

## Safety Data Sheet



## Section 1: Identification

### Product identifier

- Product Name** • **Reno Cast 97**
- Product Code** • 114900

### Relevant identified uses of the substance or mixture and uses advised against

- Recommended use** • Refractory applications

### Details of the supplier of the safety data sheet

- Manufacturer** • Reno Refractories, Inc.  
 PO Box 201  
 Morris, AL 35116  
 United States  
 www.renorefractories.com  
 sales@renorefractories.com
- Telephone (General)** • 205-647-0240

### Emergency telephone number

- Manufacturer** • 1-800-262-8200 - CHEMTREC

## Section 2: Hazard Identification

### United States (US)

According to OSHA 29 CFR 1910.1200 HCS

### Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Irritation 2 - H315
  - Eye Irritation 2A - H319
  - Specific Target Organ Toxicity Repeated Exposure 2 - H373

### Label elements

OSHA HCS 2012

### WARNING



- Hazard statements** • Causes skin irritation - H315  
 Causes serious eye irritation - H319  
 May cause damage to organs - lungs through prolonged or repeated exposure via inhalation - H373

### Precautionary statements

- Prevention** • Do not breathe dust. - P260

Wash thoroughly after handling. - P264

Wear protective gloves . - P280

Wear eye/face protection , . - P280

- Response**
- IF ON SKIN: Wash with plenty of soap and water. - P302+P352  
Specific treatment, see supplemental first aid information. - P321  
Take off contaminated clothing and wash before reuse. - P362  
If skin irritation occurs: Get medical advice/attention. - P332+P313  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338  
If eye irritation persists: Get medical advice/attention. - P337+P313  
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. - P309+P311  
Get medical advice/attention if you feel unwell. - P314

- Storage/Disposal**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

## Other hazards

### OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Canada

According to WHMIS

## Classification of the substance or mixture

### WHMIS

- Other Toxic Effects - D2B

## Label elements

### WHMIS



- Other Toxic Effects - D2B

## Other hazards

### WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

## Section 3 - Composition/Information on Ingredients

## Substances

- Material does not meet the criteria of a substance.

## Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Aluminum oxide	CAS:1344-28-1	84.525% TO 93%	NDA	OSHA HCS 2012: Not Classified - Criteria not met	NDA
Cement, alumina, chemicals	CAS:65997-16-2	3.6% TO 10%	NDA	OSHA HCS 2012: Skin Irrit 2, Eye Irrit 2A	NDA

## Section 4: First-Aid Measures

### Description of first aid measures

- Inhalation**
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Get medical attention immediately.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If skin irritation occurs: Get medical advice/attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Rinse mouth. Do not give anything by mouth to an unconscious person. Get medical attention immediately.

### Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

### Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section 5: Fire-Fighting Measures

### Extinguishing media

- Suitable Extinguishing Media**
- Material is non-combustible. In case of fire use media as appropriate for surrounding fire.
- Unsuitable Extinguishing Media**
- None known.

### Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- None known.
- Hazardous Combustion Products**
- None known.

### Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.

## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Do not touch or walk through spilled material. Ensure adequate ventilation to remove vapors, fumes, dust etc.
- Emergency Procedures**
- Ventilate closed spaces before entering. Isolate hazard area and deny entry to unauthorized and/or unprotected personnel.

### Environmental precautions

- No specific actions or treatments recommended related to exposure to this material.

### Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Avoid generating dust.  
FOR SMALL SPILLS: Clean with a vacuum with a filtration system sufficient to remove

and prevent recirculation of crystalline silica (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended).

FOR LARGE SPILLS: Use a fine spray or mist to control dust creation and carefully scoop or shovel into clean dry container for later reuse or disposal.

If, an appropriate vacuum is unavailable, only wet-clean-up methods should be used (i.e. misting). Moisture should be added as necessary to reduce exposure to airborne respirable silica dust.

## Section 7 - Handling and Storage

### Precautions for safe handling

#### Handling

- Do not breathe dust. Avoid contact with skin, eyes, and clothing. Minimize dust generation and accumulation. Use good safety and industrial hygiene practices. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Wear long sleeves and/or protective coveralls. Contaminated clothing must be vacuumed before removal. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Wash thoroughly after handling. Do not use in areas without adequate ventilation.

### Conditions for safe storage, including any incompatibilities

#### Storage

- Store in a covered location. Keep container closed. Keep from freezing. Storage and work area should be periodically cleaned to minimize dust accumulation.

## Section 8 - Exposure Controls/Personal Protection

### Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	Mexico	OSHA
Cement, alumina, chemicals as Particulates not otherwise classified (PNOC)	TWAs	10 mg/m3 TWA (inhalable particles, recommended); 3 mg/m3 TWA (respirable particles, recommended)  <i>as Particulates not otherwise classified (PNOC)</i>	10 mg/m3 TWA (inhalable); 3 mg/m3 TWA (respirable)  <i>as Particulates not otherwise classified (PNOC)</i>	10 mg/m3 TWAEV (including dust, inert or nuisance particulates; containing no Asbestos and <1% Crystalline silica, total dust)  <i>as Particulates not otherwise classified (PNOC)</i>	Not established	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)  <i>as Particulates not otherwise classified (PNOC)</i>
Aluminum oxide (1344-28-1)	TWAs	1 mg/m3 TWA (respirable fraction)  <i>as Aluminum insoluble compounds</i>	1 mg/m3 TWA (respirable)  <i>as Aluminum insoluble compounds</i>	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust, as Al)	10 mg/m3 TWA LMPE-PPT	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

### Exposure controls

#### Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment). Collection systems must be designed and maintained to prevent the accumulation and recirculation of respirable silica into the

workplace.

## Personal Protective Equipment

### Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

### Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

### Hands

- Wear appropriate gloves.

### Skin/Body

- Wear long sleeves and/or protective coveralls.

## General Industrial Hygiene Considerations

- Avoid breathing dust. Avoid contact with skin, eyes or clothing. Do not remove dusts from clothing by blowing or shaking. Do not eat, drink or smoke during work. Wash hands before eating, drinking, or smoking. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

## Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Dispose of in an approved landfill.

### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

STEL = Short Term Exposure Limits are based on 15-minute exposures

NIOSH = National Institute of Occupational Safety and Health

TWAEV = Time-Weighted Average Exposure Value

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	White/gray dry granular powder with an earthy odor.
Color	White/gray	Odor	Earthy
Particulate Size	600 µ	Odor Threshold	No data available
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	2.2 to 2.9 Water=1	Water Solubility	No data available
Viscosity	No data available	Explosive Properties	No data available
Oxidizing Properties:	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- No dangerous reaction known under conditions of normal use.

**Chemical stability**

- Stable under normal temperatures and pressures.

**Possibility of hazardous reactions**

- Hazardous polymerization not indicated.

**Conditions to avoid**

- None known.

**Incompatible materials**

- None known.

**Hazardous decomposition products**

- None known.

**Section 11 - Toxicological Information****Information on toxicological effects**

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • Skin Irritation 2
Skin sensitization	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 2
STOT-SE	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available
Respiratory sensitization	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Irritation 2A

**Target Organs**

- Lungs

**Medical Conditions Aggravated by Exposure**

- Any pre-existing conditions of the lungs. Disorders of the lungs.

**Potential Health Effects****Inhalation****Acute (Immediate)**

- Exposure to dust may cause irritation.

**Chronic (Delayed)**

- Chronic overexposure to dust containing respirable sized crystalline silica can cause delayed lung injury (silicosis). Inhalation of dust containing crystalline silica pulmonary diseases such as asthma and lung disorder associated with smoking.

**Skin****Acute (Immediate)**

- Causes skin irritation. Exposure to dust may cause irritation.

**Chronic (Delayed)**

- No data available.

**Eye****Acute (Immediate)**

- Causes serious eye irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

**Chronic (Delayed)**

- No data available.

**Ingestion**

- Acute (Immediate)**      • Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.
- Chronic (Delayed)**      • No data available.

**Section 12 - Ecological Information****Toxicity**

- Material data lacking.

**Persistence and degradability**

- Material data lacking.

**Bioaccumulative potential**

- Material data lacking.

**Mobility in Soil**

- Material data lacking.

**Other adverse effects**

- No studies have been found.

**Section 13 - Disposal Considerations****Waste treatment methods**

- Product waste**      • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste**      • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Section 14 - Transport Information**

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

**Special precautions for user**      • None known.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**      • Not relevant.

**Section 15 - Regulatory Information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA Hazard Classifications**      • Chronic

State Right To Know				
Component	CAS	MA	NJ	PA
Aluminum oxide	1344-28-1	Yes	Yes	Yes
Cement, alumina, chemicals	65997-16-2	No	No	No
1-Propene, homopolymer	9003-07-0	No	No	No

Inventory			
Component	CAS	Canada DSL	TSCA
Aluminum oxide	1344-28-1	Yes	Yes
Cement, alumina, chemicals	65997-16-2	Yes	Yes
1-Propene, homopolymer	9003-07-0	Yes	Yes

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

- Aluminum oxide 1344-28-1 Uncontrolled product according to WHMIS classification criteria

#### Canada - WHMIS - Ingredient Disclosure List

- Aluminum oxide 1344-28-1 1 %

## United States

### Environment

#### U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- Aluminum oxide 1344-28-1 1.0 % de minimis concentration (fibrous forms)

## United States - Pennsylvania

### Labor

#### U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

- Aluminum oxide 1344-28-1

## Section 16 - Other Information

### Last Revision Date

- 17/September/2013

### Preparation Date

- 01/June/2009

### Disclaimer/Statement of Liability

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**Key to abbreviations**

NDA = No data available

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