SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: EZ Est AZS PC
CAS-No.: Mixture
Product code: 4041
Other means of identification: Dry Additive for Gel 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, protective gloves.
- 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
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

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zirconia</td>
<td>(CAS-No.) 1314-23-4</td>
<td>20 – 50</td>
<td>Not classified</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous</td>
<td>(CAS-No.) 1344-28-1</td>
<td>10 – 20</td>
<td>Not classified</td>
</tr>
<tr>
<td>silicon carbide</td>
<td>(CAS-No.) 409-21-2</td>
<td>5 – 10</td>
<td>Carc. 1B, H350</td>
</tr>
<tr>
<td>quartz</td>
<td>(CAS-No.) 14808-60-7</td>
<td>1 – 5</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: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Rinse with water.
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.

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 breathe dust.

6.1.2. **For emergency responders**

- Protective equipment: Equip cleanup crew with proper protection.
- Emergency procedures: Ventilate area.

6.2. **Environmental precautions**

No additional information available

6.3. **Methods and material for containment and cleaning up**

- For containment: Collect spillage.
- 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 in a dry place.

**SECTION 8: Exposure controls/personal protection**

8.1. **Control parameters**

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td>1 mg/m³ respirable dust</td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>silicon carbide (409-21-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td>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 &lt; 1% crystalline silica.</td>
<td></td>
</tr>
<tr>
<td>Zirconia (1314-23-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td>5 mg/m³ As Zr</td>
<td></td>
</tr>
<tr>
<td>USA - OSHA - Occupational Exposure Limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>5 mg/m³ As Zr</td>
<td></td>
</tr>
</tbody>
</table>
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. |

#### 8.2. Appropriate engineering controls

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

#### 8.3. Individual protection measures/Personal protective equipment

**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

- **Physical state:** Solid
- **Appearance:** Granular mixture.
- **Color:** Light gray
- **Odor:** odorless
- **Odor threshold:** Not applicable
- **pH:** No data available
- **Melting point:** > 3000 °F
- **Freezing point:** Not applicable
- **Boiling point:** Not applicable
- **Critical temperature:** Not applicable
- **Critical pressure:** Not applicable
- **Flash point:** Not applicable
- **Relative evaporation rate (butyl acetate=1):** Not applicable
- **Relative evaporation rate (ether=1):** Not applicable
- **Flammability (solid, gas):** Non flammable.
- **Vapor pressure:** Not Applicable
- **Vapor pressure at 50 °C:** Not Applicable
- **Relative vapor density at 20 °C:** No data available
- **Relative density:** ≈ 2.9
- **Solubility:** Insoluble in water.
- **Partition coefficient n-octanol/water (Log Pow):** No data available
- **Auto-ignition temperature:** Not applicable
- **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

None known.
### 10.2. Chemical stability
Stable under normal conditions.

### 10.3. Possibility of hazardous reactions
Not established.

### 10.4. Conditions to avoid
Avoid dust formation.

### 10.5. Incompatible materials
No additional information available.

### 10.6. Hazardous decomposition products
No additional information available.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

- **Acute toxicity (oral)**: Not classified
- **Acute toxicity (dermal)**: Not classified
- **Acute toxicity (inhalation)**: Not classified

**aluminium oxide, non-fibrous (1344-28-1)**
- LD50 oral rat: > 15900 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
- LC50 Inhalation - Rat: 7.6 mg/l air (Equivalent or similar to OECD 403, 1 h, Rat, Male, Experimental value, Inhalation (aerosol))

**silicon carbide (409-21-2)**
- LD50 oral rat: > 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
- LD50 dermal rat: > 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)

**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).

**quartz (14808-60-7)**
- IARC group: 2A - Probably carcinogenic to humans

**Reproductive toxicity**: Not classified

**Specific target organ toxicity – single exposure** : Not classified

**Specific target organ toxicity – repeated exposure** : Not classified

**Aspiration hazard**: Not classified

**Viscosity, kinematic**: No data available

**Likely routes of exposure** : Inhalation.

**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

**EZ Est AZS PC (Mixture)**
- Persistence and degradability: Not established.

**aluminium oxide, non-fibrous (1344-28-1)**
- Persistence and degradability: Not applicable.
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable

**silicon carbide (409-21-2)**
- Persistence and degradability: Biodegradability: not applicable.
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable
- BOD (% of ThOD): Not applicable
### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EZ Est AZS PC (Mixture)</strong></td>
<td>Not established.</td>
</tr>
<tr>
<td><strong>aluminium oxide, non-fibrous</strong></td>
<td></td>
</tr>
<tr>
<td>(1344-28-1)</td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>silicon carbide</strong></td>
<td></td>
</tr>
<tr>
<td>(409-21-2)</td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aluminium oxide, non-fibrous</strong></td>
<td></td>
</tr>
<tr>
<td>(1344-28-1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ecology - soil</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></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

- **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

- **EZ Est AZS PC (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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Not subject to reporting requirements of the United States SARA Section 313</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aluminium oxide, non-fibrous</strong></td>
<td></td>
</tr>
<tr>
<td>(1344-28-1)</td>
<td></td>
</tr>
</tbody>
</table>

**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**

- **aluminium oxide, non-fibrous** (1344-28-1)
  - Listed on the Canadian DSL (Domestic Substances List)

- **silicon carbide** (409-21-2)
  - Listed on the Canadian DSL (Domestic Substances List)

- **Zirconia** (1314-23-4)
  - Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

- No additional information available

**National regulations**
### 16.3 US State regulations

<table>
<thead>
<tr>
<th>EZ Est AZS PC (Mixture)</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>silicon carbide (409-21-2)</td>
<td>Listed on IARC (International Agency for Research on Cancer)</td>
</tr>
<tr>
<td>quartz (14808-60-7)</td>
<td>Listed on IARC (International Agency for Research on Cancer)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>silicon carbide (409-21-2)</td>
<td>U.S. - California - Proposition 65 - Other information</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td>Quartz (14808-60-7)</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
</tr>
</tbody>
</table>

### 16: Other information

__Revision date__: 10/19/2020

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)**

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.