SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: R-MAX AZS PCQT
CAS-No.: Mixture
Product code: 6679
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)

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+P337 - 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
Other hazards not contributing to the classification: Radioactivity: In common with many naturally occurring mineral products zirconia contains very low levels of naturally occurring radioactive elements, principally uranium, thorium and radium. The principal radiation hazard is due to inhalation of any dust, while a secondary lesser external hazard exists through gamma radiation.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
Name | Product identifier | % | GHS US classification
--- | --- | --- | ---
Zirconia | (CAS-No.) 1314-23-4 | 10 – 20 | Not classified
Aluminium oxide, non-fibrous | (CAS-No.) 1344-28-1 | 10 – 20 | Not classified
Calcium Aluminate Cement | (CAS-No.) 65997-16-2 | 5 – 10 | Skin Irrit. 2, H315, Eye Irrit. 2B, H320
Silicon carbide | (CAS-No.) 409-21-2 | 5 – 10 | Carc. 1B, H350
Quartz | (CAS-No.) 14808-60-7 | 1 – 5 | Carc. 1A, H350
Cristobalite | (CAS-No.) 14464-46-1 | 0.1 – 0.5 | Carc. 1A, H350

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

09/24/2021
EN (English US)
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.

4.2. Most important symptoms and effects (acute and delayed)

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.

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: Fight fire with normal precautions from a reasonable distance.
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 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.

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

R-MAX AZS PCQT (Mixture)
No additional information available

Calcium Aluminate Cement (65997-16-2)
No additional information available

silicon carbide (409-21-2)
USA - ACGIH - Occupational Exposure Limits
ACGIH TWA (mg/m³): 3 mg/m³ (Silicon carbide, nonfibrous; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction. The value is for particulate matter containing no asbestos and < 1% crystalline silica.

aluminium oxide, non-fibrous (1344-28-1)
USA - ACGIH - Occupational Exposure Limits
ACGIH TWA (mg/m³): 1 mg/m³ respirable dust
Zirconia (1314-23-4)

**USA - ACGIH - Occupational Exposure Limits**
- ACGIH TWA (mg/m³): 5 mg/m³ As Zr

**USA - OSHA - Occupational Exposure Limits**
- OSHA PEL (TWA) (mg/m³): 5 mg/m³ As Zr

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

**USA - ACGIH - Occupational Exposure Limits**
- ACGIH TWA (mg/m³): 0.025 mg/m³ (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)

**USA - OSHA - Occupational Exposure Limits**
- Local name: Silica, crystalline quartz, respirable dust
- OSHA PEL (TWA) (mg/m³): 0.05 mg/m³ respirable dust
- Remark (OSHA): (3) See Table Z-3.

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

**USA - ACGIH - Occupational Exposure Limits**
- ACGIH TWA (mg/m³): 0.025 mg/m³ respirable dust

**USA - OSHA - Occupational Exposure Limits**
- OSHA PEL (TWA) (mg/m³): 0.05 mg/m³ respirable dust

### 8.2. Appropriate engineering controls

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

### 8.3. Individual protection measures
**Personal protective equipment**: Avoid all unnecessary exposure.
- **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

**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 gray</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</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate</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>≈ 2.8</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>
</tbody>
</table>
## Decomposition temperature
No data available

## Viscosity, kinematic
No data available

## Viscosity, dynamic
Not Applicable

## Explosion limits
Not applicable

## Explosive properties
No data available

## Oxidizing properties
No data available

### 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>Acute toxicity (oral)</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

#### Silicon carbide (409-21-2)

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>&gt; 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)</td>
</tr>
</tbody>
</table>

#### Aluminium oxide, non-fibrous (1344-28-1)

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>&gt; 15900 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Inhalation - Rat</td>
<td>7.6 mg/l air (Equivalent or similar to OECD 403, 1 h, Rat, Male, Experimental value, Inhalation (aerosol))</td>
</tr>
</tbody>
</table>

#### Skin corrosion/irritation
Causes skin irritation.

#### Serious eye damage/irritation
Causes eye irritation.

#### Respiratory or skin sensitization
Not classified

#### Germ cell mutagenicity
Not classified

#### Carcinogenicity
May cause cancer (Inhalation).

#### Silicon carbide (409-21-2)

<table>
<thead>
<tr>
<th>IARC group</th>
<th>2A - Probably carcinogenic to humans</th>
</tr>
</thead>
</table>

#### Quartz (14808-60-7)

<table>
<thead>
<tr>
<th>IARC group</th>
<th>1 - Carcinogenic to humans</th>
</tr>
</thead>
</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

<table>
<thead>
<tr>
<th>R-MAX AZS PCQT (Mixture)</th>
<th>Not established.</th>
</tr>
</thead>
</table>

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available

### Decomposition temperature
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
Not Applicable

### Explosion limits
Not applicable

### Explosive properties
No data available

### Oxidizing properties
No data available
### 12.3. Bioaccumulative potential

#### R-MAX AZS PCQT (Mixture)

Bioaccumulative potential: Not established.

#### Silicon carbide (409-21-2)

Bioaccumulative potential: Bioaccumulation: not applicable.

#### Aluminium oxide, non-fibrous (1344-28-1)

Bioaccumulative potential: Not applicable.

#### Quartz (14808-60-7)

Bioaccumulative potential: Not applicable.

#### Cristobalite (14464-46-1)

Bioaccumulative potential: Mineral. Not applicable.

### 12.4. Mobility in soil

#### Aluminium oxide, non-fibrous (1344-28-1)

Ecology - soil: No data available.

#### Cristobalite (14464-46-1)

Ecology - soil: No data available.

### 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

- **Product/Packaging disposal recommendations**: Dispose in a safe manner in accordance with local/national regulations.
- **Ecology - waste materials**: Avoid release to the environment.

### 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
## R-MAX AZS PCQT (Mixture)

All components of this product are listed as Active, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

### aluminium oxide, non-fibrous (1344-28-1)

Not subject to reporting requirements of the United States SARA Section 313.

**Note:** Note: The section 313 chemical list contains "CAS # 1344-28-1 Aluminum Oxide (Fibrous forms)"; the Aluminum oxide contained in this product is non-fibrous, and thus is not a section 313 material. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting.

### 15.2. International regulations

#### CANADA

<table>
<thead>
<tr>
<th>Material</th>
<th>Listed on Canadian DSL (Domestic Substances List)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Aluminate Cement (65997-16-2)</td>
<td></td>
</tr>
<tr>
<td>Silicon carbide (409-21-2)</td>
<td></td>
</tr>
<tr>
<td>Aluminium oxide, non-fibrous (1344-28-1)</td>
<td></td>
</tr>
<tr>
<td>Zirconia (1314-23-4)</td>
<td></td>
</tr>
<tr>
<td>Cristobalite (14464-46-1)</td>
<td></td>
</tr>
</tbody>
</table>

### EU-Regulations

No additional information available.

### National regulations

<table>
<thead>
<tr>
<th>Material</th>
<th>Listed on IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon carbide (409-21-2)</td>
<td></td>
</tr>
<tr>
<td>Quartz (14808-60-7)</td>
<td></td>
</tr>
</tbody>
</table>

### 15.3. US State regulations

#### R-MAX AZS PCQT (Mixture)

This product contains crystalline silica, a chemical known to cause cancer. For more information go to WWW.P65Warnings.ca.gov

<table>
<thead>
<tr>
<th>Component</th>
<th>U.S. - California - Proposition 65 - Other information</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (14808-60-7)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Maximum allowable dose level (MADL)</td>
</tr>
<tr>
<td>Cristobalite (14464-46-1)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Maximum allowable dose level (MADL)</td>
</tr>
</tbody>
</table>

### Component

<table>
<thead>
<tr>
<th>Material</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon carbide (409-21-2)</td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td>Aluminium oxide, non-fibrous (1344-28-1)</td>
<td>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</td>
</tr>
<tr>
<td>Quartz (14808-60-7)</td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td>Cristobalite (14464-46-1)</td>
<td>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</td>
</tr>
</tbody>
</table>

### SECTION 16: Other information

Revision date: 10/04/2021

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:
<table>
<thead>
<tr>
<th>H315</th>
<th>Causes skin irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H320</td>
<td>Causes eye irritation</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)
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.