



SAFETY DATA SHEET

1. Identification

Product identifier RM-10 2027

Other means of identification None.

Recommended use Not available.

Recommended restrictions Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name CETCO Energy Services Company, an MTI Company

Address 2870 Fords Avenue
Hoffman Estates
Covington, IL 60192
United States

Telephone General Information 985 871-4700

Website <http://www.cetcoenergyservices.com/>

E-mail safetydata@mineralstech.com

Emergency phone number Emergency 1.866.519.4752/1 760 476 3962

Americas 1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

| | |
|---|-------------|
| Acute toxicity, oral | Category 4 |
| Serious eye damage/eye irritation | Category 1 |
| Carcinogenicity | Category 1A |
| Specific target organ toxicity, repeated exposure | Category 1 |

Environmental hazards

| | |
|--|------------|
| Hazardous to the aquatic environment, acute hazard | Category 3 |
| Hazardous to the aquatic environment, long-term hazard | Category 3 |

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Causes serious eye damage. May cause cancer. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. 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/doctor.

Storage Store locked up.

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| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Hazard(s) not otherwise classified (HNOC) | None known. |
| Supplemental information | 10.84% of the mixture consists of component(s) of unknown acute oral toxicity. 31.84% of the mixture consists of component(s) of unknown acute dermal toxicity. 31.84% of the mixture consists of component(s) of unknown acute inhalation toxicity. 23.84% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 23.84% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|--------------|-----------|
| TRADE SECRET* | * | Proprietary* | 13 |
| TRADE SECRET* | | Proprietary* | 8 |
| QUARTZ (SIO ₂) | | 14808-60-7 | 3 - < 5 |
| CRISTOBALITE | | 14464-46-1 | 1 - < 3 |
| Other components below reportable levels | | | 70 - < 80 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments This product contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%.

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. |
| Ingestion | Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. |
| Most important symptoms/effects, acute and delayed | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Prolonged exposure may cause chronic effects. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |
| General information | IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | None known. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
|--|---|

Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not get this material in contact with eyes. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|---|------|------------------------|------------------|
| CRISTOBALITE (CAS 14464-46-1) | PEL | 0.05 mg/m ³ | Respirable dust. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | PEL | 0.05 mg/m ³ | Respirable dust. |

US. OSHA Table Z-3 (29 CFR 1910.1000)

| Components | Type | Value | Form |
|---|------|------------------------|-------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.05 mg/m ³ | Respirable. |
| | | 1.2 mppcf | Respirable. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | TWA | 0.1 mg/m ³ | Respirable. |
| | | 2.4 mppcf | Respirable. |

Additional components

| Additional components | Type | Value | Form |
|-------------------------|------|----------------------|----------------------|
| INERT OR NUISANCE DUSTS | TWA | 5 mg/m ³ | Respirable fraction. |
| | | 15 mg/m ³ | Total dust. |
| | | 50 mppcf | Total dust. |
| | | 15 mppcf | Respirable fraction. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|---|------|-------------------------|----------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.025 mg/m ³ | Respirable fraction. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|---|------|------------|------------------|
| CRISTOBALITE (CAS 14464-46-1) | TWA | 0.05 mg/m3 | Respirable dust. |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | TWA | 0.05 mg/m3 | Respirable dust. |

| | |
|--|--|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Exposure guidelines | Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. |
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter. |
| Skin protection | |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Other | Wear suitable protective clothing. Use of an impervious apron is recommended. |
| Respiratory protection | Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

| | |
|---|----------------------------------|
| Appearance | Powder. |
| Physical state | Solid. |
| Form | Powder. |
| Color | Tan. |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | 9 1% dispersion |
| Melting point/freezing point | 1508.26 °F (820.14 °C) estimated |
| Initial boiling point and boiling range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 0.00001 hPa estimated |
| Vapor density | Not available. |
| Relative density | Not available. |

| | |
|--|----------------------|
| Solubility(ies) | |
| Solubility (water) | negligible |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 2.18 g/cm3 estimated |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| Specific gravity | 2.18 estimated |
| VOC | CARB |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | At thermal decomposition temperatures, carbon monoxide and carbon dioxide. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | May cause damage to organs through prolonged or repeated exposure by inhalation. Dust may irritate respiratory system. |
| Skin contact | Dust or powder may irritate the skin. |
| Eye contact | Causes serious eye damage. |
| Ingestion | Harmful if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

| Components | Species | Test Results |
|-------------------------------|---------|--------------------------|
| CRISTOBALITE (CAS 14464-46-1) | | |
| Acute | | |
| Oral | | |
| LD50 | Rat | > 22500 mg/kg |
| TRADE SECRET | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 2.3 mg/l, 2 Hours |
| Oral | | |
| LD50 | Rat | 4090 mg/kg 1930 mg/kg |

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

| | |
|-------------------------------|--|
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity 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 Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. |

IARC Monographs. Overall Evaluation of Carcinogenicity

| | |
|---|---------------------------|
| CRISTOBALITE (CAS 14464-46-1) | 1 Carcinogenic to humans. |
| QUARTZ (SIO ₂) (CAS 14808-60-7) | 1 Carcinogenic to humans. |

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

| | |
|---|--------|
| CRISTOBALITE (CAS 14464-46-1) | Cancer |
| QUARTZ (SIO ₂) (CAS 14808-60-7) | Cancer |

US. National Toxicology Program (NTP) Report on Carcinogens

| | |
|---|---|
| CRISTOBALITE (CAS 14464-46-1) | Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen. |
| QUARTZ (SIO ₂) (CAS 14808-60-7) | Known To Be Human Carcinogen. |

| | |
|---|--|
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Causes damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | Not an aspiration hazard. |
| Chronic effects | Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

| Components | Species | Test Results |
|----------------|--|--------------------------|
| TRADE SECRET | | |
| Aquatic | | |
| Crustacea | EC50 Amphipod (Crangonyx pseudogracilis) | 11.8 - 14 mg/l, 48 hours |
| Fish | LC50 Bluegill (Lepomis macrochirus) | 300 mg/l, 96 hours |
| | Fathead minnow (Pimephales promelas) | 3.4 - 5.6 mg/l, 96 hours |
| | Fish | 100 mg/L, 96 Hours |

| | |
|--------------------------------------|---|
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

| | |
|-----------------------------------|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |

| | |
|--|--|
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

TRADE SECRET (CAS Proprietary) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

| | |
|---|-----------------------|
| CRISTOBALITE (CAS 14464-46-1) | Cancer |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | Cancer |
| CRISTOBALITE (CAS 14464-46-1) | lung effects |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | lung effects |
| CRISTOBALITE (CAS 14464-46-1) | immune system effects |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | immune system effects |
| CRISTOBALITE (CAS 14464-46-1) | kidney effects |
| QUARTZ (SiO ₂) (CAS 14808-60-7) | kidney effects |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

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

California Proposition 65



WARNING: This product can expose you to QUARTZ (SiO₂), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

QUARTZ (SiO₂) (CAS 14808-60-7) Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

CRISTOBALITE (CAS 14464-46-1)

QUARTZ (SiO₂) (CAS 14808-60-7)

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 26-March-2015

Revision date 31-July-2018

Version # 03

HMIS® ratings Health: 3*
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 3
Flammability: 0
Instability: 0

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The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available. CETCO Energy Services Company, an MTI Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Revision information This document has undergone significant changes and should be reviewed in its entirety.