



SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **MIN-U-SIL**

Other means of identification:

Product Description: Min-U-Sil 5 and Min-U-Sil 10
Synonyms: Crystalline Silica (quartz); Silica Sand or Ground Silica; crystalline silica (quartz)

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Recommended use of the chemical and restrictions on use: (non-exhaustive list): brick, ceramics, foundry castings, glass, grout, hydraulic fracturing sand, frac sand, proppant, mortar, paint and coatings, silicate chemistry, silicone rubber, thermoset plastics. Do not use for sandblasting.

Chemical distributor, or other responsible party Name, address, and telephone number:

Distributor Name: Western Reserve Chemical Corporation
Address: 4837 Darrow Road
Stow, OH 44224
USA
General Phone Number: 330 650 2244
General Fax Number: 330 650 2255

Emergency phone number::

Emergency Phone Number: Chemtrec 1 800 424 9300 USA
Website: www.wrchem.com

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: DANGER!

GHS Class: Classification:
Physical: Not Hazardous
Health: Carcinogen Category 1A Specific Target Organ Toxicity – Repeated Exposure Category 1

Hazard Statements: May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements: * Obtain special instructions before use.
* Do not handle until all safety precautions have been read and understood.
* Do not breathe dust/fume/gas/mist/vapours/spray.
* IF exposed or concerned: Get medical advice/attention.
* In case of inadequate ventilation wear respiratory protection.
* Wear protective gloves/protective clothing/eye protection/face protection.
* Do not eat, drink or smoke when using this product.
* Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

Crystalline Silica (quartz)

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Eye: May cause irritation. Particulates may cause abrasive injury.

Skin: No adverse effects are expected.

Inhalation: * Inhalation of dust may cause respiratory tract irritation such as cough, sore throat, nasal congestion, sneezing, wheezing, and shortness of breath..
* Prolonged or repeated inhalation may cause lung damage.
* See Section 8 for exposure controls.

Ingestion: Ingestion in an unlikely route of exposure. If dust is swallowed, it may irritate the mouth and throat.

Chronic Health Effects: Prolonged inhalation of respirable crystalline silica may cause lung disease, silicosis, lung cancer, Autoimmune diseases, Tuberculosis, Kidney disease, and Non-malignant respiratory diseases

Carcinogenicity: IARC - The International Agency for Research on Cancer (IARC) concluded that "crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)". For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts (2011).
NTP classifies "Silica, Crystalline (respirable size)" as Known to be a human carcinogen.

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

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Crystalline Silica (quartz)	14808-60-7	95 - 99.9 %	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Wash immediately with plenty of water. Do not rub eyes. If irritation persists, seek medical attention.

Skin Contact: First aid is not required.

Inhalation: First aid is not generally required. If irritation develops from breathing dust, move the person from the overexposure and seek medical attention if needed.

Ingestion: First aid is not required

Notes : Most important symptoms/effects, acute and delayed: Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath. Prolonged inhalation of respirable crystalline silica above certain concentrations may cause lung diseases, including silicosis and lung cancer.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is not required.

SECTION 5 : FIRE FIGHTING MEASURES

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Notes : Specific hazards arising from the chemical: Product is not flammable, combustible or explosive.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personnel Precautions: Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.

Environmental precautions:

Environmental Precautions: No specific precautions. Report releases to regulatory authorities if required by local, state and federal regulations.

Methods and materials for containment and cleaning up:

Methods for containment: Methods and materials for containment and cleaning up: Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping. Dispose of in closed containers.

Methods for cleanup: Methods and materials for containment and cleaning up: Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system, or wet before sweeping. Dispose of in closed containers.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Precautions for safe handling: Avoid generating dust. Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud. Use adequate exhaust ventilation and dust collection to reduce respirable crystalline silica dust levels to below the permissible exposure limit ("PEL"). Maintain and test ventilation and dust collection equipment. Use all available work practices to control dust exposures, such as water sprays. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Keep airborne dust concentrations below permissible exposure limits.

Where necessary to reduce exposures below the PEL or other applicable limit (if lower than the PEL), wear a respirator approved for silica containing dust when using, handling, storing or disposing of this product or bag. See Section 8, for further information on respirators. Do not alter the respirator. Do not wear a tight-fitting respirator with facial hair such as a beard or mustache that prevents a good face to

face piece seal between the respirator and face. Maintain, clean, and fit test respirators in accordance with applicable standards. Wash or vacuum clothing that has become dusty.

Participate in training, exposure monitoring, and health surveillance programs to monitor any potential adverse health effects that may be caused by breathing respirable crystalline silica. The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.

Hygiene Practices:

- * Handle in accordance with good industrial hygiene and safety practice.
- * Do not inhale vapors, fumes or mists of this product.
- * When using, do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities:

Storage:

Conditions for safe storage, including any incompatibilities: Use dust collection to trap dust produced during loading and unloading. Keep containers closed and store bags to avoid accidental tearing, breaking, or bursting.

Specific end use(s):

Work Practices:

Safety showers and eye wash stations should be available.

Notes :

DO NOT USE U.S. SILICA COMPANY SAND OR GROUND SILICA FOR SAND BLASTING

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Guideline ACGIH:	0.025 mg/m ³ TWA (respirable dust)
Guideline OSHA:	10 mg/m ³ %SiO ₂ + 2 TWA (respirable dust) 30 mg/m ³ %SiO ₂ + 2 TWA (total dust)
Guideline NIOSH:	0.05 mg/m ³ TWA (respirable dust)

Appropriate engineering controls:

Engineering Controls:

Appropriate engineering controls: Use adequate general or local exhaust ventilation to maintain concentrations in the workplace below the applicable exposure limits listed above.

Individual protection measures:

Eye/Face Protection:

Safety glasses with side shields or goggles recommended if eye contact is anticipated.

Skin Protection Description:

Maintain good industrial hygiene. Protection recommended for workers suffering from dermatitis or sensitive skin.

Hand Protection Description:

Protective gloves if skin contact is expected.

Respiratory Protection:

If it is not possible to reduce airborne exposure levels to below the OSHA PEL or other applicable limit with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, "Particulate Respirators". The full document can be found at www.cdc.gov/niosh/npptl/topics/respirators; the user of this MSDS is directed to that site for information concerning respirator selection and use. The assigned protection factor (APF) is the maximum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m³, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m³. In using chemical cartridges, consideration must be given to selection of the correct cartridge for the chemical exposure and the maximum use concentration for the cartridge. In addition a cartridge change-out schedule must be developed based on the concentrations in the workplace.

Assigned protection factor 1:10

Type of Respirator (Use only NIOSH-certified respirators): Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. 2 Appropriate filtering facepiece respirator. 2,3 Any air-purifying full facepiece respirator equipped with appropriate type of particulate filter. 2 Any negative pressure (demand) supplied-air respirator equipped with a half-mask.

Assigned protection factor 1:25

Type of Respirator (Use only NIOSH-certified respirators) :Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter. Any continuous flow supplied-air respirator equipped with a hood or helmet.

Assigned protection factor 1:50

Type of Respirator (Use only NIOSH-certified respirators) :Any air-purifying full facepiece respirator equipped with N-100, R-100, or P-100 filter(s). Any powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and a high-efficiency filter. Any negative pressure (demand) supplied-air respirator equipped with a full facepiece. Any continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece). Any negative pressure (demand) self-contained respirator equipped with a full facepiece.

Assigned protection factor 1 :1,000

Type of Respirator (Use only NIOSH-certified respirators): pressure-demand supplied-air respirator equipped with a half-mask.

1. The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers.
2. Appropriate means that the filter medium will provide protection against the particulate in question.
3. An APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers.

PPE Pictograms:



Notes :

If crystalline silica (quartz) is heated to more than 870°C, quartz can change to a form of crystalline silica known as tridymite; if crystalline silica (quartz) is heated to more than 1470°C, quartz can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite or cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).
Other: None known.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	Appearance (physical state, color, etc.): White or tan sand; granular, crushed or ground to a powder.
Odor:	None.
Odor Threshold:	not determined
Boiling Point:	4046°F/2230°C
Melting Point:	3110°F/1710°C
Density:	Relative density: 2.65
Solubility:	Insoluble in water
Vapor Density:	Not Applicable
Vapor Pressure:	Not Applicable
Evaporation Rate:	Not Applicable
pH:	6-8
Flash Point:	Not Applicable
Lower Flammable/Explosive Limit:	Not Applicable
Upper Flammable/Explosive Limit:	Not Applicable
Auto Ignition Temperature:	not determined

9.2. Other information:

Notes : Flammability (solid, gas): Not applicable

SECTION 10 : STABILITY and REACTIVITY

Reactivity:

Reactivity: Not reactive under normal conditions of use.
Possibility of hazardous reactions: Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

Chemical Stability:

Chemical Stability: Stable

Conditions To Avoid:

Conditions to Avoid: Avoid generation of dust in handling and use.

Incompatible Materials:

Incompatible Materials: Powerful oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride and hydrofluoric acid.

Hazardous Decomposition Products:

Special Decomposition Products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

IARC:	IARC - The International Agency for Research on Cancer ("IARC") concluded that "crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)". For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts " (2011).
NTP:	classifies "Silica, Crystalline (respirable size)" as Known to be a human carcinogen.
Eye:	Particulates may cause abrasive injury.
Skin:	No adverse effects are expected.
Inhalation:	Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.
Ingestion:	Ingestion in an unlikely route of exposure. If dust is swallowed, it may irritate the mouth and throat.
Chronic Effects:	Chronic effects: Prolonged inhalation of respirable crystalline silica may cause lung disease, silicosis, lung cancer and other effects as indicated below.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: Crystalline silica (quartz) is not known to be ecotoxic.

Persistence and degradability:

Biodegradation: Persistence and degradability: Silica is not degradable.

Bioaccumulative potential:

Bioaccumulation: Bioaccumulative potential: Silica is not bioaccumulative.

Mobility in soil:

Mobility In Environmental Media: Mobility in soil: Silica is not mobile in soil.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal: Discard any product, residue, disposable container or liner in full compliance with national regulations.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Not regulated

DOT Pictograms:



SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

TSCA Inventory Status: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.

SARA: Emergency Planning and Community Right to Know Act (SARA Title III): This product contains the following chemicals subject to SARA 302 or SARA 313 reporting: None above the de minimum concentrations.

CERCLA Section 302: CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Clean Air Act: Clean Air Act: Crystalline silica (quartz) mined and processed by U.S. Silica Company is not processed with or does not contain any Class I or Class II ozone depleting substances.

RCRA 261.33 Code: RCRA: This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

State Regulations: California Inhalation Reference Exposure Level (REL): California established a chronic non-cancer effect REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no non-cancer health effects are anticipated in individuals indefinitely exposed to the substance at that level.
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.
Pennsylvania Worker and Community Right to Know Act: Quartz is a hazardous substance under the Act, but it is not a special hazardous substance or an environmental hazardous substance.
Texas Commission on Environmental Quality: The Texas CEQ has established chronic and acute Reference Values and short term and long term Effects Screening Levels for crystalline silica (quartz). The information can be accessed through www.tceq.texas.gov

California PROP 65: Crystalline silica (airborne particles of respirable size) is classified as a substance known to the State of California to be a carcinogen.

Risk Phrases: R45b - May cause cancer after repeated inhalation of sand dust.

Safety Phrase:
* S22 - Do not breathe dust.
* S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
* S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 1*
HMIS Fire Hazard: 0
HMIS Reactivity: 0
HMIS Personal Protection: X

Health Hazard	1*
Fire Hazard	0
Reactivity	0
Personal Protection	X

* Chronic Health Effects

SDS Revision Date: August 06, 2015

Notes : Important Note: This information relates to the specific product described herein and may not be valid for this material when used in combination with other raw materials. The information provided is without warranty regarding its accuracy or completeness. The information may not be valid under all conditions. The user has the final responsibility for determining the suitability of the product in a given application.

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