2025-2026 Chemical Consortium
Graymont Western Lime Inc
Supplier Response

Event Information

Number: 2025-2026 Chemical Consortium
Title: 202503063901
Type: Request for Proposal- Sealed
Issue Date: 3/6/2025
Deadline: 3/20/2025 02:00 PM (ET)
Notes: Notice to Bidders:

Sealed Proposals in response to this Request for Proposal (“RFP”) will be received by the Board of Water and Light (“BWL”)for furnishing of Mid-Michigan Water Chemical Consortium 2025-2026.

Proposals must be in full accordance with the enclosed Scope of Work.

Proposals must be submitted through IonWave. Proposals received via e-mail will not be accepted.

The BWL reserves the right to reject any or all Proposals, waive irregularities or technicalities in any Proposal, and accept any Proposal in whole or in part, which in the opinion of the BWL, is in its best interest. The BWL does not limit the methods or factors to be used for evaluation.

Contact Information

Contact: Monica Clark
Address: 1110 South Pennsylvania Ave.
Lansing, MI 48912

Email: Monica.Clark@LBWL.COM

Graymont Western Lime Inc Information

Contact:	Biju Daniel
Address:	215 N Main Street, Suite # 200 PO Box 57 West Bend, WI 53095
Phone:	(262) 338-4024
Fax:	(262) 334-2874
Toll Free:	(180) 433-0036
Email:	bdaniel@graymont.com
Web Address:	www.graymont.com

By submitting your response, you certify that you are authorized to represent and bind your company.

Nicholas Bobos
Signature

nbobos@graymont.com
Email

Submitted at 3/11/2025 05:59:28 PM (ET)

Requested Attachments

Other Attachment	TDS_408_1100_Calcitic Quicklime_Pebble_19x6.3mm_2020.pdf
Sworn and Notarized Affidavit of Compliance	Iran Economic Sanctions Act Certification - Graymont Western Lime (Signed).pdf
Exceptions to Terms and Conditions (if applicable)	*No response*

Response Attachments

HIGH CALCIUM QUICKLIME_Graymont - SDS US 4.12English (US) (1).pdf

Safter Data Sheet

TDS_408_1100_Calcitic Quicklime_Pebble_19x6.3mm_2020.pdf

Spec Sheet

Graymont ANSI Water Cert.doc

ANSI Water Cert.

Bid Attributes

1	**Company Contact** Please provide the primary contact's name, e-mail, and phone number for this proposal. Nick Bobos, nbobos@graymont.com, 262-277-8794
2	**How many years has your firm been in business under the present ownership?** 75 years
3	**Have you done business with the Board of Water and Light? If so, furnish specifics.** Yes. Current Lime Supplier

4	**Have you done business with the City of Lansing? If so, furnish specifics.** Yes. Current Lime Supplier
5	**Have you ever defaulted on a contract or been involved in litigation with the BWL or the City of Lansing? If so, furnish specifics.** No
6	**Have you ever defaulted on a contract or been involved in litigation with any other client in the past five years? If so, furnish specifics.** No
7	**List any relationships between your firm's staff and any current BWL employee.** No
8	**List at least three (3) references for similar work you have performed for other clients. Include client's name, contact name, title and phone number.** City of Elgin, IL City of Minneapolis, MN City of Midland, MI
9	**List subcontractors that you plan to use on this project.** The only subcontractor is the trucking company. It's Cordes Trucking. Michigan based, they are your current lime hauler.
10	**Indicate any exceptions to the enclosed Terms and Conditions** If *YES*, Contractor must provide red-lined editing on the BWL Terms and Conditions Microsoft Word document only. Any submission of, or general references to Contractor Terms and Conditions in its entirety anywhere within the proposal will invalidate the proposal. No
11	**Acknowledgment of receipt of any Addendas issued.** Yes
12	**Confirm you have reviewed all attachments included in this solicitation.** ☑ Yes
13	**I have read and agreed.** The Bidder states that this proposal is made in conformity with the Proposal Documents and agrees that, in the event of any discrepancies or differences between any conditions of their proposal and the Proposal Documents provided in the Instructions to Bidders and completed by the bidder, the provisions of the latter shall prevail. No verbal or written agreements or understandings considered or entered into prior to signing of a contract in the form of a purchase order, shall be binding after the signing of the contract unless incorporated in the contract. The Bidder certifies that this proposal is made in good faith, upon the best information, with knowledge and accuracy, and without collusion or connection with any other person or persons submitting proposals for the work. ☑ I have read and agreed

Bid Lines

1	Sodium Hypochlorite (per gallon) Quantity: 1 UOM: GAL Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
2	Sodium Hypochlorite Demurrage (first 4 hours free) Quantity: 1 UOM: HR Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
3	Hydrofluosilic Acid- 40,000 lbs. minimum shipments Quantity: 1 UOM: TON Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
4	Hydrofluosilic Acid- 30,000 lbs. minimum shipments Quantity: 1 UOM: TON Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
5	Hydrofluosilic Acid- multiple locations in 40,000 lbs. minimum shipments Quantity: 1 UOM: TON Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
6	Hydrofluosilic Acid- Demurrage (first 4 hours free) Quantity: 1 UOM: HR Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**
7	Ferric Chloride- Dry Tons Quantity: 1 UOM: TON Manufacturer: *No response* Manufacturer #: *No response*	**No Bid**

8	Ferric Chloride-Demurrage (first 4 hours free)					
	Quantity: 1	UOM: EA				***No Bid***
	Manufacturer:	*No response*				
	Manufacturer #:	*No response*				
9	Pebble Quicklime					
	Quantity: 1	UOM: TON	Price: $200.00	Total: $200.00		
	Manufacturer:	Graymont				
	Manufacturer #:	1100				
10	Pebble Quicklime- Demurrage (first 4 hours free)					
	Quantity: 1	UOM: HR	Price: $125.00	Total: $125.00		
	Manufacturer:	Graymont				
	Manufacturer #:	1100				
11	Soda Ash					
	Quantity: 1	UOM: TON				***No Bid***
	Manufacturer:	*No response*				
	Manufacturer #:	*No response*				
12	Soda Ash- Demurrage (first 4 hours free)					
	Quantity: 1	UOM: HR				***No Bid***
	Manufacturer:	*No response*				
	Manufacturer #:	*No response*				

Response Total: $325.00

GRAYMONT WESTERN LIME INC.
206 North 6th Avenue
P.O. Box 57
West Bend, WI 53095

Telephone: 1-800-433-0036
www.graymont.com

TO WHOM IT MAY CONCERN:

I hereby certify that the **High Calcium Lime** as manufactured by Graymont Western Lime Inc. of West Bend, Wisconsin, does comply with
ASTM C25 and ASTM C-911"Standard Specifications for Quicklime and Hydrated Lime for Chemical Uses", and **ANSI/AWWA B202** "AWWA Standard for Quicklime and Hydrated Lime".

Our lime is certified by ***Underwriter's Laboratories Inc.*** for **ANSI/NSF 60** standards under drinking water treatment additives.
Manufacturers Ref: # **MH17697**.
UL # **2M90**

Nick Bobos
Graymont Western Lime
262-277-8794
Email: nbobos@graymont.com

SWORN AND NOTARIZED AFFIDAVIT OF COMPLIANCE

IRAN ECONOMIC SANCTIONS ACT

Michigan Public Act No. 517 of 2012

All bidders must submit the following certification statement in compliance with Public Act No. 517 of 2012 (the "Iran Economic Sanctions Act") and attach this form to the bid. **The Lansing Board of Water & Light shall not accept any bid that does not include this sworn and notarized certification of statement.**

The undersigned, the owner or authorized officer of Graymont Western Lime Inc. (the Bidder), pursuant to the compliance certification requirement provided in the Lansing Board of Water & Light Request for Proposal, hereby certifies, represents and warrants that the Bidder (including its officers, directors and employees) is not an "Iran linked business" within the meaning of the Iran Economic Sanctions Act, and that in the event the Bidder is awarded a contract as a result of the aforementioned Request for Proposal, the Bidder will not become an "Iran linked business" at any time during the course of performing the work or any services under the contract.

Specifically, the undersigned, owner or authorized officer of Graymont Western Lime Inc (the Bidder) attests it does not fall within the following definition of a "Iran linked business" under the Iran Economic Sanctions Act:

> ***MCL 129.312 (e) of the Act provides:***
> *(e) "Iran linked business" means either of the following:*
> *(i) A person [as defined below by MCL 129.312(f)] engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran.*
> *(ii) A financial institution that extends credit to another person, if that person will use the credit to engage in investment activities in the energy sector of Iran.*
>
> ***MCL 129.312(f) of the Act defines "Person" as follows:***
> *(f) "Person" means any of the following:*
> *(i) An individual, corporation, company, limited liability company, business association, partnership, society, trust, or any other nongovernmental entity, organization, or group.*
> *(ii) Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in section 1701(c)(3) of the international financial institutional act, 22 USC 262r(c)(3).*

The Bidder further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification is made, whichever is greater, the cost of the Lansing Board of Water & Light's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a Request for Proposal for three (3) years from the date it is determined that the person has submitted the false certification.

BIDDER

Graymont Western Lime Inc.

By: _____

Its: Vice President, General Counsel and Corporate Secretary

Date: March 11, 2025

PROVINCE OF British Columbia)

CITY OF Richmond)

This instrument was acknowledged before me on the 11th day of March, 2025, by Celia Johnson.

_____

Jonathan Lau, Notary Public

City of Vancouver County, British Columbia My Commission Expires: n/a / never expires Acting in the ~~County~~ City of: Vancouver

Jonathan Lau
Barrister & Solicitor
Graymont Limited
200-10991 Shellbridge Way
Richmond, BC V6X 3C6

GRAYMONT
Lime and Limestone products
Central Region Office, 200-215 North Main Street, West Bend, WI 53095, United States 1 800 433-0036

HIGH CALCIUM "PEBBLE" QUICKLIME

Nominal size: 19 – 6.3 mm (3/4" x 1/4")

Port Inland Plant, Gulliver, Michigan

PRODUCT DESCRIPTION

A white porous solid obtained by the calcination of high-purity limestone ($CaCO_3$) and composed essentially of calcium oxide (CaO).

TYPICAL CHEMICAL PROPERTIES
(ASTM C25, C1271, C1301)

Total Calcium Oxide (CaO) (%)	93.2
Available Calcium Oxide (CaO) (%)	91.5
Magnesium Oxide (MgO) (%)	2.8
Silica (SiO_2) (%)	1.5
Ferric Oxide (Fe_2O_3) (%)	0.2
Alumina (Al_2O_3) (%)	0.6
Manganese Oxide (MnO) (ppm)	< 50
Total Sulfur (S) (%)	0.07
Loss on ignition (%)	1.5
Calcium Carbonate ($CaCO_3$) (%)	2.2

TYPICAL PHYSICAL PROPERTIES
(ASTM C110, AWWA B202)

Bulk Density	
▲ Loose / Packed, (kg/m³)	880 – 980
▲ Loose / Packed, (lb/ft³)	55 – 61
Slaking Rate	
▲ Temperature Rise in 30 sec (°C)	19
▲ Temperature Rise in 3 min (°C)	44
▲ Total Temperature Rise (°C)	49
▲ Total Active Slaking Time (min)	5.8
Wet Hunter Brightness (Y)	80.4
Wet Hunter Color (b)	4.4
Wet Hunter Lightness (L)	89.6

CLASSICAL REFERENCE DATA
(CRC Handbook of Chemistry and Physics)

Specific Gravity	3.25 – 3.38
Solubility in Water (10 °C) (g/l)	1.31
pH (saturated solution) (25 °C)	12.454
Melting point (°C)	2613
Hardness (Mohs)	2 – 3
Specific Heat (0 °C) (cal/g*°C)	0.17
Heat of solution (cal/g)	844 – 847

SIZE DISTRIBUTION
(ASTM MNL32)

Sieve (mm)	Sieve (U.S.A.)	% Passing
25	1"	100
19	3/4"	98
12.5	1/2"	51
9.5	3/8"	29
6.3	1/4"	8

CLASSIFIED UL WATER QUALITY

ANSI / NSF 60
DRINKING WATER TREATMENT ADDITIVES
< 2 M 90 >
MAXIMUM USE LEVEL: 500 mg/l.

Meets the AWWA standard B202-19

NOTICE

The test data herein is based on average results on production samples. Product shipments are subject to normal variation. Accordingly, test data cannot be taken as establishing maximum or minimum specifications.
Product Code: 1100 (Bulk)

GRAYMONT

SAFETY DATA SHEET

HIGH CALCIUM QUICKLIME

Section 1. Identification

GHS product identifier : HIGH CALCIUM QUICKLIME

Product code : Not available.

Other means of identification : Lime, Quicklime, Calcium Oxide, Burnt Lime, Unslaked Lime, Fluxing Lime.

Product type : Solid.

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

Identified uses
Neutralization, flocculation, flux(met.), caustic agent, absorption, stabilization.

Supplier/Manufacturer : GRAYMONT
#200-10991 Shellbridge Way
Richmond, BC V6X 3C6
Canada
Phone: 1 604 207-4292
Toll free: 1 866 207-4292
Fax: 1 604 207-9014
Web Site: http://www.graymont.com/

Emergency telephone number (with hours of operation) : CHEMTREC, US (800-424-9300)
INTERNATIONAL: (703-527-3887)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

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

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and 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 thoroughly after handling.

Response : P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice or 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 doctor.

Storage : P401 - Store to minimize dust generation.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Not applicable.

Hazards not otherwise classified : Reacts violently with water, generating heat which can ignite combustible materials.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Lime, Quicklime, Calcium Oxide, Burnt Lime, Unslaked Lime, Fluxing Lime.

Ingredient name	%	CAS number
Calcium oxide	≥90	1305-78-8
Crystalline silica, respirable powder	0.0001 - 1	14808-60-7

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. If a generic chemical name is shown and/or the CAS number is not disclosed, the specific chemical identity has been withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

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.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. When used under normal conditions quicklime doesn't generate fumes. However dust (Particulates) may be generated. Use dust-mask if dust is present. 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. 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.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. 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.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
burning sensation

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical fire extinguisher.

Unsuitable extinguishing media : Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of quicklime.

Specific hazards arising from the chemical : Not applicable.

Hazardous thermal decomposition products : None.

Special protective actions for fire-fighters : First move people out of line-of-sight of the scene and away from windows.

Special protective equipment for fire-fighters : 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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. 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.

For emergency responders : If 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 non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Move containers from spill area. Do not use water on bulk material spills. 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.

Section 7. Handling and storage

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.

Advice on general occupational hygiene : 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.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. 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 to minimize dust generation. 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

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Calcium oxide	**ACGIH TLV (United States, 3/2020).** TWA: 2 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 2 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours.
Crystalline silica, respirable powder	**OSHA PEL Z3 (United States, 6/2016).** TWA: 250 mppcf 8 hours. Form: Respirable TWA: 10 mg/m³ 8 hours. Form: Respirable TWA: 5 mg/m3 Form: Respirable fraction TWA: 15 mg/m3 Form: Total dust **NIOSH REL (United States, 10/2016).** TWA: 0.05 mg/m³ 10 hours. Form: Respirable dust TWA: 5 mg/m3 Form: Respirable fraction TWA: 10 mg/m3 Form: Total dust **OSHA PEL (United States, 5/2018).** TWA: 50 µg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 3/2020).**

Section 8. Exposure controls/personal protection

	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

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.

Individual protection measures

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 protection

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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Solid. [Crystalline.]

Color : White.

Odor : Odorless + soil like smell.

Odor threshold : Not available.

pH : 12.45 [Sat. soln.] at 25°C

Melting point/freezing point : 2570 to 2625°C (4658 to 4757°F)

Boiling point, initial boiling point, and boiling range : 2850°C (5162°F)

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not applicable.

Vapor pressure : Not available.

Relative vapor density : Not applicable.

Relative density : 3.25 to 3.28

Solubility in water : 0.125 g/100 g at 20°C

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not available.

Section 10. Stability and reactivity

Reactivity : Reacts violently with strong acids. Reacts with water to form Calcium Hydroxide. The heat generated when mixed with water or moist air is sufficient to ignite surrounding materials such as paper, wood or cloth.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Exothermic reaction to water.

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 powdered metals, organic acid anhydrides, nitro-organic compounds, reactive phosphorous compounds, interhalogenated compounds.

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

Section 10. Stability and reactivity

Hazardous decomposition products : None.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Crystalline silica, respirable powder	-	1	Known to be a human carcinogen.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Calcium oxide	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Crystalline silica, respirable powder	Category 1	inhalation	respiratory tract

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation.

Section 11. Toxicological information

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
burning sensation

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer if inhaled. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Calcium oxide	Chronic NOEC 100 mg/L Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	46 days

Persistence and degradability

Section 12. Ecological information

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Calcium oxide	-	2.34	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	UN1910
UN proper shipping name	-	-	CALCIUM OXIDE
Transport hazard class(es)	-	-	8 
Packing group	-	-	III
Environmental hazards	No.	No.	No.

AERG : 157

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

CEPA/ DSL: All components are listed or exempted.

RCRA classification: Calcium Oxide is not listed or classified.

CWA-311: Calcium Oxide has been withdrawn from the Clean Water Act (CWA) list of hazardous substances. (11/13/79) (44FR65400).

CERCLA: Calcium Oxide is not listed.

FDA: Calcium Oxide has been determined as "Generally Recognized As Safe" (GRAS) by FDA. See 21CFR184.1210. (CFR Title 21 Part 184 - - Direct food substances affirmed as generally recognized as safe).

RCRA classification: Calcium Oxide is not listed or classified.

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CERCLA: Calcium Oxide is not listed.

FDA: Calcium Oxide has been determined as "Generally Recognized As Safe" (GRAS) by FDA. See 21CFR184.1210. (CFR Title 21 Part 184 - - Direct food substances affirmed as generally recognized as safe).

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
Calcium oxide	≥90	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Crystalline silica, respirable powder	0.0001 - 1	CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

State regulations

Massachusetts : The following components are listed: Calcium oxide; Crystalline silica, respirable powder

New York : None of the components are listed.

New Jersey : The following components are listed: Calcium oxide; Crystalline silica, respirable powder

Pennsylvania : The following components are listed: Calcium oxide; Crystalline silica, respirable powder

California Prop. 65

⚠ **WARNING**: This product can expose you to Crystalline silica, respirable powder, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Crystalline silica, respirable powder	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

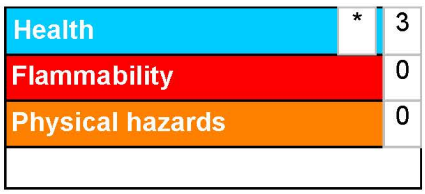
Not listed.

Inventory list

United States (TSCA 8b) : All components are active or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Procedure used to derive the classification

Classification	Justification
SKIN CORROSION/IRRITATION - Category 2	Expert judgment
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	On basis of test data
CARCINOGENICITY - Category 1A	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method

History

Date of issue/Date of revision : 08/15/2021

Date of previous issue : 12/15/2020

Version : 6

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

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