

# Gypsum

## SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Gypsum
<b>Other Means of Identification</b>	None
<b>Other Identification</b>	Calcium sulphate, Calcium sulfate dihydrate
<b>Product Family</b>	Mineral
<b>Recommended Use</b>	Soil reclamation, drilling fluids, animal feed additive.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Secure Energy Services Suite 3600, 205 - 5 Avenue SW, Calgary, Alberta, T2P 2V7, <a href="http://www.secure-energy.com">www.secure-energy.com</a>
<b>Emergency Phone No.</b>	CANUTEC, (613) 996-6666, 24/7
<b>Date of Preparation</b>	November 27, 2015

## SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

### Classification

Carcinogenicity - Category 1A; Specific target organ toxicity (repeated exposure) - Category 1

### Label Elements



Signal Word:

Danger

Hazard Statement(s):

H350 May cause cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:

P201 Obtain special instructions before use.

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

P260 Do not breathe dust, mist, spray.

P264 Wash hands and skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves, protective clothing, eye protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice or attention.

P314 Get medical advice or attention if you feel unwell.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national and international

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regulations.

**Other Hazards**

Not applicable.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Calcium sulfate, anhydrous	7778-18-9	70 - 100	None
Silica, quartz	14808-60-7	1 - 2	None

**Notes**

Concentrations are expressed in % weight/weight.

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

**Inhalation**

Move patient to fresh air. Monitor for respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis.

**Skin Contact**

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Get medical advice or attention if you feel unwell or are concerned. Clean clothing, shoes and leather goods.

**Eye Contact**

Quickly and gently blot or brush chemical off the face. Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

**Ingestion**

If swallowed, have the conscious victim drink plenty of water. Never give anything by mouth to an unconscious victim. Get medical attention.

**First-aid Comments**

Get medical advice or attention if you feel unwell or are concerned.

**Most Important Symptoms and Effects, Acute and Delayed**

If on skin: may cause mild irritation. If in eyes: may cause mild irritation. May cause slight irritation as a "foreign object". Tearing, blinking and mild temporary pain may occur as particles are rinsed from the eye by tears. If inhaled: can irritate the nose and throat.

**Immediate Medical Attention and Special Treatment**

**Target Organs**

Eyes, skin, respiratory system.

**Special Instructions**

Monitor for respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis.

**Medical Conditions Aggravated by Exposure**

Eye conditions, skin conditions, respiratory conditions.

### SECTION 5. FIRE-FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media**

Not combustible. Use extinguishing agent suitable for surrounding fire. This product can be used as an extinguishing agent for small fires.

**Unsuitable Extinguishing Media**

Not applicable.

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### Specific Hazards Arising from the Product

Does not burn. This product presents no unusual hazards in a fire situation. Irritating or toxic substances may be emitted upon thermal decomposition. Sulphur oxides.

### Special Protective Equipment and Precautions for Fire-fighters

This product will not act as a fuel to a fire. Gypsum will readily absorb water and may affect the flow of water from a fire location.

No special equipment is required. Wear equipment suitable for surrounding fire.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

### Environmental Precautions

It is good practice to prevent releases into the environment.

### Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Stop or reduce leak if safe to do so. Avoid generating dust. Avoid dry sweeping. If necessary, use a dust suppressant such as water. Do not use compressed air for clean-up. Use water fog or spray curtain to reduce amount of dust in air. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Store recovered product in suitable containers that are: tightly-covered.

### Other Information

Report spills to local health, safety and environmental authorities, as required.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Handle in a manner that will minimize generation of dusts. Avoid breathing dusts. Ground containers during transfer of product. Compressed air should not be used for cleaning these dusts. Only use where there is adequate ventilation. Prevent uncontrolled release of product. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Keep containers tightly closed when not in use or empty. Do NOT eat, drink or store food in work areas. Do not swallow. Remove contaminated clothing and protective equipment before entering eating areas or leaving work area. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. Do not take contaminated clothing home.

### Conditions for Safe Storage

Store in an area that is: dry, well-ventilated. Keep amount in storage to a minimum. Avoid bulk storage indoors. Keep containers closed. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Calcium sulfate, anhydrous	10 mg/m <sup>3</sup> (I)	Not established	5 mg/m <sup>3</sup> (R)	Not established	Not established	Not established
Silica, quartz	0.025 mg/m <sup>3</sup> (R) A2	Not established	0.1 mg/m <sup>3</sup> (R)	Not established	Not established	Not established

I = Inhalable fraction. R = Respirable fraction. A2 = Suspected human carcinogen.

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## Appropriate Engineering Controls

Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

## Individual Protection Measures

### Eye/Face Protection

Chemical safety glasses with side shields.

### Skin Protection

Wear clothing to prevent direct contact with skin. Wear gloves (leather) to prevent contact with powder.

### Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Grey powder. Particle Size: Not available
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not applicable
<b>pH</b>	6.0 - 7.6 (20% solution); Neutral
<b>Melting Point/Freezing Point</b>	1559 °C (2838 °F) (melting); 1559 °C (2838 °F) (freezing)
<b>Initial Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	Will not burn.
<b>Upper/Lower Flammability or Explosive Limit</b>	Not applicable (upper); Not applicable (lower)
<b>Vapour Pressure</b>	Does not form a vapour.
<b>Vapour Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	2.3 - 2.4
<b>Solubility</b>	0.2620 g/100 mL (Slightly soluble) in water; Insoluble in common organic solvents.
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	1559 °C (2838 °F)
<b>Viscosity</b>	Not applicable (kinematic); Not applicable (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Solid
<b>Molecular Formula</b>	Mixture
<b>Molecular Weight</b>	Mixture
<b>Bulk Density</b>	Not available
<b>Surface Tension</b>	Not applicable
<b>Critical Temperature</b>	Not available
<b>Electrical Conductivity</b>	Not available
<b>Vapour Pressure at 50 deg C</b>	Not applicable
<b>Saturated Vapour Concentration</b>	Not applicable

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## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

### Conditions to Avoid

Generation of dust. Incompatible materials.

### Incompatible Materials

Avoid contact with strong oxidizing agents such as fluorine, chlorine trifluoride, diazomethane and oxygen difluoride may cause an exothermic reaction (heat). Several metal oxo-compounds and sulfides mixed with gypsum and aluminum can create a violent reaction.

Not corrosive to metals.

### Hazardous Decomposition Products

Irritating or toxic substances may be emitted upon thermal decomposition.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Calcium sulfate, anhydrous	> 3.26 mg/L (rat) (4-hour exposure)	> 1581 mg/kg (female rat)	Not available
Silica, quartz	Not available	500 mg/kg (rat)	Not available

### Skin Corrosion/Irritation

Contact with skin may cause slight irritation.

### Serious Eye Damage/Irritation

Contact with eyes may cause slight irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Gypsum is considered a nuisance particulate but it will absorb moisture quickly causing clumps in the nasal passages and upper respiratory tract. May cause inflammation of mucous membranes and nosebleeds.

#### Ingestion

Swallowing this product is not expected to cause toxic effects. As gypsum absorbs moisture clumps may form and create blockages in the stomach.

### Aspiration Hazard

Not known to be an aspiration hazard.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause long-term inflammation of mucous membranes of the eyes and respiratory tract. Prolonged or repeated exposure to fine airborne crystalline silica dust, like quartz dust, is known to be harmful to the respiratory system. The most important respiratory disease associated with crystalline silica exposure is silicosis, which can be complicated by the development of bacterial disease such as tuberculosis. Other respiratory effects include chronic obstructive pulmonary disease, and a rare condition known as pulmonary alveolar proteinosis.

Foreign-body reactions (granulomas) have been observed after crystalline silica has accidentally gotten lodged under the skin, as the result of a physical injury. Often this effect is delayed for weeks to years. Several human population studies have found significant associations between the inhalation exposure to airborne crystalline silica and kidney diseases. However, there is not enough evidence to conclude a causal link. There have been many published case

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reports that describe various autoimmune disorders in workers exposed to crystalline silica. These disorders include scleroderma (a disease involving thickening of the skin), lupus, rheumatoid arthritis, autoimmune hemolytic anemia, and connective tissues disorders. There have also been case reports of conditions that may be related to immunological abnormalities, including chronic kidney disease, and problems with the thyroid, nervous system and blood vessels. Some human population studies have reported a significant increase in deaths from autoimmune diseases in workers exposed to airborne crystalline silica.

**Respiratory and/or Skin Sensitization**

Not a skin sensitizer. Not a respiratory sensitizer.

**Carcinogenicity**

Chemical Name	IARC	ACGIH®	NTP	OSHA
Calcium sulfate, anhydrous	Not Listed	Not designated	Not Listed	Not Listed
Silica, quartz	Group 1	A2	Known carcinogen	Not Listed

Crystalline silica in the form of quartz or cristobalite dust causes cancer of the lung. The strongest evidence supporting the carcinogenicity of crystalline silica in the lung comes from the pooled and meta-analyses. The pooled analysis demonstrated clear exposure-response, while all of the meta-analyses strongly confirmed an overall effect of crystalline silica dust exposure.

Key to Abbreviations

A2 = Suspected human carcinogen. Group 1 = Carcinogenic to humans.

**Reproductive Toxicity**

**Development of Offspring**

Does not cause harm to the unborn child.

**Sexual Function and Fertility**

Does not cause effects on sexual function or fertility.

**Effects on or via Lactation**

No information was located.

**Germ Cell Mutagenicity**

The available evidence is not adequate to conclude that quartz is a mutagen.

**Interactive Effects**

No information was located.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

No information was located.

**Acute Aquatic Toxicity**

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Calcium sulfate, anhydrous	2980 mg/L (Lepomis macrochirus (bluegill); 96-hour)	Not available	Not available	Not available
Silica, quartz	Not available	Not available	Not available	Not available

**Persistence and Degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative Potential**

No information was located.

**Mobility in Soil**

No information was located.

**Other Adverse Effects**

There is no information available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Recycle and reuse product, if possible. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Treat waste in an approved waste disposal facility. Store product for disposal as described under Storage in Section 7 of this safety data sheet. Empty containers retain product residue. Follow label warnings even if container appears to be empty. Dispose of or recycle empty containers through an approved waste management facility.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

**Environmental Hazards** Not applicable

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

##### Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

#### USA

##### Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

##### Additional USA Regulatory Lists

SARA Title III - Section 302: Not listed. SARA Title III - Section 311/312: chronic health hazard. SARA Title III - Section 313: Not listed. Massachusetts Right To Know: Listed. (Silica, quartz) Pennsylvania Right To Know: Listed. (Silica, quartz) New Jersey Right To Know: Listed. (Silica, quartz) California Proposition 65: WARNING! This product contains a chemical known to the State of California to cause cancer. (Silica, quartz).

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Safety Committee

**Phone No.** 403-264-1588

**Date of Preparation** November 27, 2015

**Date of Last Revision** April 12, 2016

**Revision Indicators** The following SDS content was changed on March 22, 2016:  
Relative Density.  
The following SDS content was changed on April 12, 2016:  
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS; Ingredient Information.  
SECTION 11. TOXICOLOGICAL INFORMATION; STOT (Specific Target Organ Toxicity) - Single Exposure; Inhalation; STOT (Specific Target Organ Toxicity) - Repeated Exposure; Carcinogenicity.  
SECTION 2. HAZARD IDENTIFICATION; Classification; Label Elements.  
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION; Appropriate Engineering Controls; Respiratory Protection.  
SECTION 7. HANDLING AND STORAGE; Precautions for Safe Handling; Conditions for Safe Storage.  
SECTION 6. ACCIDENTAL RELEASE MEASURES; Personal Precautions, Protective Equipment, and Emergency Procedures; Methods and Materials for Containment and Cleaning

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**Key to Abbreviations** ACGIH® = American Conference of Governmental Industrial Hygienists  
AIHA® = AIHA® Guideline Foundation. HSDB® = Hazardous Substances Data Bank  
IARC = International Agency for Research on Cancer  
NFPA = National Fire Prevention Association  
NIOSH = National Institute for Occupational Safety and Health  
NTP = National Toxicology Program  
OSHA = US Occupational Safety and Health Administration  
RTECS® = Registry of Toxic Effects of Chemical Substances  
TLV = Threshold Limit Value  
STEL = Short Term Exposure Limit  
TWA = Time Weighted Average  
REL = Recommended Exposure Limit  
PEL = Permissible Exposure Limit  
IDLH = Immediately Dangerous to Life and Health  
DSL = Domestic Substances List  
NDSL = Non-Domestic Substances List  
TSCA = Toxic Substances Control Act

**References** CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

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