SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: R-Max G QT
CAS-No.: Mixture
Product code: 1621
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

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>aluminum oxide, non-fibrous</td>
<td>(CAS-No.) 1344-28-1</td>
<td>50 – 75</td>
<td>Not classified</td>
</tr>
<tr>
<td>Calcium Aluminate Cement</td>
<td>(CAS-No.) 65997-16-2</td>
<td>1 – 5</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irr. 2B, H320</td>
</tr>
<tr>
<td>quartz</td>
<td>(CAS-No.) 14808-60-7</td>
<td>1 – 5</td>
<td>Carc. 1A, H350</td>
</tr>
<tr>
<td>cristobalite</td>
<td>(CAS-No.) 14464-46-1</td>
<td>0.1 – 0.5</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: 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: 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 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.
6.1.2. 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
R-Max G QT (Mixture)
No additional information available
Calcium Aluminate Cement (65997-16-2)
No additional information available
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
aluminium oxide, non-fibrous (1344-28-1)
USA - ACGIH - Occupational Exposure Limits
ACGIH TWA (mg/m³) 1 mg/m³ respirable dust
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)
**R-Max G QT**

**Safety Data Sheet**

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

<table>
<thead>
<tr>
<th>USA - OSHA - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local name</strong></td>
</tr>
<tr>
<td><strong>OSHA PEL (TWA) (mg/m³)</strong></td>
</tr>
<tr>
<td><strong>Remark (OSHA)</strong></td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Granular mixture.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Light gray</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>earthy</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>&gt; 2000 °F</td>
</tr>
<tr>
<td><strong>Freezing point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Critical temperature</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Relative evaporation rate (butyl acetate=1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Relative evaporation rate (ether=1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Non flammable.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Vapor pressure at 50 °C</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Relative vapor density at 20 °C</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>≈ 2.4</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Slightly soluble.</td>
</tr>
<tr>
<td><strong>Partition coefficient n-octanol/water (Log Pow)</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Viscosity, dynamic</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></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>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>

**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).

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

<table>
<thead>
<tr>
<th>IARC group</th>
<th>1 - Carcinogenic to humans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td></td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes eye irritation.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicty

No additional information available

#### 12.2. Persistence and degradability

**R-Max G QT (Mixture)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Mineral. Not applicable.</td>
</tr>
</tbody>
</table>

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

| Persistence and degradability | Not applicable. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

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

| Persistence and degradability | Not applicable. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

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

| Persistence and degradability | Not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

#### 12.3. Bioaccumulative potential

**R-Max G QT (Mixture)**

| Bioaccumulative potential | Not established. |

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

| Bioaccumulative potential | No data available. |

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

| Bioaccumulative potential | No data available. |
12.4. Mobility in soil

- **cristobalite (14464-46-1)**
  - Ecology - soil: No data available.

- **aluminium oxide, non-fibrous (1344-28-1)**
  - Ecology - soil: No data available.

12.5. Other adverse effects

- **Effect on the global warming**
  - None 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 G QT (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: 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)

- **cristobalite (14464-46-1)**
  - Listed on the Canadian DSL (Domestic Substances List)

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

- **R-Max G QT (Mixture)**
  - 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 - Other information: Yes
  - U.S. - California - Proposition 65 - Carcinogens List: No
  - U.S. - California - Proposition 65 - Reproductive Toxicity - Female: No
  - U.S. - California - Proposition 65 - Reproductive Toxicity - Male: No
  - Maximum allowable dose level (NSRL): No significant risk level
R-Max G QT
Safety Data Sheet

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<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>
<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>
</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>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<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)
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