



# R-MAX AZS PCQT

## Safety Data Sheet

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

Date of issue: 12/07/2020

Revision date: 12/07/2020

Supersedes: 04/19/2019

### 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](mailto:SDS@RescoProducts.com) - [WWW.RescoProducts.com](http://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) :

Hazard statements (GHS US) :

: Danger  
: 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

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

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### 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 : 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

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

<b>R-MAX AZS PCQT (Mixture)</b>	
No additional information available	
<b>Calcium Aluminate Cement (65997-16-2)</b>	
No additional information available	
<b>silicon carbide (409-21-2)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (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.
<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> respirable dust

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Zirconia (1314-23-4)	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> As Zr
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> As Zr
quartz (14808-60-7)	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Silica, crystalline quartz, respirable dust
OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> respirable dust
Remark (OSHA)	(3) See Table Z-3.
cristobalite (14464-46-1)	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> respirable dust
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> 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

#### 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	: earthy
Odor threshold	: Not applicable
pH	: No data available
Melting point	: > 2500 °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	: ≈ 2.8
Solubility	: Slightly soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable

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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

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

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)

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))

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)	
IARC group	2A - Probably carcinogenic to humans

quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans

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

R-MAX AZS PCQT (Mixture)	
Persistence and degradability	Not established.

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<b>silicon carbide (409-21-2)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

<b>quartz (14808-60-7)</b>	
Persistence and degradability	Not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

<b>cristobalite (14464-46-1)</b>	
Persistence and degradability	Mineral. Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>R-MAX AZS PCQT (Mixture)</b>	
Bioaccumulative potential	Not established.

<b>silicon carbide (409-21-2)</b>	
Bioaccumulative potential	Bioaccumulation: not applicable.

<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
Bioaccumulative potential	No data available.

<b>quartz (14808-60-7)</b>	
Bioaccumulative potential	No data available.

<b>cristobalite (14464-46-1)</b>	
Bioaccumulative potential	No data available.

### 12.4. Mobility in soil

<b>aluminium oxide, non-fibrous (1344-28-1)</b>	
Ecology - soil	No data available.

<b>cristobalite (14464-46-1)</b>	
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

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### R-MAX AZS PCQT (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

##### 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

##### Calcium Aluminate Cement (65997-16-2)

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

##### Zirconia (1314-23-4)

Listed on the Canadian DSL (Domestic Substances List)

##### crystalite (14464-46-1)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

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

Listed on IARC (International Agency for Research on Cancer)

##### quartz (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)

#### 15.3. US State regulations

##### R-MAX AZS PCQT (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](http://WWW.P65Warnings.ca.gov)

##### quartz (14808-60-7)

U.S. - California - Proposition 65 - Carcinogens List	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		

##### crystalite (14464-46-1)

U.S. - California - Proposition 65 - Carcinogens List	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	State or local regulations
silicon carbide (409-21-2)	U.S. - New Jersey - Right to Know Hazardous Substance List
aluminium oxide, non-fibrous (1344-28-1)	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
Quartz (14808-60-7)	U.S. - New Jersey - Right to Know Hazardous Substance List
Crystalite (14464-46-1)	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

### SECTION 16: Other information

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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)

*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.*