1. Identification

Product identifier  CRUDESORB X-DRY BSF

Other means of identification

CAS number  1302-78-9

Recommended use  Bentonite has a variety of uses. It can be used as a rheology modifier, binding agent, adsorbent, hydraulic-barrier, and filler.

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  CETCO, an MTI Company

Company name  CETCO, an MTI Company

Address  2870 Forbs Avenue

Hoffman Estates, IL 60192

United States

Telephone  General Information  800 527-9948

Website  http://www.cetco.com/LT/

E-mail  safetydata@mineralstech.com

Emergency phone number  1.866.519.4752 (US, CA, MX)  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  Carcinogenicity

Category 1A

Specific target organ toxicity, repeated exposure

Category 1

Environmental hazards  Not classified.

OSHA defined hazards  Not classified.

Label elements

Signal word  Danger

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

Precautionary statement  Prevention

- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response  If exposed or concerned: Get medical advice/attention.

Storage  Store away from incompatible materials.

Disposal  Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)  Material can be slippery when wet

Supplemental information  90% of the mixture consists of component(s) of unknown acute oral toxicity. 8% of the mixture consists of component(s) of unknown acute dermal toxicity. 8% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUARTZ (SiO2)</td>
<td></td>
<td>14808-60-7</td>
<td>6</td>
</tr>
<tr>
<td>CRISTOBALITE</td>
<td></td>
<td>14464-46-1</td>
<td>2</td>
</tr>
</tbody>
</table>

Other components below reportable levels

92

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

Composition comments: Occupational Exposure Limits for constituents are listed in Section 8.

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: Rinse with water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed: Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. 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.

5. Fire-fighting measures

Suitable extinguishing media: Use any media suitable for the surrounding fires.

Unsuitable extinguishing media: Not applicable, non-combustible.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Firefighters should wear full protective gear.

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: This material will not burn. Material can be slippery when wet. No unusual fire or explosion hazards noted.

6. Accidental release measures

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. Wear a dust mask if dust is generated above exposure limits. 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: Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions: 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. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. 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. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store in tightly closed container. 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)

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>0.05 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>1.2 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
</tbody>
</table>

Constituents

<table>
<thead>
<tr>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>0.05 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Applicable for industrial settings only.

Skin protection

Hand protection

Suitable gloves can be recommended by the glove supplier. Applicable for industrial settings only.

Other

Applicable for industrial settings only. Use of protective coveralls and long sleeves is recommended.

Respiratory protection

Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit. Applicable for industrial settings only. In case of inadequate ventilation, use respiratory protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.
Observe any medical surveillance requirements. 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
- Lump, granular or fine powder.
- Physical state: Solid.
- Form: Solid. Various.
- Color: Various.
- Odor: None.
- Odor threshold: Not applicable.
- pH: 8.5 - 11
- Melting point/freezing point: > 842 °F (> 450 °C) / Not applicable.
- Initial boiling point and boiling range: Not applicable.
- Flash point: Not applicable.
- Evaporation rate: Not applicable.
- Flammability (solid, gas): This product is not flammable.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): Not applicable.
- Flammability limit - lower (%) temperature: Not applicable.
- Flammability limit - upper (%): Not applicable.
- Flammability limit - upper (%) temperature: Not applicable.
- Explosive limit - lower (%): Not applicable.
- Explosive limit - lower (%) temperature: Not applicable.
- Explosive limit - upper (%): Not applicable.
- Explosive limit - upper (%) temperature: Not applicable.
- Vapor pressure: Not applicable.
- Vapor density: Not applicable.
- Relative density: 2.6 g/cm³
- Solubility(ies):
  - Solubility (water): < 0.9 mg/l
- Partition coefficient (n-octanol/water): Not applicable.
- Auto-ignition temperature: Not applicable.
- Decomposition temperature: > 932 °F (> 500 °C)
- Viscosity: Not applicable.
- Viscosity temperature: Not applicable.

Other information
- Bulk density: 0.9 - 1.4 g/cm³
- Explosive limit: Not applicable.
- Explosive properties: Not explosive. Not explosive
- Explosivity: Not applicable.
- Fire point: Not applicable.
- Flame extension: Not applicable.
- Flame projection: Not applicable.
- Flammability: Not applicable.
Flammability (flash back) Not applicable.
Flammability (Heat of combustion) Not applicable.
Flammability (Train fire) Not applicable.
Flammability class Not applicable.
Flash point class Not flammable
Molecular formula UVCB Substance
Molecular weight Not applicable.
Oxidizing properties Not oxidizing. None.
Percent volatile 0 %
\(pH\) in aqueous solution 8.5 - 11
Specific gravity Not applicable.
VOC 0 %
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 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials Powerful oxidizers. Chlorine.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
Inhalation Prolonged inhalation may be harmful.
Skin contact No adverse effects due to skin contact are expected.
Eye contact Direct contact with eyes may cause temporary irritation.
Ingestion Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects
Acute toxicity Not known.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 22500 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not a respiratory sensitizer.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>This product is not expected to cause skin sensitization.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
<td></td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>1 Carcinogenic to humans.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>Cancer</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>Cancer</td>
</tr>
</tbody>
</table>

**US. National Toxicology Program (NTP) Report on Carcinogens**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISTOBALITE (CAS 14464-46-1)</td>
<td>Known To Be Human Carcinogen.</td>
</tr>
<tr>
<td>QUARTZ (SIO2) (CAS 14808-60-7)</td>
<td>Known To Be Human Carcinogen.</td>
</tr>
</tbody>
</table>

**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**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**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. 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.
Not regulated as dangerous goods.

Not regulated as dangerous goods.

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

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)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

CRISTOBALITE (CAS 14464-46-1) Cancer
QUARTZ (SIO2) (CAS 14808-60-7) Cancer
CRISTOBALITE (CAS 14464-46-1) lung effects
QUARTZ (SIO2) (CAS 14808-60-7) lung effects
CRISTOBALITE (CAS 14464-46-1) immune system effects
QUARTZ (SIO2) (CAS 14808-60-7) immune system effects
CRISTOBALITE (CAS 14464-46-1) kidney effects
QUARTZ (SIO2) (CAS 14808-60-7) kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
No (Exempt)

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.

Food and Drug Administration (FDA)
Total food additive
Direct food additive
GRAS food additive

US state regulations

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**

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

*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**
19-July-2018

**Revision date**
25-October-2018

**Version #**
24

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

**NFPA ratings**
- Health: 2
- Flammability: 0
- Instability: 0

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use.

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. 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. CETCO, 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. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision information**
- Hazard(s) identification: Prevention
- First-aid measures: Inhalation
- Handling and storage: Conditions for safe storage, including any incompatibilities
- Exposure controls/personal protection: Eye/face protection
- Exposure controls/personal protection: Hand protection
- Exposure controls/personal protection: Respiratory protection
- Exposure controls/personal protection: Other
- Stability and reactivity: Conditions to avoid
- Regulatory information: US state regulations
- Other information, including date of preparation or last revision: References
- GHS: Classification