



SAFETY DATA SHEET

Section 1: Identification

1.1 Product identifier:

Ultra Fine x-95@

1.2 Recommended Uses:

Milled gypsum for solution injection

Restrictions on use: None identified

1.3 Supplier:

Western Mining and Minerals, Inc.

13555 Hwy 93 North

Apex, NV 89165

Web Site: Web Site: www.WesternMiningandMinerals.com

1.4 Emergency telephone number:

888-449-7786 (24-hour)

Section 2: Hazards Identification

2.1 Classification of the substance or mixture:

Specific Target Organ Toxicity, Repeated Exposure Cat. 1; H372 (inhalation)

Carcinogenicity Cat. 1A; H350 (inhalation)

2.2 Label elements:



Danger

Causes damage to lungs through prolonged or repeated exposure by inhalation.

May cause cancer by inhalation.

Prevention

Obtain special instructions before use.

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

Do not breathe dust.

Wash hands and exposed skin thoroughly after handling.

Do not eat drink or smoke when using this product.

Wear protective gloves and safety glasses or goggles.

In case of inadequate ventilation wear respiratory protection.

Response

If exposed or concerned: Get medical advice.

Storage

Store locked up.

Disposal

Dispose of contents and containers in accordance with local, regional and national regulations.

2.3 Other hazards:

Exposures to dusts may cause irritation to the eyes and upper respiratory tract.

Section 3: Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt. %</u>
Calcium sulfate dihydrate (Gypsum)	13397-24-5	95 - 100
Total Crystalline silica (Quartz) – naturally occurring impurity in Gypsum	14808-60-7	0.1 – 1.5

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Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If exposed or concerned: Get medical advice.

Eye Contact: If in eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists get medical attention.

Skin Contact: If on skin, wash with plenty of soap and water. If skin irritation or rash occurs get medical advice. Take off contaminated clothing and wash it before reuse.

Ingestion: If exposed or concerned: Get medical advice.

4.2 Most important symptoms / effects acute and delayed:

Inhalation: Exposures to airborne dust may cause irritation to the upper respiratory tract; symptoms of exposure may include sneezing, coughing and sore throat.

Prolonged or repeated exposure to fine airborne crystalline silica dust may cause severe scarring of the lungs, a disease called silicosis. Symptoms of silicosis include cough, mucous production, shortness of breath upon exertion. The symptoms of silicosis develop following long-term exposures to airborne dusts containing silica. May cause lung cancer by inhalation.

Eye Contact: Dust particles may cause irritation as an abrasive in the eye.

Skin Contact: Prolonged skin contact may be abrasive to the skin.

Ingestion: Gypsum has low oral toxicity. Gypsum absorbs moisture forming clumps of solid gypsum; the solid clumps may create blockages if large amounts are swallowed.

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

Not applicable

Section 5: Firefighting Measures

5.1 Extinguishing media:

Use water and other extinguishing media appropriate to the surrounding fire conditions.

5.2 Specific hazards arising from the product:

Product is not flammable and does not support combustion.

Under fire conditions product may decompose into sulfur oxides, calcium oxide and carbon dioxide at very high temperatures (>800°C / 1475°F).

5.3 Special protective equipment and precautions for fire-fighters:

As for any fire, evacuate the area and fight the fire from a safe distance. Firefighters must wear full protective equipment including self-contained breathing apparatus with chemical protection clothing when firefighters are exposed to decomposition products from this material.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Ventilate the spill area if airborne dust is present.

Wear adequate personal protective equipment, including an appropriate respirator as indicated in Section 8.

Isolate spill area, preventing entry by unauthorized persons.

6.2 Environmental precautions:

Prevent releases into the environment.

6.3 Methods and material for containment and cleaning up:

Use methods that avoid raising dust in the air. Scoop or shovel spilled material or vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Small spills may be picked up with a damp cloth or mop.

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Section 7: Handling and Storage

7.1 Precautions for safe handling:

- Read the label and follow the directions for mixing.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe airborne dusts.
- Minimize dust generation and accumulation.
- In workplaces where occupational exposure limits are exceeded, wear appropriate respiratory protection. (See Section 8).
- Wash hands and exposed skin thoroughly after handling.
- Do not eat, drink or smoke in the workplace where this product is handled.

7.2 Conditions for safe storage, including any incompatibilities:

- Store in dry conditions and protected from weather.
- Protect from moisture and humidity.
- Keep out of reach of children.

Section 8: Exposure Controls / Personal Protection

8.1 Control parameters:

Occupational Exposure Limits: Consult local authorities for acceptable exposure limits.

<u>Ingredient</u>	<u>ACGIH® TLV®</u>	<u>U.S. OSHA PEL</u>	<u>Ontario (Canada) TWA</u>
Calcium sulfate dihydrate (Gypsum)	10 mg/m ³ (inhalable fraction)	5 mg/m ³ (respirable fraction)	Not established
Crystalline silica (Quartz)	0.025 mg/m ³ (respirable)	quartz (total dust): 30 mg/m ³ / (%SiO ₂ + 2) quartz (respirable): 10 mg/m ³ / (%SiO ₂ + 2)	0.1 mg/m ³ (respirable, quartz) Designated Substance in Ontario

*mppcf: Million particles per cubic foot of air.

8.2 Exposure controls:

Engineering Controls: General ventilation is adequate for application of product in its original form. If airborne particulates are generated, monitor dust concentrations in air and provide local exhaust ventilation when any exposure guideline is exceeded.

If engineering controls and work practices are not effective in controlling exposure to this material or if adverse health symptoms are experienced, then wear suitable personal protection equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills or fire.

Eye/Face Protection: Wear safety goggles.

Skin Protection: Wear protective gloves. Launder contaminated clothing before re-wearing, or discard.

Respiratory Protection: When dust concentrations in air exceed the occupational exposure guidelines, take the following precautions:

- Wear a NIOSH approved dust respirator.
- Maintain adequate ventilation and air circulation.
- Warn others in the area.

NIOSH recommendations for Crystalline silica (respirable dust); concentrations in air:

UP TO 0.5 mg/m³: Air-purifying respirator with high-efficiency particulate filter(s).

UP TO 1.25 mg/m³: Powered air-purifying respirator with high-efficiency particulate filter; or SAR operated in a continuous-flow mode.

UP TO 2.5 mg/m³: Full-facepiece air-purifying respirator with high-efficiency particulate filter(s); or powered air-purifying respirator with tight-fitting facepiece and high-efficiency particulate filter.

UP TO 25 mg/m³ Positive pressure SAR.

A respiratory protection program that meets the regulatory requirement, such as OSHA's 29 CFR 1910.134, ANSI Z88.2 or Canadian Standards Association (CSA) Standard Z94.4, must be followed whenever workplace conditions warrant a respirator's use.

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Section 9: Physical and Chemical Properties
9.1 Information on basic physical and chemical properties:

Appearance:	Powdered solid; white to light pink powder
Odor:	Odorless
Odor threshold:	Not applicable
pH:	Not applicable
Melting point:	Not available
Initial boiling point and boiling range:	Not applicable
Flash point:	Not applicable
Flammability:	Not flammable or combustible
Auto-ignition temperature:	Not available
Upper/lower flammability or explosive limits:	Not applicable
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Evaporation rate:	Not applicable
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Relative density:	2.23 (water=1)
Solubility (ies):	2.41 g/L; Low solubility in water
Partition coefficient (n-octanol/water):	Not applicable
Decomposition temperature:	Not available
Viscosity:	Not applicable

Section 10: Stability and Reactivity
10.1 Reactivity:

Not classified for reactivity hazards. Mixing with water generates heat.

10.2 Chemical Stability:

Stable at normal ambient and anticipated storage and handling conditions.

10.3 Possibility of Hazardous Reactions:

None known.

10.4 Conditions to Avoid:

Avoid generation of airborne dust.

10.5 Incompatible Materials:

Reactions may occur with the following highly reactive materials:

Aluminum - reduction by aluminum at high temperature caused violent explosion.

Diazomethane - contact with diazomethane vapor can generate heat which may lead to detonation.

10.6 Hazardous Decomposition Products:

Corrosive sulfur oxides may form if product is exposed to extreme heat.

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Section 11: Toxicological Information

11.1 Information on toxicological effects:

Likely routes of exposure

Inhalation; Ingestion, Skin contact; Eye contact.

Acute toxicity

Inhalation: Calcium sulfate, dihydrate LC₅₀ > 3.26 mg/L (rat) as dust. No mortality at the highest dose level.
 OECD Guideline 403 (Acute Inhalation Toxicity)

Ingestion: Calcium sulfate dihydrate LD₅₀ > 2000 mg/kg bw (rat). No mortality at the highest dose level.
 OECD Guideline 420 (Acute Oral Toxicity Fixed Dose Method)

Skin: Not absorbed through the skin.

Acute toxicity data:

<u>Ingredient</u>	<u>LD₅₀ Oral</u> <u>(mg/kg)</u>	<u>LD₅₀ Dermal</u> <u>(mg/kg)</u>	<u>LC₅₀ Inhalation</u> <u>(4 hrs.)</u>
Calcium sulfate dihydrate (Gypsum)	> 2000 (rat)	Not available	> 3.26 mg/L (rat)

Skin corrosion / irritation

Not a skin irritant. test according to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage / irritation

Not an eye irritant. test according to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

STOT (Specific Target Organ Toxicity) – Single exposure

Data not available

STOT (Specific Target Organ Toxicity) – Repeated exposure

An oral NOAEL for calcium sulfate was 79 mg/kg/day (male rat).

Prolonged and repeated breathing of high concentrations of dusts may cause pulmonary fibrosis and silicosis.

Silicosis can develop following years of repeated inhalation of airborne dust containing respirable crystalline silica. Silicosis is characterized by lung lesions. Symptoms of silicosis include shortness of breath and cough, decreased lung function and weakness.

There is limited evidence of kidney disease in humans following repeated occupational exposures to crystalline silica.

Aspiration hazard

Does not meet criteria for classification for aspiration toxicity.

Sensitization - respiratory and/or skin

Not known to be a skin or respiratory sensitizer.

Carcinogenicity

Gypsum is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the American Conference of Governmental Industrial Hygienists (ACGIH®) or the US National Toxicology Program (NTP).

Natural mineral Gypsum may contain Crystalline Silica as a naturally occurring impurity.

IARC Crystalline Silica in the form of quartz from occupational sources Group 1-carcinogenic to humans.

ACGIH® Crystalline silica in the form of quartz as A2: Suspected human carcinogen.

OSHA Crystalline silica, respirable size, carcinogen.

NTP Report on Carcinogens Crystalline silica, respirable size, Known to be a human carcinogen.

Reproductive toxicity

Development of offspring: Data not available

Sexual function and fertility: Data not available

Effects on or via lactation: Data not available

Germ cell mutagenicity

Data not available

Interactive effects

Tobacco smoking in combination with long-term high dust exposures may increase both smoking and dust-related pulmonary health problems. Simultaneous exposure to known carcinogens can increase the carcinogenicity of crystalline silica.



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Section 12: Ecological Information

12.1 Toxicity:

Ecotoxicity data are not available. Composed of naturally occurring earth minerals.

12.2 Persistence and degradability:

Not available

12.3 Bioaccumulative potential:

Not available

12.4 Mobility in soil:

Not available

12.5 Other adverse effects:

Not available

Section 13: Disposal Considerations

13.1 Disposal methods:

Store material for disposal as indicated in Section 7 Handling and Storage.

The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Dispose of contents/container in accordance with local, regional, national and international regulations.

Section 14: Transport Information

14.1 UN Number

Not regulated by international transport regulations (IMDG, UN Model Regulations).

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not available

14.6 Special precautions for user

Not available

14.7 U.S. Hazardous Materials Regulation (DOT 49CFR):

Not regulated

14.8 Canada Transportation of Dangerous Goods (TDG) Regulations:

Not regulated



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Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation:

USA

TSCA Status:

Substances are listed on the TSCA inventory or are exempt.

California Prop 65:

This product may contain a substance known to the State of California to cause cancer [Crystalline silica – airborne particles of respirable size].

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations* (WHMIS 1988).

WHMIS Classification:

WHMIS 1988: D2A Untested mixture containing Crystalline silica (IARC Group 1).

NSNR Status:

Component substances are listed on the on the DSL or are exempt.

Section 16: Other Information

Revision date:

December 8, 2015

References and sources for data:

CCOHS, Cheminfo
RTECS, Registry of Toxic Effects of Chemical Substances
NIOSH, Pocket Guide to Chemical Hazards.

Legend to abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists
GHS- Globally Harmonized System for Classification and Labeling.
IARC - The International Agency for Research on Cancer
OEL– Occupational exposure limit
OSHA - Occupational Safety and Health Administration
TWA – Time weighted average
TLV - Threshold Limit Value
WHMIS – Workplace Hazardous Materials Information System.

Additional information:

Information listed is believed to be accurate but not warranted or guaranteed.