

SAFETY DATA SHEET

DOLOMITIC QUICKLIME

Section 1. Identification

GHS product identifier

: DOLOMITIC QUICKLIME

Code

: Not available.

Other means of identification

: Mag lime, Dolime, Fluxing Lime, Kemidol Oxide, Kemidol Oxide Fines, Calcium

Magnesium Oxide.

Product type : Solid.

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

Identified uses : Neutralization, flocculation, flux and slag conditioner, (steelmaking), absorption.

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)

: CANUTEC (613-996-6666) 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 IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1

CARCINOGENICITY (inhalation) - Category 1A

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) -

Category 1

GHS label elements

Hazard pictograms







Signal word Danger

Hazard statements : 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. (respiratory

tract)

Precautionary statements





Section 2. Hazards identification

Prevention : P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

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.

: P314 - Get medical attention if you feel unwell. Response

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.

Supplemental label

elements

: Not applicable.

Other hazards which do not : None known.

result in classification/ HHNOC/PHNOC

Section 3. Composition/information on ingredients

Substance/mixture

Other means of identification

Mixture

: Mag lime, Dolime, Fluxing Lime, Kemidol Oxide, Kemidol Oxide Fines, Calcium Magnesium Oxide.

CAS number/other identifiers

CAS number : Not applicable. **Product code** : Not available.

| Ingredient name | % | CAS number |
|---------------------------------------|------------|------------|
| Calcium magnesium oxide | 90 - 100 | 37247-91-9 |
| 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.

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

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. 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.

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.

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

Protection of first-aiders

: No specific treatment.

: 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

: Use dry chemical fire extinguisher.

: 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

Hazardous thermal decomposition products

: Not applicable.

: None.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters

: First move people out of line-of-sight of the scene and away from windows.

: 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

Spill

: 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.





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

United States

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|---|
| Calcium magnesium oxide Crystalline silica, respirable powder | None. 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, 10/2013). 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, 6/2016). TWA: 50 µg/m³ 8 hours. Form: Respirable dust ACGIH TLV (United States, 3/2016). 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 |

Canada

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------------------------|---|
| Crystalline silica, respirable powder | CA British Columbia Provincial (Canada, 5/2015). TWA: 0.025 mg/m³ 8 hours. Form: Respirable CA Quebec Provincial (Canada, 1/2014). TWAEV: 0.1 mg/m³ 8 hours. Form: Respirable dust CA Ontario Provincial (Canada, 7/2015). TWA: 0.1 mg/m³ 8 hours. Form: Respirable fraction CA Saskatchewan Provincial (Canada, 7/2013). TWA: 0.05 mg/m³ 8 hours. Form: Respirable fraction CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 0.025 mg/m³ 8 hours. Form: Respirable particulate. |





Section 8. Exposure controls/personal protection

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

Appearance

Physical state : Solid. [Crystalline.]

Color : White.

Odor : Sweet, soil like odor.

Odor threshold : Not available.

pH : 11.7 [Sat. soln.] at 25°C

Melting point : 2400°C (4352°F)

Boiling point : 2850 to 3600°C (5162 to 6512°F)

Flash point : Not applicable.

Evaporation rate : Not available.





Section 9. Physical and chemical properties

Flammability (solid, gas)

: Not available.

Lower and upper explosive

: Not available.

(flammable) limits

: Not available.

Vapor pressure Vapor density

: Not available.

Relative density

: 3.5 to 3.6

Solubility

: Not available.

Solubility in water

: 0.1 g/100 g at 20°C

Partition coefficient: n-

: Not available.

octanol/water

Auto-ignition temperature Decomposition temperature

: Not available. : Not available.

Viscosity

Not available.

Section 10. Stability and reactivity

Reactivity

: Reacts violently with water to form calcium magnesium hydroxide oxide, generating heat.

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.

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





Section 11. Toxicological information

| Product/ingredient name | OSHA | IARC | NTP | ACGIH | EPA | NIOSH |
|---------------------------------------|------|------|---------------------------------|-------|-----|-------|
| Crystalline silica, respirable powder | - | 1 | Known to be a human carcinogen. | A2 | - | + |

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

| Name | 3.3 | Route of exposure | Target organs |
|-------------------------|------------|-------------------|------------------------------|
| Calcium magnesium oxide | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | 3.3 | 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

: Dermal contact. Eye contact. Inhalation. Ingestion.

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.

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

: No known significant effects or critical hazards.

effects

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





Section 11. Toxicological information

Long term exposure

Potential immediate

: No known significant effects or critical hazards.

effects

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.Teratogenicity: No known significant effects or critical hazards.Developmental effects: No known significant effects or critical hazards.Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (Koc)

: 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 | TDG | IMDG | IATA |
|----------------------------|----------------|----------------|----------------|---------------|
| UN number | Not regulated. | Not regulated. | Not regulated. | UN1910 |
| UN proper shipping name | - | - | _ | CALCIUM OXIDE |
| Transport hazard class(es) | - | - | - | 8 |
| Packing group | - | - | - | III |
| Environmental hazards | No. | No. | No. | No. |
| Additional information | - | - | - | - |

AERG: Not applicable.

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 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b): Calcium Magnesium Oxide is subject to inventory update reporting (IUR).

RCRA classification: Component Calcium Magnesium Oxide is not listed or classified.

CWA-311: Dolomitic Quicklime is not listed.

CERCLA: Component Calcium Magnesium Oxide is not listed.

FDA: Not applicable

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)** : Not listed

Clean Air Act Section 602

Class I Substances

: Not listed

: Not listed

Clean Air Act Section 602 **Class II Substances**

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





Section 15. Regulatory information

Classification : Immediate (acute) health hazard

Delayed (chronic) health hazard

Composition/information on ingredients

| Name | hazard | Sudden release of pressure | | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|------|------------|----------------------------------|------------|--|--|
| 1 | No. No. | - | No. No. | Yes. No. | No. Yes. |

SARA 313

| | Product name | CAS number |
|---------------------------------|--------------|------------|
| Form R - Reporting requirements | Not listed | - |
| Supplier notification | Not listed | - |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

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

New York : None of the components are listed.

New Jersey : The following components are listed: Crystalline silica, respirable powder Pennsylvania : The following components are listed: Crystalline silica, respirable powder

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | • | level | Maximum acceptable dosage level |
|---------------------------------------|--------|-----|-------|---------------------------------|
| Crystalline silica, respirable powder | Yes. | No. | No. | No. |

Canada

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

Section 16. Other information

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

Health: 3 * Flammability: 0 Physical hazards: 1

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 are not required on SDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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

Health: 3 Flammability: 0 Instability: 1





Section 16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

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

History

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Prepared by : KMK Regulatory Services Inc.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

