1. Identification

Product identifier: CETCO® TABLETS - 1/2

Other means of identification:
- Synonyms: SMECTITE * BENTONITE * MONTMORILLONITE

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:
- 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/
- E-mail: safetydata@amcol.com
- Emergency phone number: 1.866.519.4752 (US, Canada, Mexico) 1 760 476 3962 Access Code 333562,
  (Available 24 hours a day. SDS/Product information may not be available for the Emergency Services.)

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards: Not classified.
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.

Label elements:
- Hazard symbol: None.
- Signal word: None.
- Hazard statement: The substance does not meet the criteria for classification.
- Precautionary statement:
  - Prevention: Observe good industrial hygiene practices.
  - Response: Wash hands after handling.
  - Storage: Store away from incompatible materials.
  - Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): None known.
Supplemental information: None.

3. Composition/information on ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite</td>
<td>SMECTITE BENTONITE MONTMORILLONITE</td>
<td>1302-78-9</td>
<td>100</td>
</tr>
</tbody>
</table>
Constituents

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALCIUM CARBONATE</td>
<td>471-34-1</td>
<td></td>
</tr>
<tr>
<td>SMECTITE GROUP MINERALS</td>
<td>1318-93-0</td>
<td></td>
</tr>
<tr>
<td>QUARTZ</td>
<td>14808-60-7</td>
<td>&lt;= 8</td>
</tr>
<tr>
<td>CRISTOBALITE</td>
<td>14464-46-1</td>
<td>&lt;= 2</td>
</tr>
</tbody>
</table>

*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. Bentonite is composed mainly of smectite group minerals but the composition is varied, as expected for a UVCB substance, and other mineral constituents will be present in small and varying amounts. These minor constituents are not relevant for classification and labelling. The purity of the product is 100% w/w. Impurities are not applicable for a UVCB substance.

4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist. No specific first aid measures noted.

Skin contact
Get medical attention if irritation develops and persists. No specific first aid measures noted.

Eye contact
Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists. No specific first aid measures noted.

Ingestion
No specific first aid measures noted.

Most important symptoms/effects, acute and delayed
Dust in the eyes will cause irritation. Dusts may irritate the respiratory tract, skin and eyes.

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

General information
No hazards which require special first aid measures. Provide general supportive measures and treat symptomatically.

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
None known. The product itself does not burn.

Special protective equipment and precautions for firefighters
Material can be slippery when wet.

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. This material will not burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. For personal protection, see section 8 of the SDS. No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

Methods and materials for containment and cleaning up
Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. No special environmental precautions required.
7. Handling and storage

Precautions for safe handling: Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment. Practice good housekeeping.

Conditions for safe storage, including any incompatibilities: No special restrictions on storage with other products. Store in a dry area. Store in original tightly closed container. Keep the container dry. 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:

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>DUSTS</td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

Biological limit values: No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls:

If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. 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.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles). Wear dust-resistant safety goggles where there is danger of eye contact.

Hand protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. No protection is ordinarily required under normal conditions of use.

Other: Normal work clothing (long sleeved shirts and long pants) 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.

General hygiene considerations:

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. Use good industrial hygiene practices in handling this material.

9. Physical and chemical properties

Appearance: Tablet. Pellets.

Physical state: Solid.

Form: Tablet.

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 available.

Flammability (solid, gas): This product is not flammable.

Upper/lower flammability or explosive limits:

Flammability limit - lower (%): Not applicable.
Flammability limit - upper (%)  Not applicable.
Explosive limit - lower (%)  Not available.
Explosive limit - upper (%)  Not available.

Vapor pressure  Not applicable.
Vapor density  Not applicable.
Relative density  2.6 g/cm³

Solubility(ies)  Not applicable.
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  Not applicable.
Bulk density  0.9 - 1.4 g/cm³
Explosive limit  Not applicable.
Explosive properties  Not explosive. Not explosive
Explosivity  Not applicable.
Flame extension  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 (Weight %)  CARB 0 %

10. Stability and reactivity
Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Stable at normal conditions.
Possibility of hazardous reactions  Will not occur.
Conditions to avoid  Moisture. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials  None known.
Hazardous decomposition products  None.

11. Toxicological information
Information on likely routes of exposure
Inhalation  Dust may irritate respiratory system.
Skin contact  Dust or powder may irritate the skin.
Eye contact
Dust in the eyes will cause irritation.

Ingestion
Not classified.

Symptoms related to the physical, chemical and toxicological characteristics
Dusts may irritate the respiratory tract, skin and eyes. None known.

Information on toxicological effects

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite (CAS 1302-78-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>&gt; 5.27 mg/l, 4 hr OECD 436</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg OECD 425</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation
Not classified.

Serious eye damage/eye irritation
Not classified. Mild irritant to eyes (according to the modified Kay & Calandra criteria)

Respiratory or skin sensitization
Respiratory sensitization
Not classified.

Skin sensitization
Not classified.

Germ cell mutagenicity
Not classified.

Carcinogenicity
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. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. This product contains <10% total crystalline silica. The respirable crystalline silica as determined by the SWeRF method is <1% w/w.

IARC Monographs. Overall Evaluation of Carcinogenicity
Not available.

US. National Toxicology Program (NTP) Report on Carcinogens
Not available.

Reproductive toxicity
Not classified.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite (CAS 1302-78-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>&gt; 100 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>24.8 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 100 mg/l, 48 hours</td>
</tr>
<tr>
<td>Product</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>Fish</td>
<td>Dungeness or edible crab (Cancer magister)</td>
<td>81.6 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Fish</td>
<td>16000 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td>Marine water fish</td>
<td>2800 - 3200 mg/l, 24 hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**
Not relevant for inorganic substances

**Bioaccumulative potential**
Will not bio-accumulate.

**Mobility in soil**
Bentonite is almost insoluble and thus presents a low mobility in most soils.

**Mobility in general**
The product has poor water-solubility.

**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 in accordance with all applicable 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. Store containers and offer for recycling of material when in accordance with the local regulations.

### 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 not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**CERCLA Hazardous Substance List (40 CFR 302.4)**
Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**
- Immediate Hazard - No
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**
Not listed.

**SARA 311/312 Hazardous chemical**
No

**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

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List
Not regulated.

US. New Jersey Worker and Community Right-to-Know Act
Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law
Not listed.

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
WARNING: This product contains a chemical known to the State of California to cause cancer.

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>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</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>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</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-November-2015
Revision date: 22-December-2015
Version #: 19

Further information

UVCB = a substance of Unknown or Variable composition, Complex reaction products or Biological materials
SWERF = Size Weighted Respirable Fraction methodology is a scientific method developed to quantify the content of respirable particles within a bulk product. All details about the SWERF method are available at www.crystallinesilica.eu.

HMIS® ratings
Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

List of abbreviations
SWERF = Size-Weighted Relevant Fine Fraction methodology is a scientific method developed to quantify the content of respirable particles within a bulk product. All details about the SWERF method are available at www.crystallinesilica.eu.

UVCB = a substance of Unknown or Variable composition, Complex reaction products or Biological materials

References
For any information on literature references or toxicity/ecotoxicity studies, please contact the supplier.

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 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 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 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. CETCO - Drilling Products Group 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
Product and Company Identification: Alternate Trade Names
Regulatory Information: United States