hours. Form: Total dust
ACGIH TLV (United States, 4/2014).	TWA: 5 mg/m³ 8 hours.
NIOSH REL (United States, 10/2013).	TWA: 5 mg/m³ 10 hours.
MSHA PEL	TWA 8/40 hours: 5 mg/m3

Crystalline silica, quartz

OSHA PEL Z3 (United States, 2/2013).	TWA: 10 mg/m³ 8 hours. Form: Respirable; TWA: 250 mppcf 8 hours. Form: Respirable

NIOSH REL (United States, 10/2013).	TWA: 0.05 mg/m³ 10 hours. Form: Respirable dust
ACGIH TLV (United States, 4/2014).	TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction
MSHA PEL	TWA 8/40 hours: 30 mg/m3/(%SiO2)+2 mg/m3 Form: Total dust
	10 mg/m3/(%SiO2)+2 mg/m3 Form: Respirable dust

8.2. Exposure controls

Appropriate engineering controls	: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Engineering controls may be required to control the primary or secondary risks associated with this product..
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin (hand) protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
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.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: White, off-white, faint musty, earthy odor.
Color	: White to off-white.
Odor	: Musty to earthy odor.
Odor threshold	: No data available
pH	: 12.454 @ 25 degrees C
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Self ignition temperature	: Not applicable
Decomposition temperature	: 540°C (1004°F)
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 2.3 - 2.4
Solubility in water	: 0.165 g/100 g at 20°C

Log Pow	:	No data available
Log Kow	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

VOC (w/w) 0% (w/w)

SECTION 10: Stability and reactivity

10.1. Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Do not allow quicklime to come into contact with incompatible materials. e.g. Water, acids, reactive fluoridated compounds, reactive brominated compounds. Reactive powered metals, organic acid anhydrides, nitro-organic compounds, reactive phosphorous compounds, interhalogenated compounds..

10.5. Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials and acids.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Calcium hydroxide (1305-62-0)	
LD50 dermal rabbit	> 2500 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)

Skin corrosion/irritation	:	Causes severe skin burns and eye damage. pH: 12.454 @ 25 degrees C
Serious eye damage/irritation	:	Not classified pH: 12.454 @ 25 degrees C
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	May cause cancer if inhaled. Risk of cancer depends on duration and level of exposure.

Crystalline Silica, Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to Humans

Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Calcium hydroxide (1305-62-0)	
LC50 fish 1	160 mg/l (96 h; Gambusia affinis; GLP)
LC50 other aquatic organisms 1	100 - 1000 mg/l (96 h)
EC50 Daphnia 1	49.1 mg/l (48 h; Daphnia magna; GLP)

Calcium hydroxide (1305-62-0)	
LC50 fish 2	220 mg/l (48 h; Gambusia affinis)
TLM fish 1	33.9 mg/l (96 h; Pisces)
TLM fish 2	220 ppm (48 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	100 - 1000,96 h
Threshold limit algae 1	184.57 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)

12.2. Persistence and degradability

There is no data available

12.3. Bioaccumulative potential

Calcium hydroxide (1305-62-0)	
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No known significant effects or critical hazards

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Not regulated for transport by DOT

SECTION 15: Regulatory information

15.1. US Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): Calcium Hydroxide is subject to inventory update reporting (IUR).
FDA: Calcium Hydroxide has been determined as Generally Recognized As Safe (GRAS) by FDA. See 21CFR184.1205. (CFR Title 21 Part 184 - - Direct food substances affirmed as generally recognized as safe).
RCRA classification: Calcium Hydroxide is not listed or classified.
CWA-311: Calcium Hydroxide has been withdrawn from the Clean Water Act (CWA) list of hazardous substances. (11/13/79) (44FR65400).
CERCLA: Calcium Hydroxide is not listed.

15.2. US State regulations

Massachusetts : The following components are listed: Calcium Hydroxide; Crystalline silica, quartz
New Jersey : The following components are listed: Calcium Hydroxide; Crystalline silica, quartz
Pennsylvania : The following components are listed: Calcium Hydroxide; Crystalline silica, quartz

SECTION 16: Other information

Other information : None.

SDS US (GHS HazCom 2012) - Pesticides

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.