

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : R-Max SF  
CAS-No. : Mixture  
Product code : 1500  
Other means of identification : Alumina Cement Bonded Castable

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Refractory  
Recommended use : Industrial use

#### 1.3. Supplier

##### 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) : Danger  
Hazard statements (GHS US) : H315 - Causes skin irritation  
H320 - Causes eye irritation  
H350 - May cause cancer (Inhalation)  
Precautionary statements (GHS US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
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/fume/gas/mist/vapors/spray.

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 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
aluminium oxide, non-fibrous	(CAS-No.) 1344-28-1	75 – 95	Not classified
Calcium Aluminate Cement	(CAS-No.) 65997-16-2	5 – 10	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
cristobalite	(CAS-No.) 14464-46-1	0.1 – 0.5	Carc. 1A, H350

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).

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- 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. Get medical advice/attention if you feel unwell. Do not induce vomiting.

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

- 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 : Non-flammable.

### 5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : No specific fire-fighting instructions required.  
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

- Protective equipment : Avoid creating or spreading dust.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 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.

### 6.4. Reference to other sections

No additional information available

## 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 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 SF (Mixture)

No additional information available

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

##### USA - ACGIH - Occupational Exposure Limits

ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> respirable dust
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#### Calcium Aluminate Cement (65997-16-2)

No additional information available

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

##### USA - ACGIH - Occupational Exposure Limits

ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> respirable dust
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##### USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> respirable dust
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### 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:

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Wear protective gloves.

### Eye protection:

Chemical goggles or safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

Wear appropriate mask

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular mixture.
Color	: Off-white
Odor	: odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: > 2000 °F
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: ≈ 3
Solubility	: Slightly soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
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.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

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

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Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Inhalation).
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
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

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

  

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

#### 12.3. Bioaccumulative potential

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

  

cristobalite (14464-46-1)	
Bioaccumulative potential	No data available.

#### 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

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Product/Packaging disposal recommendations : Do not discharge into the sewer.

### 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 SF (Mixture)

All components of this product are present and listed as Active 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

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R-Max SF (Mixture)	
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)

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

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

No additional information available

### 15.3. US State regulations

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
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
Cristobalite (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

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

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:

H315	Causes skin irritation
H320	Causes eye irritation
H350	May cause cancer

SDS US (GHS HazCom 2012)

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