

### 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  
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 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)

No additional information available

### 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

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

#### 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 entry to sewers and public waters.
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.
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##### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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#### 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

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

#### USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA | 1 mg/m<sup>3</sup> respirable dust

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

No additional information available

### crystalite (14464-46-1)

#### USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA | 0.025 mg/m<sup>3</sup> respirable dust

#### USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) [1] | 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

## 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	: ≈ 10.5
pH solution concentration	: 10 %
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.

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### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 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

#### 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, 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

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

pH	9 – 10.5 (aqueous suspension, 33 %)
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#### Calcium Aluminate Cement (65997-16-2)

pH	≤ 13
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#### cristobalite (14464-46-1)

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

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

pH	9 – 10.5 (aqueous suspension, 33 %)
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#### Calcium Aluminate Cement (65997-16-2)

pH	≤ 13
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#### cristobalite (14464-46-1)

pH	6 – 7
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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

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

Viscosity, kinematic	Not applicable (solid)
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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.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

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

LC50 - Fish [1]	> 100 mg/l (96 h, Salmo trutta, Literature study)
EC50 - Crustacea [1]	> 100 mg/l (48 h, Daphnia magna, Literature study)

#### 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

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

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

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

Surface tension	No data available in the literature
Ecology - soil	No data available.

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

Ecology - soil	No data available.
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#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

**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

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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### 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.
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### 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

#### R-Max SF (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 <a href="http://WWW.P65Warnings.ca.gov">WWW.P65Warnings.ca.gov</a>
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### 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
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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Revision date : 9/19/2024

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

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, 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.