SECTION 1: Identification

1.1. Identification
Product form : Mixture
Product name : Pacocast 28 LI
CAS-No. : Mixture
Product code : 0228
Other means of identification : Alumina-Silicate Cement Bonded Castable

1.2. Recommended use and restrictions on use
Use of the substance/mixture : Refractory
Recommended use : Industrial use

1.3. Supplier
Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA 15205 - United States
412-494-4491
SDS@RescoProducts.com - WWW.RescoProducts.com

1.4. Emergency telephone number
Emergency number : EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
Skin corrosion/irritation Category 2 : H315 Causes skin irritation
Serious eye damage/eye irritation Category 2B : H320 Causes eye irritation
Carcinogenicity Category 1A : H350 May cause cancer (Inhalation)

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H315 - Causes skin irritation
H320 - Causes eye irritation
H350 - May cause cancer (Inhalation)

Precautionary statements (GHS US) :
P280 - Wear eye protection, Dust respirator, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P260 - Do not breathe dust.

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Aluminate Cement</td>
<td>(CAS-No.) 65997-16-2</td>
<td>10 – 20</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td>cristobalite</td>
<td>(CAS-No.) 14464-46-1</td>
<td>10 – 20</td>
<td>Eye Irr. 2B, H320</td>
</tr>
<tr>
<td>quartz</td>
<td>(CAS-No.) 14808-60-7</td>
<td>5 – 10</td>
<td>Carc. 1A, H350</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)
Potential adverse human health effects and symptoms:
Symptoms/effects after inhalation: May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact: Causes skin irritation.
Symptoms/effects after eye contact: Causes eye irritation.

4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures
5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media: In case of fire, all extinguishing media allowed.
5.2. Specific hazards arising from the chemical
Fire hazard: Not flammable.
5.3. Special protective equipment and precautions for fire-fighters
Firefighting instructions: Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Emergency procedures: Do not breathe dust.
6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.
6.2. Environmental precautions
Prevent entry to sewers and public waters.
6.3. Methods and material for containment and cleaning up
Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust.
6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Avoid raising dust. Avoid contact with skin and eyes. Do not breathe dust.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store this product in a dry location where it can be protected from the elements.
Incompatible products: Strong bases. Strong acids.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacocast 28 LI (Mixture)</td>
<td>0.025 mg/m³ respirable dust</td>
<td>0.05 mg/m³ respirable dust</td>
</tr>
<tr>
<td>Calcium Aluminate Cement (65997-16-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cristobalite (14464-46-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td>0.025 mg/m³ respirable dust</td>
<td></td>
</tr>
<tr>
<td>USA - OSHA - Occupational Exposure Limits</td>
<td>0.05 mg/m³ respirable dust</td>
<td></td>
</tr>
<tr>
<td>quartz (14808-60-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td>0.025 mg/m³ (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)</td>
<td></td>
</tr>
<tr>
<td>USA - OSHA - Occupational Exposure Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local name</td>
<td>Silica, crystalline quartz, respirable dust</td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>0.05 mg/m³ respirable dust</td>
<td></td>
</tr>
<tr>
<td>Remark (OSHA)</td>
<td>(3) See Table Z-3.</td>
<td></td>
</tr>
</tbody>
</table>
### 8.2. Appropriate engineering controls

Appropriate engineering controls: Provide adequate ventilation to minimize dust concentrations.

### 8.3. Personal protective equipment

**Hand protection:**
- Wear protective gloves.

**Eye protection:**
- Chemical goggles or safety glasses

**Skin and body protection:**
- Wear suitable protective clothing

**Respiratory protection:**
- Wear appropriate mask

### 8.4. Other information

Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Granular mixture.</td>
</tr>
<tr>
<td>Color</td>
<td>light brown</td>
</tr>
<tr>
<td>Odor</td>
<td>earthy</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&gt; 2500 °F</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor pressure at 50 °C</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>≈ 2</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slightly soluble.</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Hydraulic setting.

#### 10.2. Chemical stability

Stable under normal conditions of use.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Avoid dust formation.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

No additional information available
**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>May cause cancer (Inhalation).</td>
</tr>
</tbody>
</table>

**quartz (14808-60-7)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carcinogenic to humans</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/effects after inhalation: May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact: Causes skin irritation.
Symptoms/effects after eye contact: Causes eye irritation.

**SECTION 12: Ecological information**

**12.1. Toxicity**

No additional information available

**12.2. Persistence and degradability**

### Pacocast 28 LI (Mixture)

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

**cristobalite (14464-46-1)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Mineral. Not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**quartz (14808-60-7)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

### Pacocast 28 LI (Mixture)

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

**cristobalite (14464-46-1)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

**quartz (14808-60-7)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

**cristobalite (14464-46-1)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

**12.5. Other adverse effects**

Effect on the global warming: None known
Other information: No other effects known.

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product/Packaging disposal ...</td>
<td>Dispose in a safe manner.</td>
</tr>
<tr>
<td>Ecology - waste materials</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>
SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated
Transportation of Dangerous Goods
Not regulated
Transport by sea
Not regulated
Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations
Pacocast 28 LI (Mixture)
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA
Calcium Aluminate Cement (65997-16-2)
Listed on the Canadian DSL (Domestic Substances List)
cristobalite (14464-46-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
quartz (14808-60-7)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations
Pacocast 28 LI (Mixture)
U.S. - California - Proposition 65 - Other information
This product contains crystalline silica, a chemical known to the state of California to cause cancer. For more information go to WWW.P65Warnings.ca.gov
cristobalite (14464-46-1)
U.S. - California - Proposition 65 - Developmental Toxicity
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
No significant risk level (NSRL)
Maximum allowable dose level (MADL)
Yes
No
No
No
quartz (14808-60-7)
U.S. - California - Proposition 65 - Developmental Toxicity
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
No significant risk level (NSRL)
Maximum allowable dose level (MADL)
Yes
No
No
No

Component
Cristobalite (14464-46-1)
Quartz (14808-60-7)

State or local regulations
U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date
02/11/2021

Other information
Report language name. English. In the event of any conflict between English and other language versions, the English version shall prevail.

Full text of H-phrases:

H315 Causes skin irritation
H320 Causes eye irritation
H350 May cause cancer

SDS US (GHS HazCom 2012)
Pacocast 28 LI
Safety Data Sheet

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, Resco Products, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.