1. Product and Company Identification

Material name: SHORE PAC®
Version #: 10
Revision date: 12-December-2008
Chemical name: Copolymer of Sodium Acrylate and Acrylamide
Chemical description: Powder
CAS #: Mixture
Manufacturer: CETCO
  Construction Drilling Products
  2870 Forbs Avenue
  Hoffman Estates, IL 60192 US
  safetydata@amcol.com
  http://www.constructiondrilling.com/
  General Information (800) 527-9948
  CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Health injuries are not known or expected under normal use. No hazards resulting from the material as supplied.

OSHA regulatory status: This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:
- Eyes: Contact with eyes may cause irritation.
- Skin: This product may cause irritation to the skin.
- Inhalation: Inhalation of dusts may cause respiratory irritation.
- Ingestion: Health injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures:
- Eye contact: Flush eyes with water as a precaution. Get medical attention if irritation develops or persists.
- Skin contact: Wash off with soap and water. Launder contaminated clothing before reuse. Get medical attention if irritation develops or persists.
- Inhalation: Remove to fresh air. Call a physician if symptoms develop or persist.
- Ingestion: Have victim rinse mouth thoroughly with water. If ingestion of a large amount does occur, seek medical attention.

General advice: If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Extinguishing media:
- Suitable extinguishing media: Small Fires: Dry chemical, CO2, water spray or regular foam.
- Large Fires: Water spray, fog or regular foam.

6. Accidental Release Measures

Environmental precautions: Prevent further leakage or spillage if safe to do so.
Methods for cleaning up:
- Sweep up or gather material and place in appropriate container for disposal. Avoid dust formation.
- Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
7. Handling and Storage

Handling  Handle and open container with care. Minimize dust generation and accumulation.
Storage  Keep the container tightly closed and dry.

8. Exposure Controls / Personal Protection

Personal protective equipment

Eye / face protection  Avoid contact with eyes. Wear dust goggles.
Skin protection  Not normally needed. Wear suitable protective clothing.
Respiratory protection  No personal respiratory protective equipment normally required. Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

9. Physical & Chemical Properties

Appearance  Free flowing wettable powder.
Color  White.
Odor  Not available.
Odor threshold  Not available.
Physical state  Solid.
Form  Solid. Powder.
pH  Not available.
Melting point  Not available.
Freezing point  Not available.
Boiling point  Not available.
Flash point  Not available.
Evaporation rate  Not available.
Flammability  Not available.
Flammability limits in air, upper, % by volume  Not available.
Flammability limits in air, lower, % by volume  Not available.
Vapor pressure  Not available.
Vapor density  Not available.
Specific gravity  0.8 - 1
Relative density  Not available.
Solubility (water)  Solubility limited by viscosity
Partition coefficient (n-octanol/water)  Not available.
Auto-ignition temperature  Not available.
Decomposition temperature  Not available.
VOC  0 % estimated
Percent volatile  0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability  Stable at normal conditions.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  Upon decomposition, this product may yield oxides of nitrogen and ammonia, carbon dioxide, carbon monoxide and other low molecular weight hydrocarbons.
Possibility of hazardous reactions  Will not occur.

11. Toxicological Information

Further information  This product has no known adverse effect on human health.
12. Ecological Information

Ecotoxicity This material is not expected to be harmful to aquatic life.

Environmental effects Ecological injuries are not known or expected under normal use.

Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

14. Transport Information

DOT Not regulated as dangerous goods.

IATA Not regulated as dangerous goods.

IMDG Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazarc Communication Standard, 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity None

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

<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 (NDSL)</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 New and Existing Chemicals (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>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)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
16. Other Information

HMIS ratings

![HMIS ratings Image]

NFPA ratings

- Health: 0
- Flammability: 0
- Instability: 0

Disclaimer

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier.

Issue date

12-December-2008
1. Product and Company Identification

Material name: XX-POLY
Version #: 02
Revision date: 12-December-2008
Chemical description: Copolymer of sodium acrylate and acrylamide in mineral oil
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Material can be slippery when wet

Potential health effects:
- Eyes: Contact with eyes may cause irritation. Symptoms include itching, burning, redness and tearing.
- Skin: Contact may irritate or burn skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
- Inhalation: Exposure to oil mist/fume/vapor may cause respiratory tract irritation.
- Ingestion: May be harmful if swallowed. Aspiration into lungs may cause chemical pneumonia and lung damage.

Health effects of additional components:
2-PROPENOIC ACID, SODIUM SALT, POLYMER WITH 2-PROPENAMIDE
Emergency overview: Harmful by inhalation, in contact with skin and if swallowed. Highly flammable.
Potential health effects:
- Routes of exposure: Inhalation. Skin contact. Ingestion.
- Eyes: Harmful in contact with eyes.
- Skin: Harmful in contact with skin.
- Inhalation: Harmful if inhaled.
- Ingestion: Harmful if swallowed.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

4. First Aid Measures

First aid procedures:
- Eye contact: Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation develops or persists.
- Skin contact: Wash affected area with mild soap and water. Remove and isolate contaminated clothing and shoes. Launder contaminated clothing before reuse. Get medical attention if irritation develops or persists.
- Inhalation: If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
- Ingestion: If swallowed, do NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Get medical attention immediately.

5. Fire Fighting Measures

Flammable properties: None known.
6. Accidental Release Measures

**Personal precautions**
Material can be slippery when wet. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

**Methods for containment**
Stop leak if you can do so without risk. Dike the spilled material, where this is possible.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Forms smooth, slippery surfaces on floors, posing an accident risk.

7. Handling and Storage

**Handling**
Do not get this material in your eyes, on your skin, or on your clothing. Forms smooth, slippery surfaces on floors, posing an accident risk.

**Storage**
Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature in the original container.

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>Acrylamide (79-06-1)</td>
<td>TWA</td>
<td>0.03 mg/m³</td>
<td>Inhalable fraction and vapor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylamide (79-06-1)</td>
<td>PEL</td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.03 mg/m³</td>
</tr>
</tbody>
</table>

**Engineering controls**
Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye / face protection**
Wear chemical goggles and face shield.

**Skin protection**
Use impervious gloves. Normal work clothing (long sleeved shirts and long pants) is recommended. Wear oil-impervious garments if contact is unavoidable.

**Respiratory protection**
No personal respiratory protective equipment normally required. If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**General hygiene considerations**
Use good industrial hygiene practices in handling this material. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

**Appearance**
Viscous.

**Color**
White.

**Odor**
Petroleum

**Odor threshold**
Not available.

**Physical state**
Liquid.

**Form**
Liquid.
**Chemical Stability & Reactivity Information**

**Chemical stability**
Stable at normal conditions.

**Conditions to avoid**
Extremes of temperature and direct sunlight. Do not freeze.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

**Possibility of hazardous reactions**
Will not occur.

**11. Toxicological Information**

**Toxicological data**

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>XX-POLY (Mixture)</td>
<td>Acute Dermal LD50 Rabbit: 5467 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Acute Inhalation LC50 Rat: 6.2286 mg/l/4h</td>
</tr>
</tbody>
</table>

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

**Sensitization**

**US ACGIH Threshold Limit Values: Skin designation**
Acrylamide (79-06-1)
Can be absorbed through the skin.

**Acute effects**
Acute LD50: 5467 mg/kg, Rabbit, Dermal
Acute LC50: 6.23 mg/l/4h, Rat, Inhalation

**Carcinogenicity**
Suspect cancer hazard. This product contains trace levels (<0.1%) of a potential carcinogen.

**IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation**
Acrylamide (79-06-1)
2A Probable carcinogen.

**US ACGIH Threshold Limit Values: A3 carcinogen**
Acrylamide (79-06-1)
Group A3 Confirmed animal carcinogen with unknown relevance to humans.

**US NTP Report on Carcinogens: Anticipated carcinogen**
Acrylamide (79-06-1)
Anticipated carcinogen.

**12. Ecological Information**

**Environmental effects**
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.
Persistence and degradability  Not available.

13. Disposal Considerations

Waste codes

US RCRA Hazardous Waste U List: Reference
Acrylamide (79-06-1)  U007

Disposal instructions  Dispose in accordance with all applicable regulations.

14. Transport Information

DOT  Not regulated as dangerous goods.

IATA  Not regulated as dangerous goods.

IMDG  Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations  OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity
Acrylamide (79-06-1)  5000 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, lower value
Acrylamide (79-06-1)  1000 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, upper value
Acrylamide (79-06-1)  10000 LBS

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
Acrylamide (79-06-1)  0.1 %

CERCLA (Superfund) reportable quantity  None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance  No

Section 311 hazardous chemical  Yes

Inventory status

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<td>Yes</td>
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</table>

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

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

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Acrylamide (79-06-1) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
Acrylamide (79-06-1) Listed: January 1, 1990 Carcinogenic.

US - New Jersey Community RTK (EHS Survey): Reportable threshold
Acrylamide (79-06-1) 500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance
Acrylamide (79-06-1) Listed.

16. Other Information

HMIS ratings

\[
\begin{array}{c|c|c|c}
\text{Health} & 1 & 1 & 0 \\
\text{Flammability} & 1 & 1 & 0 \\
\text{Physical Hazard} & 0 & 0 & 0 \\
\end{array}
\]

NFPA ratings

Health: 1
Flammability: 1
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 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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

Issue date

12-December-2008

This data sheet contains changes from the previous version in section(s): Other Information: Other information

Other information

CETCO is an AMCOL International company.
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name: INSTA-CLEAR™ DRY
Version #: 08
Revision date: 12-December-2008
Chemical description: Dry Blend of Clay, Inorganic Salt, and Organic Polymer
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica.

Potential health effects:
- Eyes: Contact with eyes may cause irritation.
- Skin: Prolonged and/or repeated skin contact may result in mild irritation or redness.
- Inhalation: Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
- Ingestion: Health injuries are not known or expected under normal use. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Target organs: Lungs.

Chronic effects: Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 3%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures:
- Eye contact: Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation develops or persists.
- Skin contact: Immediately flush skin with running water for at least 20 minutes. Get medical attention if irritation develops or persists.
- Inhalation: If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop. If not breathing, give artificial respiration or give oxygen by trained personnel.
- Ingestion: Have victim rinse mouth thoroughly with water. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Flammable properties: This material will not burn.
Extinguishing media
Suitable extinguishing media: Dry chemical, CO₂, water spray or regular foam.

6. Accidental Release Measures

Environmental precautions: No special environmental precautions required. Do not let product enter drains.

Methods for containment: Stop leak if you can do so without risk.

Methods for cleaning up: Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Sweep up or gather material and place in appropriate container for disposal. Avoid the generation of dusts during clean-up.

7. Handling and Storage

Handling: Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage: No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>TWA</td>
<td></td>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Respirable dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
</tbody>
</table>

Exposure guidelines: Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls: 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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection: Wear dust goggles. Eye wash fountain is recommended.

Skin protection: Use of protective coveralls and long sleeves is recommended. Remove and wash contaminated clothing before re-use.

Respiratory protection: Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations: Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance: Not available.

Color: Tan.

Odor: None.

Odor threshold: Not available.
<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Powder.</td>
</tr>
<tr>
<td>pH</td>
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</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
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</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.3261 g/ml estimated</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>100 %</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>VOC</td>
<td>0 % estimated</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>0 % estimated</td>
</tr>
</tbody>
</table>

### 10. Chemical Stability & Reactivity Information

**Chemical stability**
- Stable at normal conditions.

**Conditions to avoid**
- None known.

**Incompatible materials**
- None known.

**Hazardous decomposition products**
- None known.

**Possibility of hazardous reactions**
- Will not occur.

### 11. Toxicological Information

**Acute effects**
- Skin irritation
- Eye irritation

**Chronic effects**
- 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 "cancerogenicity 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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808-60-7) 1 Human carcinogen.
US ACGIH Threshold Limit Values: A2 carcinogen
QUARTZ (14808-60-7) Group A2 Suspected human carcinogen.
US NTP Report on Carcinogens: Known carcinogen
QUARTZ (14808-60-7) Known carcinogen.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHORE PAC® INSTA-CLEAR™ DRY (Mixture)</td>
<td>LC50 Fish: 36538 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity
This material is not expected to be harmful to aquatic life. Components of this product have been identified as having potential environmental concerns.

Environmental effects
Ecological injuries are not known or expected under normal use.

Persistence and degradability
Not available.

13. Disposal Considerations

Disposal instructions
Dispose in accordance with all applicable regulations.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<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 (NDSSL)</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 New and Existing Chemicals (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>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)*</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------</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>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).

**State regulations**

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

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

QUARTZ (14808-60-7) Listed.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

QUARTZ (14808-60-7) Listed.

### 16. Other Information

**Further information**

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**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.

**HMIS ratings**

![HMIS ratings image]

- Health: 1
- Flammability: 0
- Instability: 0

**NFPA ratings**

- Health: 1
- 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 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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

**Issue date**

12-December-2008

**This data sheet contains changes from the previous version in section(s):**

Other Information: Other information

**Other information**

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SURE SEAL
Version #: 12
Revision date: 12-December-2008
Chemical description: Sodium Polyacrylate, lightly crosslinked
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Health injuries are not known or expected under normal use.
OSHA regulatory status: This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:
- **Eyes**: Contact with eyes may cause irritation.
- **Skin**: Substance may cause slight skin irritation.
- **Inhalation**: Inhalation of dusts may cause respiratory irritation.
- **Ingestion**: May be harmful if swallowed.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.
Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures:
- **Eye contact**: Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation develops or persists.
- **Skin contact**: Wash off with soap and water. Get medical attention if irritation develops or persists.
- **Inhalation**: Remove to fresh air. Call a physician if symptoms develop or persist.
- **Ingestion**: Have victim rinse mouth thoroughly with water. Call a physician or Poison Control Center immediately.

5. Fire Fighting Measures

Flammable properties: Dusts at sufficient concentrations can form explosive mixtures with air.
Extinguishing media:
- Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam. Use extinguishing agent suitable for type of surrounding fire.

Protection of firefighters:
- Protective equipment and precautions for firefighters: Material can be slippery when wet

Hazardous combustion products: None known.

6. Accidental Release Measures

Environmental precautions: No special environmental precautions required.
Methods for containment
Stop leak if you can do so without risk.

Methods for cleaning up
Avoid dust formation. Use a suitable vacuum cleaner. Material can be slippery when wet.

7. Handling and Storage

Handling
Handle and open container with care. Wash hands before eating. Material can be slippery when wet. Keep formation of airborne dusts to a minimum.

Storage
Store in a cool dry place.

8. Exposure Controls / Personal Protection

Personal protective equipment

Eye / face protection
Wear chemical goggles.

Skin protection
Not normally needed. Wear suitable protective clothing.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

9. Physical & Chemical Properties

Appearance
Not available.

Color
Off-white.

Odor
None.

Odor threshold
Not available.

Physical state
Solid.

Form
Powder or Granular.

pH
Not available.

Melting point
Not available.

Freezing point
Not available.

Boiling point
Not available.

Flash point
Not available.

Evaporation rate
Not available.

Flammability
Not available.

Flammability limits in air,
upper, % by volume
Not available.

Flammability limits in air,
lower, % by volume
Not available.

Vapor pressure
Not available.

Vapor density
Not available.

Specific gravity
Not available.

Relative density
Not available.

Solubility (water)
Not available.

Partition coefficient
(n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

 Decomposition temperature
Not available.

VOC
0 % estimated

Bulk density
0.5 - 0.7 g/l

Percent volatile
0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability
Stable at normal conditions.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Possibility of hazardous reactions
Will not occur.
11. Toxicological Information

Chronic effects  Prolonged or repeated exposure may cause lung injury.
Further information  Information given is based on data obtained from similar substances.

12. Ecological Information

Ecotoxicity  This material is not expected to be harmful to aquatic life.
Environmental effects  Ecological injuries are not known or expected under normal use.
Persistence and degradability  Not available.

13. Disposal Considerations

Disposal instructions  Dispose in accordance with all applicable regulations.

14. Transport Information

DOT  Not regulated as dangerous goods.
IATA  Not regulated as dangerous goods.
IMDG  Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations  OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity  None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance  No
Section 311 hazardous chemical  Yes

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)</th>
</tr>
</thead>
<tbody>
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</tr>
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<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 New and Existing Chemicals (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>
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</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>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances</td>
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<tr>
<td></td>
<td>(PICCS)</td>
<td></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)

State regulations  This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
16. Other Information

HMIS ratings

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA ratings

- Health: 0
- Flammability: 0
- Instability: 0

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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.

Issue date

12-December-2008

This data sheet contains changes from the previous version in section(s):

Other Information: Other information

Other information

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SAND SEALANT™
Version #: 09
Revision date: 19-December-2008
Synonym(s): SMECTITE CLAY
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Material can be slippery when wet

Potential health effects:

Routes of exposure:
- Inhalation. Eye contact.

Eyes:
- Dust or powder may irritate eye tissue.

Skin:
- Non-irritating to the skin.

Inhalation:
- Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

Ingestion:
- No significant adverse effects are expected upon ingestion of the product.

Target organs:
- Lungs.

Chronic effects:
- This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments:
- Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures:

Eye contact:
- Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.

Skin contact:
- No special measures required. Get medical attention if irritation develops or persists.

Inhalation:
- If symptoms are experienced, remove source of contamination or move victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

Ingestion:
- No special measures required. If ingestion of a large amount does occur, seek medical attention.

Notes to physician:
- Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties:
- None known.
Extinguishing media

Suitable extinguishing media
Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.

Protection of firefighters

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

Hazardous combustion products
None known.

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions
No special environmental precautions required.

Methods for containment
None necessary.

Methods for cleaning up
Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage
Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

<table>
<thead>
<tr>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

U.S. - OSHA

<table>
<thead>
<tr>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</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>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls
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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection
Wear dust goggles.

Skin protection
No special protective equipment required.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations
Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material.
### 9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
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</tr>
<tr>
<td>Color</td>
<td>Various.</td>
</tr>
<tr>
<td>Odor</td>
<td>None.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid.</td>
</tr>
<tr>
<td>Form</td>
<td>Granular. Powder. Pellets. or Chips.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Non-flammable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
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<td>Solubility (water)</td>
<td>Negligible</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>VOC</td>
<td>0 % estimated</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>0 % estimated</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>UNKNOWN</td>
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</tbody>
</table>

### 10. Chemical Stability & Reactivity Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable at normal conditions.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>None known.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>None known.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

### 11. Toxicological Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute effects</td>
<td>Mild irritant to eyes (according to the modified Kay &amp; Calandra criteria).</td>
</tr>
</tbody>
</table>
Chronic effects

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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/S GRANULAR™</td>
<td>LC50 Fish: 19000 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity

This material is not expected to be harmful to aquatic life.

Environmental effects

Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability

Not available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Inventory status

<table>
<thead>
<tr>
<th>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>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------------------------------------</td>
<td>-----------------------</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 New and Existing Chemicals (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).

**State regulations**

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

**16. Other Information**

**Further information**

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**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.

**HMIS ratings**

- Health: 1
- Flammability: 0
- Physical Hazard: 0

**NFPA ratings**

- Health: 1
- Flammability: 0
- Instability: 0

**Disclaimer**

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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

**Issue date**

19-December-2008

**Other information**

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: STONE STOP™
Version #: 09
Revision date: 19-December-2008
Synonym(s): SMECTITE CLAY
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview
Material can be slippery when wet

Potential health effects

Routes of exposure
Inhalation. Eye contact.

Eyes
Dust or powder may irritate eye tissue.

Skin
Non-irritating to the skin.

Inhalation
Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

Ingestion
No significant adverse effects are expected upon ingestion of the product.

Target organs
Lungs.

Chronic effects
This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments
Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures

Eye contact
Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.

Skin contact
No special measures required. Get medical attention if irritation develops or persists.

Inhalation
If symptoms are experienced, remove source of contamination or move victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

Ingestion
No special measures required. If ingestion of a large amount does occur, seek medical attention.

Notes to physician
Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties
None known.
Extinguishing media
Suitable extinguishing media
Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.

Protection of firefighters
Protective equipment and precautions for firefighters
Material can be slippery when wet

Hazardous combustion products
None known.

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions
No special environmental precautions required.

Methods for containment
None necessary.

Methods for cleaning up
Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage
Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m3</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</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>
<tr>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m3</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m3</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls
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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

| Eye / face protection | Wear dust goggles. |
| Skin protection       | No special protective equipment required. |
| Respiratory protection| Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit. |
| General hygiene considerations | Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material. |
9. Physical & Chemical Properties

Appearance              | Not available.
Color                  | Various.
Odor                   | None.
Odor threshold         | Not available.
Physical state         | Solid.
Form                   | Granular. Powder. Pellets. or Chips.
\(pH\)                 | Not available.
Melting point          | Not available.
Freezing point         | Not available.
Boiling point          | Not available.
Flash point             | Non-flammable
Evaporation rate       | Not available.
Flammability            | Not available.
Flammability limits in air,
upper, % by volume      | Non-explosive
Flammability limits in air,
lower, % by volume      | Non-explosive
Vapor pressure          | Not available.
Vapor density           | Not available.
Specific gravity        | Not available.
Relative density        | Not available.
Solubility (water)      | Negligible
Partition coefficient (n-octanol/water) | Not available.
Auto-ignition temperature | Not available.
Decomposition temperature | Not available.
VOC                     | 0 % estimated
Percent volatile        | 0 % estimated
Molecular formula       | UNKNOWN

10. Chemical Stability & Reactivity Information

Chemical stability      | Stable at normal conditions.
Conditions to avoid     | None known.
Incompatible materials  | None known.
Hazardous decomposition products | None known.
Possibility of hazardous reactions | Will not occur.

11. Toxicological Information

Acute effects           | Mild irritant to eyes (according to the modified Kay & Calandra criteria).
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.)

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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 nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/S GRANULAR™</td>
<td>LC50 Fish: 19000 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity
This material is not expected to be harmful to aquatic life.

Environmental effects
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability
Not available.

13. Disposal Considerations
Disposal instructions
Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard - No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delayed Hazard - Yes</td>
</tr>
<tr>
<td></td>
<td>Fire Hazard - No</td>
</tr>
<tr>
<td></td>
<td>Pressure Hazard - No</td>
</tr>
<tr>
<td></td>
<td>Reactivity Hazard - No</td>
</tr>
</tbody>
</table>

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

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

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

State regulations

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

16. Other Information

Further information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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.

HMIS ratings

![HMIS Rating Image]

NFPA ratings

Health: 1
Flammability: 0
Instability: 0

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Issue date

19-December-2008

Other information

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SLURRY BUSTER™
Version #: 16
Revision date: 12-December-2008
Chemical description: Sodium Hypochlorite Solution
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: CORROSIVE

Potential health effects:

- **Eyes**: Avoid contact with eyes. Contact will irritate or burn eyes. Symptoms include itching, burning, redness and tearing. Dust or powder may irritate eye tissue. Symptoms include itching, burning, redness and tearing.

- **Skin**: Substance is corrosive. Contact causes severe skin irritation and possible burns. This product may cause irritation to the skin. Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis.

- **Inhalation**: High vapor concentrations are irritating to the eyes, nose, throat, and lungs. Prolonged inhalation may be harmful. Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Inhalation of dusts may cause respiratory irritation. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

- **Ingestion**: Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYPOCHLORITE</td>
<td>7681-52-9</td>
<td>10 - 20</td>
</tr>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>1310-73-2</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

Non-hazardous and other components below reportable levels: 80 - 90

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures:

- **Eye contact**: Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately.

- **Skin contact**: Wash off with soap and water. Wash off immediately with plenty of water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Launder contaminated clothing before reuse. Get medical attention if irritation develops or persists.

- **Inhalation**: Move to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

- **Ingestion**: If swallowed, do NOT induce vomiting. Have victim rinse mouth thoroughly with water. Drink 1 or 2 glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.
5. Fire Fighting Measures

Flammable properties
Containers may explode when heated. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing media
Suitable extinguishing media
Dry chemical, CO2, water spray or regular foam. Use any media suitable for the surrounding fires.

Protection of firefighters

Protective equipment and precautions for firefighters
Move containers from fire area if you can do it without risk. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

Hazardous combustion products
Fire may produce irritating, corrosive and/or toxic gases.

6. Accidental Release Measures

Personal precautions
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Avoid skin contact and inhalation of vapors during disposal of spills.

Environmental precautions
Do not contaminate water. Runoff from fire control or dilution water may cause pollution. Prevent further leakage or spillage if safe to do so.

Methods for containment
Dike the spilled material, where this is possible. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After removal flush contaminated area thoroughly with water. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling
Handle and open container with care. Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe gas/fumes/vapor/spray. Keep away from heat and flame. "Empty" containers retain product residue (liquid or vapor) and can be dangerous.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in direct sunlight. Keep away from heat and sources of ignition. Do not store near acids. Vent container carefully, as needed to relieve pressure.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE (1310-73-2)</td>
<td>TWA</td>
<td>2 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE (1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m3</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>2 mg/m3</td>
</tr>
</tbody>
</table>

Personal protective equipment

Eye / face protection
Wear chemical goggles and face shield.

Skin protection
The use of neoprene gloves is recommended. Use of an impervious apron is recommended. Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection
If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke.

Eye wash fountain and emergency showers are recommended. Launder contaminated clothing before reuse.
9. Physical & Chemical Properties

Appearance
Liquid.
Color
Yellow.
Odor
Chlorine.
Odor threshold
Not available.
Physical state
Liquid.
Form
Liquid.
P
H 10 - 12
Melting point
Not available.
Freezing point
Not available.
Boiling point
Decomposes
Flash point
Not flammable
Evaporation rate
Same as Water
Flammability
Not available.
Flammability limits in air, upper, % by volume
Not available.
Flammability limits in air, lower, % by volume
Not available.
Vapor pressure
0.1 hPa estimated
Vapor density
Same as Water
Specific gravity
1.16
Relative density
Not available.
Solubility (water)
Completely Soluble
Partition coefficient (n-octanol/water)
Not available.
Auto-ignition temperature
Not available.
Decomposition temperature
Not available.
Bulk density
10.2 lb/gal

10. Chemical Stability & Reactivity Information

Chemical stability
Stable, however, may decompose if heated.
Conditions to avoid
High temperatures. Reacts violently with acids.
Incompatible materials
This product reacts with acids. This product may react with strong reducing agents. Contact with metals may evolve flammable hydrogen gas.
Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors. May develop chlorine if mixed with acidic solutions.
Possibility of hazardous reactions
Will not occur.

11. Toxicological Information

Toxicological data

Product

Test Results
SLURRY BUSTER™ (Mixture)
Acute Dermal LD50 Rabbit: 50550 mg/kg
Acute Oral LD50 Mouse: 46869 mg/kg estimated
Components

Test Results
SODIUM HYDROXIDE (1310-73-2)
Acute Dermal LD50 Rabbit: 1350 mg/kg
SODIUM HYPOCHLORITE (7681-52-9)
Acute Dermal LD50 Rabbit: 10000.0001 mg/kg
Acute Oral LD50 Mouse: 5800 mg/kg
Acute Oral LD50 Rat: 8200 mg/kg

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

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLURRY BUSTER™ (Mixture)</td>
<td>EC50 Daphnia: 4086 mg/l 48.00 Hours estimated</td>
</tr>
<tr>
<td></td>
<td>LC50 Fish: 13.7 mg/l 96.00 Hours estimated</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td><strong>Test Results</strong></td>
</tr>
<tr>
<td>SODIUM HYDROXIDE (1310-73-2)</td>
<td>EC50 Water flea (Ceriodaphnia dubia): 34.59 - 47.13 mg/l 48.00 Hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Fish: 45.4 mg/L 96.00 Hours</td>
</tr>
<tr>
<td>SODIUM HYPOCHLORITE (7681-52-9)</td>
<td>LC50 Fish: 0.42 mg/L 96.00 Hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Pink salmon (Oncorhynchus gorbushcha): 0.023 - 0.052 mg/l 96.00 Hours</td>
</tr>
</tbody>
</table>

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

Ecotoxicity

Components of this product are hazardous to aquatic life. In high concentrations, this product may be dangerous to aquatic life and fouling to shorelines.

Persistence and degradability

Not available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with all applicable regulations. Do not allow this material to drain into sewers/water supplies.

14. Transport Information

**DOT**

Basic shipping requirements:

- UN number: UN1791
- Proper shipping name: Hypochlorite solutions
- Hazard class: 8
- Packing group: III
- Additional information:
  - Special provisions: IB3, N34, T4, TP2, TP24
  - Packaging exceptions: 154
  - Packaging non bulk: 203
  - Packaging bulk: 241
  - ERG number: 154

**IATA**

Basic shipping requirements:

- Proper shipping name: Hypochlorite solutions
- Hazard class: 8
- UN number: UN1791
- Packing group: III
- Additional information:
  - Packaging exceptions: 154
  - Packaging non bulk: 203
  - Packaging bulk: 241
  - Labels required: 8
IMDG

Basic shipping requirements:
Proper shipping name: Hypochlorite solutions
Hazard class: 8
UN number: UN1791
Packing group: III

Additional information:
Packaging exceptions: 154
Labels required: 8

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity
SODIUM HYPOCHLORITE: 100.0000
SODIUM HYDROXIDE: 1000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status
Country(s) or region
Inventory name
On inventory (yes/no)*
Australia
Australian Inventory of Chemical Substances (AICS)
Yes
Canada
Domestic Substances List (DSL)
Yes
Canada
Non-Domestic Substances List (NDSL)
No
China
Inventory of Existing Chemical Substances in China (IECS)
Yes
Europe
European Inventory of New and Existing Chemicals (EINECS)
Yes
Europe
European List of Notified Chemical Substances (ELINCS)
No
Japan
Inventory of Existing and New Chemical Substances (ENCS)
No
Korea
Existing Chemicals List (ECL)
Yes
<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<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>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).

**State regulations**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

- SODIUM HYDROXIDE (1310-73-2) Listed.
- SODIUM HYPOCHLORITE (7681-52-9) Listed.

**16. Other Information**

**Further information**

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**HMIS ratings**

- Health: 1
- Flammability: 0
- Instability: 0

**NFPA ratings**

- Health: 1
- 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 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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

**Issue date**

12-December-2008

**This data sheet contains changes from the previous version in section(s):**

Other Information: Other information

**Other information**

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: DE-CHLOR™

Version #: 09

Revision date: 12-December-2008

CAS #: Mixture

Manufacturer: CETCO

Construction Drilling Products

2870 Forbs Avenue

Hoffman Estates, IL 60192 US

safetydata@amcol.com

http://www.constructiondrilling.com/

General Information (800) 527-9948

CHEMTREC® (800) 424-9300

2. Hazards Identification

Potential health effects

- **Eyes**: Dust or powder may irritate eye tissue. Symptoms include itching, burning, redness and tearing.
- **Skin**: Not expected to be a primary skin irritant. Prolonged or excessive skin contact with this product may cause mild skin irritation.
- **Inhalation**: Dusts of this product may cause irritation of the nose, throat, and respiratory tract.
- **Ingestion**: Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

**First aid procedures**

- **Eye contact**: Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.
- **Skin contact**: Wash off with soap and water. Get medical attention if irritation develops or persists. Launder contaminated clothing before reuse.
- **Inhalation**: Remove to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.
- **Ingestion**: Give several glasses of water. Induce vomiting, but only if victim is fully conscious. Get medical attention immediately.

**Notes to physician**: Provide general supportive measures and treat symptomatically.

**General advice**: If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

**Flammable properties**: None known.

**Extinguishing media**

- **Suitable extinguishing media**: Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.

**Hazardous combustion products**: Carbon monoxide, carbon dioxide and other hydrocarbon fragments.

6. Accidental Release Measures

**Environmental precautions**: No special environmental precautions required.

**Methods for containment**: Stop leak if you can do so without risk.
Methods for cleaning up
Sweep up or gather material and place in appropriate container for disposal. Avoid the generation of dusts during clean-up. Reduce airborne dust and prevent scattering by moistening with water. Wear appropriate protective equipment and clothing during clean-up.

7. Handling and Storage
Handling
Keep formation of airborne dusts to a minimum. Use this product with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not get this material in contact with skin or eyes. Potential for exothermic hazard.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from strong oxidizers.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>3 mg/m3</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA</th>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

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

Personal protective equipment

Eye / face protection
Wear safety glasses with side shields.

Skin protection
Normal work clothing (long sleeved shirts and long pants) is recommended. Wear appropriate chemical resistant gloves.

Respiratory protection
None required where adequate ventilation conditions exist. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygiene considerations
Use good industrial hygiene practices in handling this material. Wash hands before breaks and immediately after handling the product. Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

Appearance
Granular.
Color
White.
Odor
None.
Odor threshold
Not available.
Physical state
Solid.
Form
Not available.
pH
Not available.
Melting point
118.4 °F (48 °C)
Freezing point
Not available.
Boiling point
Not applicable
Flash point
Not flammable
Evaporation rate
Not applicable
Flammability
Not available.
Flammability limits in air, upper, % by volume: Not available.
Flammability limits in air, lower, % by volume: Not available.
Vapor pressure: Not applicable
Vapor density: Not applicable
Specific gravity: 1.685
Relative density: Not available.
Solubility (water): Soluble
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
VOC: Not applicable
Percent volatile: Not applicable
Molecular weight: 248.1800
Molecular formula: Na2S2O3 5H2O

10. Chemical Stability & Reactivity Information
Chemical stability: Stable at normal conditions.
Conditions to avoid: None known.
Incompatible materials: This product may react with strong acids. This product may react with strong oxidizing agents.
Hazardous decomposition products: Contact with acids releases sulphur dioxide. May release hydrogen sulfide gas, which is highly toxic. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since odor fatigue rapidly occurs.
Possibility of hazardous reactions: Will not occur.

11. Toxicological Information
Component analysis - LD50: An LD50 value for this product has not been determined.
Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA.

12. Ecological Information
Ecotoxicity: No data is available on the product itself. This material is not expected to be harmful to aquatic life.
Environmental effects: No data available for this product.
Persistence and degradability: Not available.

13. Disposal Considerations
Disposal instructions: Dispose in accordance with all applicable regulations.

14. Transport Information
DOT: Not regulated as dangerous goods.
IATA: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.

15. Regulatory Information
US federal regulations: OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.
CERCLA (Superfund) reportable quantity: None
Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<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>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>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of New and Existing Chemicals (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>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>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).

State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

HMIS ratings

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA ratings
- Health: 0
- Flammability: 0
- Instability: 0
Disclaimer

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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

Issue date

12-December-2008

This data sheet contains changes from the previous version in section(s):

Other information: Other information

Other information

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SODIUM HYDROXIDE

Version #: 08
Revision date: 12-December-2008

Chemical description: Pellet

CAS #: 1310-73-2

Synonym(s): CAUSTIC SODA

Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview
Contact with this material will cause burns to the skin, eyes and mucous membranes. Highly flammable.

Potential health effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Substance causes severe eye irritation; injury may be permanent. Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Contact may irritate or burn skin. Immediately corrosive; causes permanent skin damage.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Inhalation of vapors or mists of the product may be irritating to the respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. Ingestion of this product may cause nausea, vomiting and diarrhea. Aspiration into lungs may cause chemical pneumonia and lung damage.</td>
</tr>
</tbody>
</table>

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>1310-73-2</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Immediately flush eyes with plenty of water for at least 20 minutes. Keep eye wide open while rinsing. Get medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>Immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing and shoes. Launder contaminated clothing before reuse. Get medical attention immediately.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention immediately.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>If swallowed, rinse mouth with water (only if the person is conscious). Immediately give large quantities of water to drink. If swallowed, do NOT induce vomiting. Call a physician immediately.</td>
</tr>
</tbody>
</table>

Notes to physician
Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties
This material will not burn.
Extinguishing media

Suitable extinguishing media
Use water to cool fire-exposed containers and to protect personnel. Water only; no dry chemical, CO2 or Halon.

Unsuitable extinguishing media
Carbon dioxide (CO2).

Hazardous combustion products
None known.

6. Accidental Release Measures

Personal precautions
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions
Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

Methods for containment
Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up
Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Avoid runoff into storm sewers and ditches which lead to waterways.

7. Handling and Storage

Handling
Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe fumes or dust from this material.

Use this product with adequate ventilation. Wash hands after handling and before eating. Wash hands before eating. Avoid breathing dust.

Storage
Keep the container tightly closed and dry. Store away from water, steam, ice, heat, oxidizing agents, and acids. Keep this material away from food, drink and animal feed.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE (1310-73-2)</td>
<td>TWA</td>
<td>2 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE (1310-73-2)</td>
<td>Ceiling</td>
<td>2 mg/m3</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>2 mg/m3</td>
</tr>
</tbody>
</table>

Engineering controls
Ensure compliance with applicable exposure limits. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

Eye / face protection
Wear chemical goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection
Wear appropriate chemical resistant clothing. The use of neoprene gloves is recommended. Launder contaminated clothing before reuse.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical & Chemical Properties

Appearance
Pellets.

Color
White.

Odor
None.

Odor threshold
Not available.

Physical state
Solid.

Form
Not available.
**Chemical Stability & Reactivity Information**

**Chemical stability**
Stable at normal conditions.

**Conditions to avoid**
Exposure to air or moisture over prolonged periods.

**Incompatible materials**
Reaction with water may generate much heat which will increase the concentration of fumes in the air. This product reacts with acids. This product may react with metals, halogens.

**Hazardous decomposition products**
None known.

**Possibility of hazardous reactions**
Will not occur.

**Toxicological Information**

<table>
<thead>
<tr>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute LD50: 40 mg/kg, Mouse</td>
</tr>
<tr>
<td>Acute Dermal Rabbit: 500 mg/day</td>
</tr>
<tr>
<td>Acute Dermal LD50 Rabbit: 1350 mg/kg</td>
</tr>
</tbody>
</table>

**Ecological Information**

<table>
<thead>
<tr>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Water flea (Ceriodaphnia dubia): 34.59 - 47.13 mg/l 48.00 Hours</td>
</tr>
<tr>
<td>LC50 Fish: 45.4 mg/L 96.00 Hours</td>
</tr>
</tbody>
</table>

**Material name:** SODIUM HYDROXIDE  CETCO - Construction Drilling Products

740  Version #: 08  Revision date: 12-December-2008  Print date: 12-December-2008
13. Disposal Considerations

Disposal instructions: Dispose in accordance with all applicable regulations.

14. Transport Information

**DOT**

Basic shipping requirements:
- UN number: UN1823
- Proper shipping name: Sodium hydroxide, solid
- Hazard class: 8
- Packing group: II
- Additional information:
  - Special provisions: IB8, IP2, IP4, T3, TP33
  - Packaging exceptions: 154
  - Packaging non bulk: 212
  - Packaging bulk: 240
  - Reportable quantity: 1000
  - ERG number: 154

**IATA**

Basic shipping requirements:
- Proper shipping name: Sodium hydroxide, solid
- Hazard class: 8
- UN number: 1823
- Packing group: II
- Additional information:
  - Packaging instructions cargo only: 816
  - Maximum net quantity packaging: 15 kg
  - Maximum net quantity packaging cargo only: 50 kg
  - ERG code: 8L

**IMDG**

Basic shipping requirements:
- Proper shipping name: SODIUM HYDROXIDE, SOLID
- Hazard class: 8
- UN number: 1823
- Packing group: II
15. Regulatory Information

**US federal regulations**
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

**CERCLA (Superfund) reportable quantity**
SODIUM HYDROXIDE: 1000.0000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**
- **Hazard categories**
  - Immediate Hazard: Yes
  - Delayed Hazard: Yes
  - Fire Hazard: No
  - Pressure Hazard: No
  - Reactivity Hazard: No
- **Section 302 extremely hazardous substance**: No
- **Section 311 hazardous chemical**: Yes

**Clean Water Act (CWA)**
Hazardous substance

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

**Inventory status**

<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 New and Existing Chemicals (EINECS)</td>
<td>Yes</td>
</tr>
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<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>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
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<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).

**State regulations**

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**
SODIUM HYDROXIDE (1310-73-2) Listed.
16. Other Information

HMIS ratings

[Image of HMIS ratings]

NFPA ratings
Health: 3
Flammability: 0
Instability: 0

Disclaimer
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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier.

Issue date
12-December-2008
1. Product and Company Identification

Material name: SODIUM BICARBONATE
Version #: 07
Revision date: 12-December-2008
CAS #: 144-55-8
Synonym(s): BICARBONATE OF SODA * SODIUM ACID CARBONATE * SODIUM HYDROGEN CARBONATE
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Potential health effects
- Eyes: This product may cause slight irritation to the eyes.
- Skin: Non-irritating to the skin. Not expected to be a primary skin irritant.
- Inhalation: Dusts of this product may cause irritation of the nose, throat, and respiratory tract.
- Ingestion: Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Chronic effects: None known.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures
- Eye contact: Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.
- Skin contact: No special measures required.
- Inhalation: Remove to fresh air. If tightness or congestion develops, get medical attention.
- Ingestion: Give several glasses of water. If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures

Flammable properties: This material will not burn.
Extinguishing media: Use any media suitable for the surrounding fires.

6. Accidental Release Measures

Personal precautions: Ventilate enclosed areas.
Methods for cleaning up: Clean up spills immediately, observing precautions in Protective Equipment section. Sweep up or gather material and place in appropriate container for disposal. Avoid the generation of dusts during clean-up.

7. Handling and Storage

Handling: Keep formation of airborne dusts to a minimum.
Storage: Keep at temperatures between 2 and 40°C. Keep in a well-ventilated place. Keep container tightly closed.
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 DUST (SEQ250)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></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>

Engineering controls
Good general ventilation should be sufficient to control airborne levels. Local exhaust is suggested for use, where possible, in enclosed or confined spaces.

Personal protective equipment
Eye / face protection
Wear chemical goggles.

Skin protection
Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

9. Physical & Chemical Properties

Appearance
Crystalline. Powder.

Color
White.

Odor
None.

Odor threshold
Not available.

Physical state
Solid.

Form
Not available.

pH
Not available.

Melting point
Not available.

Freezing point
Not available.

Boiling point
Not available.

Flash point
Not available.

Evaporation rate
Not available.

Flammability
Not available.

Flammability limits in air, upper, % by volume
Not available.

Flammability limits in air, lower, % by volume
Not available.

Vapor pressure
< -0.0001 kPa at 25°C

Vapor density
Not available.

Specific gravity
2.159

Relative density
2.2 g/cm³

Solubility (water)
Not available.

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Bulk density
0.98 g/cm³ at 20 °C
Percent volatile 0 %
Molecular weight 84.0100 g/mol
Molecular formula C-H2-O3.Na

10. Chemical Stability & Reactivity Information

Chemical stability Stable at normal conditions.
Conditions to avoid Exposure to moisture. High temperatures.
Incompatible materials Acids.
Hazardous decomposition products Carbon oxides.
Possibility of hazardous reactions Will not occur.

11. Toxicological Information

Toxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM BICARBONATE (144-55-8)</td>
<td>Acute Dermal Human: 30 mg/day Acute Oral LD50 Rat: 4220 mg/kg</td>
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</tbody>
</table>

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM BICARBONATE (144-55-8)</td>
<td>EC50 Daphnia: 2350 mg/L 48.00 Hours LC50 Fish: 8625 mg/L 96.00 Hours LC50 Western mosquitofish (Gambusia affinis): 7550 mg/l 96.00 Hours</td>
</tr>
</tbody>
</table>

Ecotoxicity This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.
Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

14. Transport Information

DOT Not regulated as dangerous goods.
IATA Not regulated as dangerous goods.
IMDG Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.
CERCLA (Superfund) reportable quantity None
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
Section 302 extremely hazardous substance: No
Section 311 hazardous chemical: No

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

Inventory status

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<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
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<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).

16. Other Information

HMIS ratings

Health: 0
Flammability: 0
Instability: 0

NFPA ratings

Health: 0
Flammability: 0
Instability: 0

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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

Issue date: 12-December-2008

This data sheet contains changes from the previous version in section(s): Other Information: Other information

Other information

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SODA ASH
Version #: 06
Revision date: 12-December-2008
CAS #: 497-19-8
Synonym(s): DISODIUM CARBONATE * SODIUM CARBONATE
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Potential health effects

- **Eyes**: Contact may irritate or burn eyes.
- **Skin**: Prolonged and/or repeated skin contact may result in mild irritation or redness.
- **Inhalation**: Inhalation of dusts may cause respiratory irritation.
- **Ingestion**: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures

- **Eye contact**: Immediately flush eyes with plenty of water for at least 20 minutes. If irritation persists get medical attention.
- **Skin contact**: Wash affected area with mild soap and water. Get medical attention if irritation develops or persists. Launder contaminated clothing before reuse.
- **Inhalation**: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. If symptoms persist, get medical attention.
- **Ingestion**: Give several glasses of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Notes to physician: Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties: This material will not burn.

Extinguishing media

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

Protection of firefighters

- **Protective equipment and precautions for firefighters**: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Hazardous combustion products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
6. Accidental Release Measures

Environmental precautions  Runoff from fire control or dilution water may cause pollution. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for containment  Stop leak if you can do so without risk.

Methods for cleaning up  Vacuum or sweep up material and place in a disposal container. Avoid the generation of dusts during clean-up. After removal flush contaminated area thoroughly with water. Do not flush to sewer.

7. Handling and Storage

Handling  Keep formation of airborne dusts to a minimum. Do not get this material in contact with skin or eyes. Wash hands before eating.

Storage  Keep tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure guidelines  Contains no substances with occupational exposure limit values.

Engineering controls  Good general ventilation should be sufficient to control airborne levels.

Personal protective equipment

Eye / face protection  Wear safety glasses with side shields.

Skin protection  Normal work clothing (long sleeved shirts and long pants) is recommended. Use impervious gloves.

Respiratory protection  Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations  Use good industrial hygiene practices in handling this material. Keep away from food, drink and animal feeding stuffs. Keep away from tobacco products. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance  Granular.

Color  White. or Off-white.

Odor  None.

Odor threshold  Not available.

Physical state  Solid.

Form  Powder. or granular

pH  11.3 - 11.5 (1% aqueous solution)

Melting point  1563.8 °F (851 °C) estimated

Freezing point  Not available.

Boiling point  2912 °F (1600 °C)

Flash point  Not available.

Evaporation rate  Not available.

Flammability  Not available.

Flammability limits in air, upper, % by volume  Not available.

Flammability limits in air, lower, % by volume  Not available.

Vapor pressure  Not available.

Vapor density  Not available.

Specific gravity  2.4002 - 2.53 @ 20 C

Relative density  2.4 g/cm3 estimated

Solubility (water)  220 g/L

Partition coefficient (n-octanol/water)  Not available.

Auto-ignition temperature  Not available.

Decomposition temperature  Not available.

VOC  0 % estimated
Bulk density: > 1 g/cm³ @ 20 °C
Percent volatile: 0 % estimated
Molecular weight: 105.9900
Molecular formula: Na₂.CO₃

10. Chemical Stability & Reactivity Information
Chemical stability: Stable at normal conditions.
Conditions to avoid: High temperatures.
Incompatible materials: Fluorine. Moist air. Acids. Sulfuric acid. finely divided aluminium
Hazardous decomposition products: Carbon oxides.
Possibility of hazardous reactions: Will not occur.

11. Toxicological Information
Acute effects: Acute eye irritation/corrosion
Mild skin irritation

12. Ecological Information
Ecotoxicity: This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects: No data available for this product. Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.
Persistence and degradability: Not available.

13. Disposal Considerations
Disposal instructions: Dispose in accordance with all applicable regulations.

14. Transport Information
DOT: Not regulated as dangerous goods.
IATA: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.

15. Regulatory Information
US federal regulations: OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.
CERCLA (Superfund) reportable quantity: None
Supersfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories: Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
Section 302 extremely hazardous substance: No
Section 311 hazardous chemical: No
Food and Drug Administration (FDA): Total food additive
GRAS food additive
Inventory status: Country(s) or region: Australia
Inventory name: Australian Inventory of Chemical Substances (AICS)
On inventory (yes/no): Yes
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<thead>
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<td>Toxic Substances Control Act (TSCA) Inventory</td>
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</tr>
</tbody>
</table>

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

**State regulations**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

### 16. Other Information

**Further information**

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**HMIS ratings**

![HMIS ratings](image)

**NFPA ratings**

Health: 2  
Flammability: 0  
Instability: 0

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**Issue date**

12-December-2008

This data sheet contains changes from the previous version in section(s):

Other Information: Other information

**Other information**

CETCO is an AMCOL International company.
1. Product and Company Identification
Material name: PREMIUM GEL®
Version #: 09
Revision date: 12-December-2008
Synonym(s): SMECTITE CLAY
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification
Emergency overview: Material can be slippery when wet
Potential health effects:
- **Routes of exposure**
  - Inhalation.
  - Eyes: Dust or powder may irritate eye tissue.
  - Skin: Non-irritating to the skin.
  - Inhalation: Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
  - Ingestion: No significant adverse effects are expected upon ingestion of the product.
Target organs: Lungs.
Chronic effects: This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients
The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.
Composition comments: Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures
First aid procedures:
- **Eye contact**: Flush eyes immediately with large amounts of water. If irritation persists get medical attention.
- **Skin contact**: No special measures required. Get medical attention if irritation develops or persists.
- **Inhalation**: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention, if needed.
- **Ingestion**: No special measures required. If ingestion of a large amount does occur, seek medical attention.
Notes to physician: Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures
Flammable properties: This material will not burn.
Extinguishing media: Suitable extinguishing media Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.
Protection of firefighters

Material can be slippery when wet

Hazardous combustion products

None known.

6. Accidental Release Measures

Personal precautions

Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions

No special environmental precautions required.

Methods for cleaning up

Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage

Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
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<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
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<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</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>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls

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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection

Wear dust goggles. Eye wash fountain is recommended.

Skin protection

No special protective equipment required.

Respiratory protection

Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations

Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

Appearance

Not available.

Color

Not available.
Odor: None.

Odor threshold: Not available.

Physical state: Solid.

Form: Granular. Powder. Pellets. or Chips.

pH: 7 - 11

Melting point: Not available.

Freezing point: Not available.

Boiling point: Not available.

Flash point: Non-flammable

Evaporation rate: Not available.

Flammability: Not available.

Flammability limits in air, upper, % by volume: Not available.

Flammability limits in air, lower, % by volume: Non-explosive

Vapor pressure: Not available.

Vapor density: Not available.

Specific gravity: 2.5497 estimated

Relative density: Not available.

Solubility (water): Negligible

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

VOC: 0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability: Stable at normal conditions.

Conditions to avoid: None known.

Incompatible materials: None known.

Hazardous decomposition products: None known.

Possibility of hazardous reactions: Will not occur.

11. Toxicological Information

Chronic effects: 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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER GEL®</td>
<td>LC50 Fish: 19005 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

**Ecotoxicity**

This material is not expected to be harmful to aquatic life.

**Environmental effects**

Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

**Persistence and degradability**

Not available.

13. Disposal Considerations

**Disposal instructions**

Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

15. Regulatory Information

**US federal regulations**

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

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

**Hazard categories**

- Immediate Hazard - No
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

**Section 302 extremely hazardous substance**

No

**Section 311 hazardous chemical**

Yes

**Inventory status**

<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 (NDLS)</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 New and Existing Chemicals (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>Yes</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>
</tbody>
</table>
A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

**State regulations**

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

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**
- QUARTZ (14808-60-7) Listed.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**
- QUARTZ (14808-60-7) Listed.

### 16. Other Information

**Further information**

This safety data sheet only contains information relating to safety and does not replace any product information or product specification.

**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.

**HMIS ratings**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**NFPA ratings**

- Health: 1
- 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 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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

**Issue date**

12-December-2008

**This data sheet contains changes from the previous version in section(s):**

Other Information: Other information

**Other information**

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SUPER GEL-X®
Version #: 09
Revision date: 12-December-2008
Synonym(s): SMECTITE CLAY
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Material can be slippery when wet

Potential health effects:
- Routes of exposure:
  - Inhalation:
  - Eyes: Dust or powder may irritate eye tissue.
  - Skin: Non-irritating to the skin.
  - Inhalation: Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.
  - Ingestion: No significant adverse effects are expected upon ingestion of the product.

Target organs: Lungs.

Chronic effects: This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures:
- Eye contact: Flush eyes immediately with large amounts of water. If irritation persists get medical attention.
- Skin contact: No special measures required. Get medical attention if irritation develops or persists.
- Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention, if needed.
- Ingestion: No special measures required. If ingestion of a large amount does occur, seek medical attention.

Notes to physician: Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties: This material will not burn.

Extinguishing media:
- Suitable extinguishing media: Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.
Protection of firefighters
Protective equipment and precautions for firefighters

Material can be slippery when wet

Hazardous combustion products
None known.

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions
No special environmental precautions required.

Methods for cleaning up
Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage
Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m3</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</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>
<tr>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m3</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m3</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m3</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls
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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection
Wear dust goggles. Eye wash fountain is recommended.

Skin protection
No special protective equipment required.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations
Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

Appearance
Not available.

Color
Not available.
Odor: None.
Odor threshold: Not available.
Physical state: Solid.
Form: Granular. Powder. Pellets. or Chips.

\[ \text{pH} \] 7 - 11
Melting point: Not available.
Freezing point: Not available.
Boiling point: Not available.
Flash point: Non-flammable
Evaporation rate: Not available.
Flammability: Not available.
Flammability limits in air, upper, % by volume: Not available.
Flammability limits in air, lower, % by volume: Non-explosive

Vapor pressure: Not available.
Vapor density: Not available.
Specific gravity: 2.5497 estimated
Relative density: Not available.
Solubility (water): Negligible
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
VOC: 0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability: Stable at normal conditions.
Conditions to avoid: None known.
Incompatible materials: None known.
Hazardous decomposition products: None known.
Possibility of hazardous reactions: Will not occur.

11. Toxicological Information

Chronic effects

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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808-60-7) Human carcinogen.

US ACGIH Threshold Limit Values: A2 carcinogen
QUARTZ (14808-60-7) Group A2 Suspected human carcinogen.

US NTP Report on Carcinogens: Known carcinogen
QUARTZ (14808-60-7) Known carcinogen.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER GEL®</td>
<td>LC50 Fish: 19005 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity
This material is not expected to be harmful to aquatic life.

Environmental effects
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability
Not available.

13. Disposal Considerations

Disposal instructions
Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<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 New and Existing Chemicals (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>Yes</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>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no) |
--- | --- | --- |
Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

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

State regulations

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

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**
QUARTZ (14808-60-7) Listed.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**
QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**
QUARTZ (14808-60-7) Listed.

16. **Other Information**

**Further information**
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**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.

**HMIS ratings**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**NFPA ratings**
Health: 1
Flammability: 0
Instability: 0

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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

**Issue date**
12-December-2008

**This data sheet contains changes from the previous version in section(s):**
Other Information: Other information

**Other information**
CETCO is an AMCOL International company.
1. Product and Company Identification

Material name          PUREGOLD® GEL  
Version #              10  
Revision date          17-December-2008  
Synonym(s)             SMECTITE CLAY  
Manufacturer            CETCO  
Construction Drilling Products  
2870 Forbs Avenue  
Hoffman Estates, IL 60192 US  
safetydata@amcol.com  
http://www.constructiondrilling.com/  
General Information (800) 527-9948  
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview    Material can be slippery when wet  
Potential health effects  
Routes of exposure    Inhalation.  
Eyes                   Dust or powder may irritate eye tissue.  
Skin                   Non-irritating to the skin.  
Inhalation             Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.  
Ingestion              No significant adverse effects are expected upon ingestion of the product.  
Target organs          Lungs.  
Chronic effects        This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumocononiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.  
Composition comments  Bentonite contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than%. Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures  
Eye contact          Flush eyes immediately with large amounts of water. If irritation persists get medical attention.  
Skin contact          No special measures required. Get medical attention if irritation develops or persists.  
Inhalation            Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention, if needed.  
Ingestion             No special measures required. If ingestion of a large amount does occur, seek medical attention.  
Notes to physician    Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties  This material will not burn.  
Extinguishing media  
Suitable extinguishing media          Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.
Protection of firefighters

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions
No special environmental precautions required.

Methods for cleaning up
Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage
Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
<td></td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA</th>
<th>Impurities</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>Total dust.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
<td></td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m³</td>
<td>Total dust.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable dust.</td>
<td></td>
</tr>
</tbody>
</table>

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls
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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection
Wear dust goggles. Eye wash fountain is recommended.

Skin protection
No special protective equipment required.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations
Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

Appearance
Not available.

Color
Not available.
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Form</td>
<td>Granular, Powder, Pellets, or Chips</td>
</tr>
<tr>
<td>pH</td>
<td>7 - 11</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Non-flammable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air,</td>
<td></td>
</tr>
<tr>
<td>upper, % by volume</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air,</td>
<td></td>
</tr>
<tr>
<td>lower, % by volume</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>2.5497 estimated</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available</td>
</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>0 % estimated</td>
</tr>
</tbody>
</table>

### 10. Chemical Stability & Reactivity Information

**Chemical stability**
Stable at normal conditions.

**Conditions to avoid**
None known.

**Incompatible materials**
None known.

**Hazardous decomposition products**
None known.

**Possibility of hazardous reactions**
Will not occur.

### 11. Toxicological Information

#### Chronic effects
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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.
Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808-60-7) 1 Human carcinogen.

US ACGIH Threshold Limit Values: A2 carcinogen
QUARTZ (14808-60-7) Group A2 Suspected human carcinogen.

US NTP Report on Carcinogens: Known carcinogen
QUARTZ (14808-60-7) Known carcinogen.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER GEL®</td>
<td>LC50 Fish: 19005 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity
This material is not expected to be harmful to aquatic life.

Environmental effects
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability
Not available.

13. Disposal Considerations

Disposal instructions
Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<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 New and Existing Chemicals (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>Yes</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>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)
--- | --- | ---
Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

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

State regulations

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

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
QUARTZ (14808-60-7) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

US - Pennsylvania RTK - Hazardous Substances: Listed substance
QUARTZ (14808-60-7) Listed.

16. Other Information

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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.

HMIS ratings

![HMIS ratings](image)

NFPA ratings

Health: 1
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 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.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

Issue date
17-December-2008

Other information
CETCO is an AMCOL International company.
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification
Material name BENTOGROUT®
Version # 06
Revision date 12-December-2008
Manufacturer CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification
Emergency overview Material can be slippery when wet.

Potential health effects
Routes of exposure Inhalation.

Eyes Dust or powder may irritate eye tissue.

Skin Non-irritating to the skin.

Inhalation Inhalation of dusts may cause respiratory irritation. Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

Ingestion No significant adverse effects are expected upon ingestion of the product.

Target organs Lungs.

Chronic effects This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

3. Composition / Information on Ingredients
Non-hazardous components

<table>
<thead>
<tr>
<th>Composition comments</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENTONITE</td>
<td>1302-78-9</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td>&gt; 2.5</td>
<td></td>
</tr>
</tbody>
</table>

4. First Aid Measures
First aid procedures

Eye contact Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.

Skin contact No special measures required. Get medical attention if irritation develops or persists.

Inhalation If symptoms are experienced, remove source of contamination or move victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

Ingestion No special measures required. If ingestion of a large amount does occur, seek medical attention.

Notes to physician Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures
Flammable properties None known.
Extinguishing media
Suitable extinguishing media
Use any media suitable for the surrounding fires. Dry chemical, CO2, water spray or regular foam.

Protection of firefighters
Protective equipment and precautions for firefighters
Material can be slippery when wet

Hazardous combustion products
None known.

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions
No special environmental precautions required.

Methods for containment
None necessary.

Methods for cleaning up
Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage
Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

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 DUST (SEQ250)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</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>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td>QUARTZ (14808-60-7)</td>
<td>TWA</td>
<td>2.4 mppcf</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.3 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1 mg/m³</td>
<td>Respirable dust.</td>
</tr>
</tbody>
</table>

Exposure guidelines
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Engineering controls
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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment
Eye / face protection
Wear dust goggles.

Skin protection
No special protective equipment required.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations
Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material.
9. Physical & Chemical Properties

Appearance Not available.
Color Various.
Odor None.
Odor threshold Not available.
Physical state Solid.
Form Powder.
pH 7 - 9
Melting point Not available.
Freezing point Not available.
Boiling point Not available.
Flash point Non-flammable
Evaporation rate Not available.
Flammability Not available.
Flammability limits in air, upper, % by volume Non-explosive
Flammability limits in air, lower, % by volume Non-explosive
Vapor pressure Not available.
Vapor density Not available.
Specific gravity 2.4482 estimated
Relative density Not available.
Solubility (water) Negligible
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
VOC 0 % estimated
Percent volatile 0 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability Stable at normal conditions.
Conditions to avoid None known.
Incompatible materials None known.
Hazardous decomposition products None known.
Possibility of hazardous reactions Will not occur.

11. Toxicological Information

Toxicological data
Product Test Results
BENTOGROUT® Acute Inhalation LC50 Rat: 14.5 mg/l/4h
Acute Oral LD50 Mouse: 66250 mg/kg estimated
Acute Oral LD50 Rat: 45000 mg/kg estimated

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

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. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Carcinogenicity

IARC Monographs on Occupational Exposures to Chemical Agents: Overall evaluation
QUARTZ (14808-60-7) 1 Human carcinogen.
US ACGIH Threshold Limit Values: A2 carcinogen
QUARTZ (14808-60-7) Group A2 Suspected human carcinogen.
US NTP Report on Carcinogens: Known carcinogen
QUARTZ (14808-60-7) Known carcinogen.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENTOGROUT®</td>
<td>LC50 Fish: 19792 mg/l 96.00 Hours estimated</td>
</tr>
<tr>
<td>Components</td>
<td></td>
</tr>
<tr>
<td>BENTONITE (1302-78-9)</td>
<td>LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss): 19000 mg/l 96.00 Hours</td>
</tr>
</tbody>
</table>

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

Ecotoxicity

This material is not expected to be harmful to aquatic life.

Environmental effects

Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability

Not available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with all applicable regulations. Material should be recycled if possible.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Inventory status

<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>
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<td>Yes</td>
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<td>Yes</td>
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<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
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</tr>
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<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
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<td>Europe</td>
<td>European Inventory of New and Existing Chemicals (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>Yes</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)

State regulations

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

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
QUARTZ (14808-60-7) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
QUARTZ (14808-60-7) Listed: October 1, 1988 Carcinogenic.

US - Pennsylvania RTK - Hazardous Substances: Listed substance
QUARTZ (14808-60-7) Listed.

16. Other Information

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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.

HMIS ratings

NFPA ratings
Health: 1
Flammability: 0
Instability: 0
Disclaimer

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Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. 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.

Issue date
12-December-2008

This data sheet contains changes from the previous version in section(s):
Composition / Information on Ingredients: Composition comments
Other Information: Other information

Other information
CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: SUPER THIN™
Version #: 04
Revision date: 12-December-2008
Chemical description: Acrylic polymer in an aqueous solution
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

OSHA regulatory status: This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:
- **Eyes**: This product may cause slight irritation to the eyes. Symptoms include itching, burning, redness and tearing.
- **Skin**: Prolonged exposure may cause skin irritation.
- **Inhalation**: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
- **Ingestion**: Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Composition comments: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First Aid Measures

First aid procedures:
- **Eye contact**: Flush eyes with water as a precaution. Get medical attention if irritation develops or persists.
- **Skin contact**: Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists.
- **Inhalation**: Remove to fresh air. Call a physician if symptoms develop or persist.
- **Ingestion**: If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

General advice: If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties: None known.

Extinguishing media:
- **Suitable extinguishing media**: Dry chemical, CO2, water spray or regular foam. Use any media suitable for the surrounding fires.

Protection of firefighters:
- **Protective equipment and precautions for firefighters**: Cool containers with flooding quantities of water until well after fire is out.

Hazardous combustion products: None known.
6. Accidental Release Measures

Personal precautions
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions
Do not flush into surface water or sanitary sewer system.

Methods for containment
Stop leak if you can do so without risk.

Methods for cleaning up
Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

7. Handling and Storage

Handling
Use this product with adequate ventilation.

Storage
Keep in a dry, cool and well-ventilated place. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

8. Exposure Controls / Personal Protection

Engineering controls
Good general ventilation should be sufficient to control airborne levels. Ventilation should effectively remove and prevent buildup of any vapor/mist/fume/dust generated from the handling of this product. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

Eye / face protection
Wear chemical goggles and face shield.

Skin protection
Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing.

Respiratory protection
No personal respiratory protective equipment normally required. If ventilation is not sufficient to effectively prevent buildup of aerosols or mists, appropriate NIOSH/MSHA respiratory protection must be provided.

9. Physical & Chemical Properties

Appearance
Clear.

Color
Light yellow.

Odor
Slight.

Odor threshold
Not available.

Physical state
Liquid.

Form
Aqueous solution.

pH
7.25

Melting point
Not available.

Freezing point
Not available.

Boiling point
Not available.

Flash point
Not available.

Evaporation rate
Not available.

Flammability
Not available.

Flammability limits in air, upper, % by volume
Not available.

Flammability limits in air, lower, % by volume
Not available.

Vapor pressure
0.05 hPa estimated

Vapor density
Not available.

Specific gravity
1.27

Relative density
Not available.

Solubility (water)
Soluble

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

VOC
1.1 %

Percent volatile
60.04 % estimated
10. Chemical Stability & Reactivity Information

**Chemical stability**
Stable at normal conditions. No hazards to be especially mentioned.

**Conditions to avoid**
Extremes of temperature and direct sunlight.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

**Possibility of hazardous reactions**
Will not occur.

11. Toxicological Information

**Toxicological data**

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER THIN™ (Mixture)</td>
<td>Acute Dermal LD50 Rabbit: 99999 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Acute Dermal LD50 Rat: 99999 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Acute Inhalation LC50 Rat: 99999 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>Acute Oral LD50 Rat: 94384 mg/kg estimated</td>
</tr>
</tbody>
</table>

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

**Acute effects**
Acute LD50: 94384 mg/kg, Rat, Oral, estimated

**Carcinogenicity**
Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA.

**Mutagenicity**
Not mutagenic in AMES Test.

**Further information**
This product has no known adverse effect on human health.

12. Ecological Information

**Ecotoxicity**
This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

**Environmental effects**
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

**Persistence and degradability**
Not available.

13. Disposal Considerations

**Disposal instructions**
Dispose in accordance with all applicable regulations.

14. Transport Information

**DOT**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

15. Regulatory Information

**US federal regulations**
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazarc Communication Standard, 29 CFR 1910.1200. OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

**CERCLA (Superfund) reportable quantity**
None

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

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard - No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delayed Hazard - No</td>
</tr>
<tr>
<td></td>
<td>Fire Hazard - No</td>
</tr>
<tr>
<td></td>
<td>Pressure Hazard - No</td>
</tr>
<tr>
<td></td>
<td>Reactivity Hazard - No</td>
</tr>
</tbody>
</table>
Section 302 extremely hazardous substance
No
Section 311 hazardous chemical
No

Inventory status

<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>
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</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 New and Existing Chemicals (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>Yes</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).

State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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.

HMIS ratings

Health: 1
Flammability: 0
Instability: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

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Issue date
12-December-2008
CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: MULTI-SEAL™
Version #: 06
Revision date: 12-December-2008
Chemical description: Blended Fibrous Materials
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

OSHA regulatory status: This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:
- Eyes: Dust or powder may irritate eye tissue.
- Skin: Non-irritating to the skin. Not expected to be a primary skin irritant.
- Inhalation: Inhalation of dusts may cause respiratory irritation.
- Ingestion: No significant adverse effects are expected upon ingestion of the product.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

4. First Aid Measures

First aid procedures:
- Eye contact: Immediately flush eyes with plenty of water for at least 20 minutes. If irritation persists get medical attention.
- Skin contact: No special measures required.
- Inhalation: If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Ingestion: No special measures required.

Notes to physician: Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

Flammable properties: None known.
Extinguishing media:
- Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam. Use any media suitable for the surrounding fires.

Hazardous combustion products: None known.

6. Accidental Release Measures

Environmental precautions: No special environmental precautions required.
Methods for containment: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area).
Methods for cleaning up: Avoid the generation of dusts during clean-up. Sweep up or gather material and place in appropriate container for disposal.
7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Avoid breathing dusts from this material. Provide appropriate exhaust ventilation at places where dust is formed. Keep this product from heat, sparks, or open flame.

Storage
Guard against dust accumulation of this material. Keep in a dry, cool and well-ventilated place.

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 DUST (SEQ250)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Inhalable particles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></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>

<table>
<thead>
<tr>
<th>Constituents</th>
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<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

Engineering controls
Good general ventilation should be sufficient to control airborne levels. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment
- **Eye / face protection**: Wear safety glasses with side shields.
- **Skin protection**: Normal work clothing (long sleeved shirts and long pants) is recommended.
- **Respiratory protection**: Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.
- **General hygiene considerations**: Use good industrial hygiene practices in handling this material.

9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance Fabric/Mat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
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<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Woody.</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid.</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flash point (&gt; 350 °F (&gt; 176.7 °C) Pensky-Martens Closed Cup)</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>
10. Chemical Stability & Reactivity Information

Chemical stability: Stable at normal conditions. No hazards to be especially mentioned.

Conditions to avoid: Exposure to moisture. Heat, flames and sparks.

Incompatible materials: None known.

Hazardous decomposition products: None known.

Possibility of hazardous reactions: Will not occur.

11. Toxicological Information

Chronic effects: Overexposure to dusts may result in pneumoconiosis, a lung disease due to permanent deposition of substantial amounts of particulate matter in the lungs.

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA.

12. Ecological Information

Ecotoxicity: No data available for this product. This material is not expected to be harmful to aquatic life.

Environmental effects: No data available for this product. Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

Persistence and degradability: Not available.

13. Disposal Considerations

Disposal instructions: Dispose in accordance with all applicable regulations.

14. Transport Information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

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. OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity: None

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

Section 302 extremely hazardous substance: No

Section 311 hazardous chemical: No
Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
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</tr>
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<tr>
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<td>European Inventory of New and Existing Chemicals (EINECS)</td>
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<tr>
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<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
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<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>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).

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

HMIS ratings

Health: 0
Flammability: 0
Physical Hazard: 0

NFPA ratings

Health: 0
Flammability: 0
Instability: 0

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Issue date

12-December-2008

This data sheet contains changes from the previous version in section(s):

Other Information: Other information

Other information

CETCO is an AMCOL International company.
1. Product and Company Identification

Material name: HYDRO-PAC®
Version #: 07
Revision date: 12-December-2008
Chemical description: Powder
CAS #: Mixture
Manufacturer: CETCO
Construction Drilling Products
2870 Forbs Avenue
Hoffman Estates, IL 60192 US
safetydata@amcol.com
http://www.constructiondrilling.com/
General Information (800) 527-9948
CHEMTREC® (800) 424-9300

2. Hazards Identification

Emergency overview: Material can be slippery when wet. Product may form explosive dust/air mixtures if high concentration of product dust is suspended in air.

OSHA regulatory status: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential health effects:

Routes of exposure: Eye contact Inhalation.
Eyes: Dust or powder may irritate eye tissue.
Skin: Substance may cause slight skin irritation. No components in this product are known to be absorbed through the skin.
Inhalation: Inhalation of dusts may cause respiratory irritation.
Ingestion: No significant adverse effects are expected upon ingestion of the product.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

4. First Aid Measures

First aid procedures:

Eye contact: Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation develops or persists.
Skin contact: Wash affected area with mild soap and water. Get medical attention if irritation develops or persists.
Inhalation: If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
Ingestion: No special measures required
Notes to physician: Provide general supportive measures and treat symptomatically.
General advice: If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties: Dust concentrations greater than 0.03 oz/ft³ may ignite at 590° C or when exposed to ignition source.
Extinguishing media: Suitable extinguishing media: Dry chemical, CO₂, water spray or regular foam.
Protection of firefighters
Protective equipment and precautions for firefighters

Material can be slippery when wet. Move containers from fire area if you can do it without risk.

6. Accidental Release Measures

Personal precautions
Material can be slippery when wet. Ensure adequate ventilation. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions
Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

Methods for containment
Stop leak if you can do so without risk.

Methods for cleaning up
Sweep up or gather material and place in appropriate container for disposal. Avoid the generation of dusts during clean-up.

7. Handling and Storage

Handling
Material can be slippery when wet. Keep formation of airborne dusts to a minimum. Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed. Refer to NFPA Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries."

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Guard against dust accumulation of this material. Keep out of the reach of children.

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 DUST (SEQ250)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Respirable particles.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Inhaleable particles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INERT OR NUISANCE DUST (SEQ250)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></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>

Engineering controls
Ensure adequate ventilation, especially in confined areas. 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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection
Wear safety glasses with side shields.

Skin protection
Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection
Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

General hygiene considerations
Use good industrial hygiene practices in handling this material. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance
Powder.

Color
Off-white.

Odor
Flour-like

Odor threshold
Not available.

Physical state
Solid.
10. Chemical Stability & Reactivity Information

Chemical stability
Stable at normal conditions.

Conditions to avoid
Heat, flames and sparks. Dust cloud ignition temperature 590°C.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Possibility of hazardous reactions
Will not occur.

11. Toxicological Information

<table>
<thead>
<tr>
<th>Toxicological data</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDRO-PAC® (Mixture)</td>
<td>Acute Dermal LD50 Rat: 99999 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Acute Inhalation LC50 Rat: 99999 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>Acute Inhalation LC50 Rat: 651 mg/l estimated</td>
</tr>
<tr>
<td></td>
<td>Acute Oral LD50 Hamster: 11332 mg/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Acute Oral LD50 Mouse: 15166 mg/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Acute Oral LD50 Rabbit: 12438 mg/kg estimated</td>
</tr>
</tbody>
</table>

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

Acute effects
Acute LC50: 651 mg/l, Rat, Inhalation, estimated

Carcinogenicity
Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA.

Mutagenicity
No data available for this product.

Teratogenicity
No data available for this product.

Further information
This product has no known adverse effect on human health.
12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDRO-PAC® (Mixture)</td>
<td>LC50 Fish: 102 mg/l 96.00 Hours estimated</td>
</tr>
</tbody>
</table>

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

Ecotoxicity

This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. No data is available on the product itself.

Environmental effects

No data available for this product.

Persistence and degradability

Not available.

13. Disposal Considerations

Disposal instructions

Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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.

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard - No</th>
<th>Delayed Hazard - No</th>
<th>Fire Hazard - Yes</th>
<th>Pressure Hazard - No</th>
<th>Reactivity Hazard - No</th>
</tr>
</thead>
</table>

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Food and Drug Administration (FDA)

Total food additive

Direct food additive

Indirect food additive

Inventory status

<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 New and Existing Chemicals (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>Yes</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>No</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)*
---|---|---
Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

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

16. Other Information

**Further information**
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**HMIS ratings**

![HMIS Rating Image]

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

**Disclaimer**
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**Issue date**
12-December-2008

**This data sheet contains changes from the previous version in section(s):**
Other Information: Other information

**Other information**
CETCO is an AMCOL International company.