

# GYPSUM

## SECTION 1. IDENTIFICATION

|                                      |  |
|--------------------------------------|--|
| <b>Product Identifier</b>            | GYPSUM   |
| <b>Other Means of Identification</b> | Calcium Sulfate Dihydrate  |
| <b>Product Family</b>                | Calcium Source   |
| <b>Recommended Use</b>               | Drilling Fluid Additive.   |
| <b>Supplier Identifier</b>           | Bri-Chem Supply Corp, 9351 Grant Street, Ste 380, Thornton, CO, 80229, 720-236-1012, www.brichemsupplycorp.com |
| <b>Emergency Phone No.</b>           | ChemTrec, (800) 424-9300, 24/7   |

## SECTION 2. HAZARD IDENTIFICATION

### Classification

Eye irritation - Category 2B

### Label Elements

**Inhalation:** Exposure to dust generated during the handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician.

**Eyes:** Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.

**Chronic:**

**Inhalation:** Exposures to respirable crystalline silica rare not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration.

**Target Organs:**

Eyes, skin and respiratory system.

**Primary Routes of Entry:**

Inhalation, eyes and skin contact.

**Carcinogenicity Classification of Ingredients:**

All substances listed are associated with the nature of the raw materials used in the manufacture of this product and are not independent components of the product formulation. All substances, if present, are at levels well below regulatory limits. See Section 11: Toxicology Information for detailed information.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name      | CAS No.    | %   | Other Identifiers |
|--------------------|------------|-----|-------------------|
| Gypsum             | 13397-24-5 | >95 |                   |
| Crystalline Silica | 14808-60-7 | <1  |                   |

### Notes

All ingredients of this product are included in the U.S Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory and the Canadian Domestic Substances List (DSL). \* The weight percent for silica represents total quartz and not the respirable fraction.

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## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Remove to fresh air as soon as possible. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen and get medical attention.

#### Skin Contact

Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If adverse symptoms persist, seek medical attention.

#### Ingestion

If conscious give 2 to 4 glasses of water to drink but DO NOT induce vomiting. If swallowed, give patient large quantities of water then induce vomiting. NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing.

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

If in eyes:

May cause mild irritation.

### Immediate Medical Attention and Special Treatment

#### Target Organs

Lungs, eyes.

#### Medical Conditions Aggravated by Exposure

Bronchitis, Emphysema and Asthma.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Dry chemical, CO<sub>2</sub>, foam, water.

### Specific Hazards Arising from the Product

None known.

Decomposes to sulfur dioxide at 2642°F.

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

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### Environmental Precautions

It is good practice to prevent releases into the environment. Do not wash down drains since it could plug drains.

### Methods and Materials for Containment and Cleaning Up

Remove by dry-sweeping or vacuum. Avoid creating excessive dust. Wear approved respirators if necessary.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Avoid generating dust. Wear approved respirator if necessary. Keep product dry.

Handle in accordance with good industrial hygiene and safety practice. It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

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## Conditions for Safe Storage

Store in a dry area to minimize potential for clumping due to moisture absorption. The presence of moisture will harden gypsum during storage.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

(gypsum) and (calcium carbonate)

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. 10 mg/m<sup>3</sup>

OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. 15 mg/m<sup>3</sup> (total dust); 5 mg/m<sup>3</sup> (respirable dust)

(silica, quartz)

ACGIH® = American Conference of Governmental Industrial Hygienists. TWA = Time-Weighted Average. 0.025 mg/m<sup>3</sup> (respirable fraction)

OSHA = US Occupational Safety and Health Administration. TWA = Time-Weighted Average. 30 mg/m<sup>3</sup> divided by the value of "%SiO<sub>2</sub> + 2" (total quartz) 10 mg/m<sup>3</sup> divided by the value of "%SiO<sub>2</sub> + 2" (respirable)

OSHA Z3 TWA: 250 mppcf divided by the value of "%SiO<sub>2</sub>+5" (respirable)

OSHA Z-1-A and OSHA Z3 TWA: 0.1 mg/m<sup>3</sup> (respirable fraction)

Immediately dangerous to life or health concentration value: 50 mg/m<sup>3</sup>.

### Appropriate Engineering Controls

Use adequate general or local exhaust ventilation to keep dust levels as low as possible. None required where adequate ventilation conditions exist.

### Individual Protection Measures

#### Eye/Face Protection

Use safety glasses or goggles.

#### Skin Protection

Gloves are not required but may be desirable under certain working conditions or to protect against drying of hands.

#### Respiratory Protection

None required where adequate ventilation conditions exist. A dust mask for nuisance dust can be used. If airborne concentrations of any hazardous ingredients exceed the TLV or PEL, use a NIOSH-approved respirator.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

|  |   |
|--|---|
| <b>Appearance</b>                                  | White - Off-white powder. Particle Size: Varies             |
| <b>Odour</b>                                       | Slight  |
| <b>Odour Threshold</b>                             | Not available   |
| <b>pH</b>  | ~ 7   |
| <b>Melting Point/Freezing Point</b>                | 1559.85 °F (melting); Not available (freezing)              |
| <b>Initial Boiling Point/Range</b>                 | Not available   |
| <b>Evaporation Rate</b>                            | Not available   |
| <b>Upper/Lower Flammability or Explosive Limit</b> | Not available (upper); Not available (lower)                |
| <b>Vapour Pressure</b>                             | Not available   |
| <b>Solubility</b>                                  | ~ 21 g/100 mL (Slightly soluble) in water                   |
| <b>Auto-ignition Temperature</b>                   | Not available   |
| <b>Decomposition Temperature</b>                   | 2642 °F (1450 °C)   |
| <b>Viscosity</b>                                   | Not available (kinematic)                                   |
| <b>Other Information</b>                           |   |
| <b>Physical State</b>                              | Solid   |
| <b>Molecular Formula</b>                           | (CaSO <sub>4</sub> -2H <sub>2</sub> O)                      |
| <b>Molecular Weight</b>                            | ~172g/mole  |
| <b>Bulk Density</b>                                | 721 - 2403 kg/m <sup>3</sup> (45 - 150 lb/ft <sup>3</sup> ) |

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## SECTION 10. STABILITY AND REACTIVITY

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

### Conditions to Avoid

None known.

### Incompatible Materials

Aluminum, strong acids.

### Hazardous Decomposition Products

Above 1450 C - calcium oxide (CaO) and sulfur dioxide (SO<sub>2</sub>).

## SECTION 11. TOXICOLOGICAL INFORMATION

Treat as a nuisance dust.

### Likely Routes of Exposure

Inhalation.

### Acute Toxicity

The acute oral toxicity study [OECD TG 420] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD<sub>50</sub> value was more than 2,000 mg/kg b.w. for female rats. Gypsum paste applied experimentally to the eyes of rabbits was not an irritant. Gypsum dust particulate has shown an irritant action on mucous membranes of the respiratory tract and eyes. The sulfate ion has caused gastrointestinal disturbance in humans following large oral doses. Limited studies involving the repeated inhalation of an (unspecified) calcium sulfate failed to identify any particular target organs in monkeys, rats and hamsters. No evidence of mutagenicity was found in Ames bacterial tests.

### Skin Corrosion/Irritation

May temporarily cause drying of the skin.

May cause temporary drying of the skin.

### Serious Eye Damage/Irritation

May cause mild irritation.

May cause eye irritation.

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

#### Inhalation

Mild irritant at high concentrations.

Persons exposed to large amounts of dust may experience nuisance conditions, including coughing, sneezing and nasal irritation.

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

None known for gypsum. Prolonged and repeated exposure to crystalline silica by inhalation may cause silicosis and lung cancer.

None known for gypsum. Prolonged or repeated exposure to crystalline silica by inhalation may cause silicosis and lung cancer.

### Carcinogenicity

(silica quartz):

IARC: Group 1 – Carcinogenic to humans.

NTP: Reasonably anticipated human carcinogen.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. The weight percent of respirable crystalline silica may not have been measured in this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e. silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. Smoking in combination with silica exposures increases the risk of cancer. The risk of developing silicosis is dependent upon the exposure intensity and duration.

In June, 1997 IARC classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall

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evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to human (Group 1).

No information was located for: Respiratory and/or Skin Sensitization, Development of Offspring, Sexual Function and Fertility, Germ Cell Mutagenicity, Interactive Effects

## SECTION 12. ECOLOGICAL INFORMATION

This product has shown no known adverse effect on ecology. Toxicity studies of gypsum performed with fish, aquatic vertebrates and aquatic plants showed no toxic effect.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of in accordance with federal, state and local government regulations.

## SECTION 14. TRANSPORT INFORMATION

Not regulated under US DOT Regulations.

**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

#### USA

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

All ingredients are listed on the TSCA Inventory.

#### Additional USA Regulatory Lists

- CERCLA, SARA Section 302, 304, 313, CAA Section 112 and RCRA Code: Not Listed.

## SECTION 16. OTHER INFORMATION

**NFPA Rating**      **Health - 1**      **Flammability - 0**      **Instability - 0**

**SDS Prepared By**      Bri-Chem Supply Corp

**Date of Preparation**      October 30, 2015

**Disclaimer**      This Health and Safety information is correct to the best of our knowledge and belief at the date of its publication, but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as guidance for safe handling, storage, and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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