

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Vibrocast 60  
 CAS-No. : Mixture  
 Product code : 0394  
 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

RHI Magnesita  
 One Robinson Plaza, Suite 300  
 6600 Steubenville Pike  
 Pittsburgh, PA, 15205  
 United States  
 T 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 labelling

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)

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
aluminum 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
quartz	CAS-No.: 14808-60-7	1 – 5	Carc. 1A, H350
cristobalite	CAS-No.: 14464-46-1	0.1 – 0.5	Carc. 1A, H350

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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	: Gently wash with plenty of soap and 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. Obtain emergency medical attention.

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

Potential adverse human health effects and symptoms	: Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. May cause cancer by 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.
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#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Prevent fire fighting water from entering the 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. Avoid contact with skin and eyes.
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##### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area. On land, sweep or shovel into suitable containers.

#### 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. Minimise generation of dust.
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#### 6.4. Reference to other sections

See Section 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

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<b>crystalobalite (14464-46-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.025 mg/m <sup>3</sup> respirable dust
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA	0.05 mg/m <sup>3</sup> respirable dust
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	1 mg/m <sup>3</sup> respirable dust
<b>quartz (14808-60-7)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	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	0.05 mg/m <sup>3</sup> 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.
Colour	: Grey
Odour	: earthy
Odour threshold	: No data available
pH	: ≈ 10.5
pH solution concentration	: 10 %
Melting point	: > 2500 °F
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: ≈ 1.6
Solubility	: Slightly soluble.

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Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: Not Applicable
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising 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

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

LD50 oral rat	> 15900 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 2.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))

Skin corrosion/irritation : Causes skin irritation.  
pH: ≈ 10.5

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

pH	≤ 13
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#### crystalite (14464-46-1)

pH	6 – 7
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#### aluminum oxide, non-fibrous (1344-28-1)

pH	9 – 10.5 (aqueous suspension, 33 %)
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#### quartz (14808-60-7)

pH	6 – 7
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Serious eye damage/irritation : Causes eye irritation.  
pH: ≈ 10.5

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

pH	≤ 13
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#### crystalite (14464-46-1)

pH	6 – 7
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<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
pH	9 – 10.5 (aqueous suspension, 33 %)
<b>quartz (14808-60-7)</b>	
pH	6 – 7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Inhalation).
<b>quartz (14808-60-7)</b>	
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	: Not Applicable
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
Viscosity, kinematic	Not applicable (solid)
Potential adverse human health effects and symptoms	: Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. May cause cancer by inhalation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
<b>SECTION 12: Ecological information</b>	
<b>12.1. Toxicity</b>	
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
LC50 - Fish [1]	> 100 mg/l (96 h, Salmo trutta, Literature study)
EC50 - Crustacea [1]	> 100 mg/l (48 h, Daphnia magna, Literature study)
<b>12.2. Persistence and degradability</b>	
<b>Vibrocast 60 (Mixture)</b>	
Persistence and degradability	Not established.
<b>Calcium Aluminate Cement (65997-16-2)</b>	
Persistence and degradability	Rapidly degradable
<b>crystalite (14464-46-1)</b>	
Persistence and degradability	Mineral, Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>aluminum 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

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<b>quartz (14808-60-7)</b>	
ThOD	Not applicable
<b>12.3. Bioaccumulative potential</b>	
<b>Vibrocast 60 (Mixture)</b>	
Bioaccumulative potential	Not established.
<b>crystalobalite (14464-46-1)</b>	
Bioaccumulative potential	No data available.
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
Bioaccumulative potential	No data available.
<b>quartz (14808-60-7)</b>	
Bioaccumulative potential	No data available.
<b>12.4. Mobility in soil</b>	
<b>crystalobalite (14464-46-1)</b>	
Ecology - soil	No data available.
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
Surface tension	No data available in the literature
Ecology - soil	No data available.
<b>12.5. Other adverse effects</b>	
Effect on global warming	: None known
<b>SECTION 13: Disposal considerations</b>	
<b>13.1. Disposal methods</b>	
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
<b>SECTION 14: Transport information</b>	
In accordance with DOT / TDG / IMDG / IATA <b>Department of Transportation (DOT)</b> In accordance with DOT Not regulated <b>Transportation of Dangerous Goods</b> Not regulated <b>Transport by sea</b> Not regulated <b>Air transport</b> Not regulated	
<b>SECTION 15: Regulatory information</b>	
<b>15.1. US Federal regulations</b>	
All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory	
<b>aluminum oxide, non-fibrous (1344-28-1)</b>	
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.
<b>15.2. International regulations</b>	
<b>CANADA</b>	
<b>Calcium Aluminate Cement (65997-16-2)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

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<b>crystalobalite (14464-46-1)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>aluminum oxide, non-fibrous (1344-28-1)</b>
Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

<b>quartz (14808-60-7)</b>
Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

<b>Vibrocast 60 (Mixture)</b>	
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 <a href="http://WWW.P65Warnings.ca.gov">WWW.P65Warnings.ca.gov</a>

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

<b>quartz (14808-60-7)</b>					
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		

<b>Component</b>	<b>State or local regulations</b>
Crystalobalite (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
aluminum 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

### SECTION 16: Other information

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Revision date : 2/10/2025

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

<b>Full text of hazard classes and H-statements</b>	
H315	Causes skin irritation.
H320	Causes eye irritation
H350	May cause cancer.

Safety Data Sheet (SDS), USA

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, RHI Magnesita 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.