

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Trade name : Reno Lite Cast 24-60  
 Product code : 135500

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

Recommended use : Refractory Applications

#### 1.3. Supplier

Reno Refractories, Inc.  
 601 Reno Drive  
 P.O. Box 201  
 Morris, AL 35116 - United States  
 T 205-647-0240 - F 205-647-6854  
[sales@r-ref.com](mailto:sales@r-ref.com) - [www.renorefraactories.com](http://www.renorefraactories.com)

#### 1.4. Emergency telephone number

Emergency number : 1-800-262-8200 CHEMTREC

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 2A	Causes serious eye irritation
Carcinogenicity Category 1A	May cause cancer
Specific target organ toxicity (repeated exposure) Category 1	Causes damage to organs through prolonged or repeated exposure

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Causes skin irritation  
 Causes serious eye irritation  
 May cause cancer  
 Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) :

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Wash hands, forearms and face thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If on skin: Wash with plenty of water.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 If exposed or concerned: Get medical advice/attention.  
 Get medical advice/attention if you feel unwell.  
 Specific treatment (see supplemental first aid instruction on this label).  
 If skin irritation occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 Take off contaminated clothing and wash it before reuse.  
 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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

No additional information available

# Reno Lite Cast 24-60

## Safety Data Sheet

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

### 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
Silica, crystalline – cristobalite	(CAS-No.) 14464-46-1	2.7 - 4.4	STOT RE 1, H372
Crystalline silica	(CAS-No.) 14808-60-7	<= 4.212	Carc. 1A, H350 STOT RE 1, H372
Calcium oxide	(CAS-No.) 1305-78-8	0 - 2.727	Skin Corr. 1, H314 Eye Dam. 1, H318 STOT SE 3, H335
Amorphous/fused silica	(CAS-No.) 60676-86-0	0 - 2.7	STOT RE 2, H373
Titanium dioxide	(CAS-No.) 13463-67-7	0 - 1.38	Carc. 2, H351

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 : IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

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

- Symptoms/effects after skin contact : Irritation.
- Symptoms/effects after eye contact : Eye irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.

### 5.2. Specific hazards arising from the chemical

No additional information available

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

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

# Reno Lite Cast 24-60

## Safety Data Sheet

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

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Reno Lite Cast 24-60	
No additional information available	
Calcium oxide (1305-78-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Calcium oxide
ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Remark (ACGIH)	TLV® Basis: URT irr
Regulatory reference	ACGIH 2019
USA - OSHA - Occupational Exposure Limits	
Local name	Calcium oxide
OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Titanium dioxide (13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2019
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Silica, crystalline – cristobalite (14464-46-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystalline - cristobalite
ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (Respirable fraction)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2019
USA - OSHA - Occupational Exposure Limits	
Local name	Cristobalite (Silica: Crystalline)
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use ½ the value calculated from the count or mass formulae for quartz. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

# Reno Lite Cast 24-60

## Safety Data Sheet

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

<b>Crystalline silica (14808-60-7)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Silica crystalline - quartz
ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (Respirable fraction)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2019
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Quartz (Respirable) (Silica: Crystalline)
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use formulas: (250 / (%SiO <sub>2</sub> +5)) for mppcf and (10 mg/m <sup>3</sup> / (%SiO <sub>2</sub> +2)) for mg/m <sup>3</sup> . CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
<b>Amorphous/fused silica (60676-86-0)</b>	
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Silica, fused, respirable dust
OSHA PEL (TWA) (ppm)	20 mppcf
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use formula: (80 mg/m <sup>3</sup> / (%SiO <sub>2</sub> )) for mg/m <sup>3</sup> . CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Granular powder. Lumps.
Color	: Gray
Odor	: Almost odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 2.2 - 2.9
Solubility	: Water: < 0.1 %

# Reno Lite Cast 24-60

## Safety Data Sheet

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

Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

VOC content	: 0 %
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 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

<b>Calcium oxide (1305-78-8)</b>	
LD50 oral rat	> 2000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	> 2500 mg/kg body weight (EU Method B.3: Acute toxicity (dermal), 24 h, Rabbit, Male / female, Experimental value, Dermal)
<b>Titanium dioxide (13463-67-7)</b>	
LD50 oral rat	> 5000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LC50 inhalation rat (mg/l)	> 6.82 mg/l (Other, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer.

<b>Titanium dioxide (13463-67-7)</b>	
IARC group	2B - Possibly carcinogenic to humans

<b>Crystalline silica (14808-60-7)</b>	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity	: Not classified
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# Reno Lite Cast 24-60

## Safety Data Sheet

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

STOT-single exposure : Not classified

<b>Calcium oxide (1305-78-8)</b>	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

<b>Silica, crystalline – cristobalite (14464-46-1)</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

<b>Crystalline silica (14808-60-7)</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

<b>Amorphous/fused silica (60676-86-0)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

<b>Calcium oxide (1305-78-8)</b>	
LC50 fish 1	>= 1070 mg/l (Equivalent or similar to OECD 203, 96 h, Cyprinus carpio, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	>= 159.6 mg/l (EPA OPP 72-2, 24 h, Crustacea, Static system, Fresh water, Experimental value, Lethal)

<b>Titanium dioxide (13463-67-7)</b>	
LC50 fish 1	> 100 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 (algae)	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

### 12.2. Persistence and degradability

<b>Calcium oxide (1305-78-8)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

<b>Titanium dioxide (13463-67-7)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

<b>Silica, crystalline – cristobalite (14464-46-1)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>Crystalline silica (14808-60-7)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)

# Reno Lite Cast 24-60

## Safety Data Sheet

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

<b>Crystalline silica (14808-60-7)</b>	
ThOD	Not applicable (inorganic)
<b>Amorphous/fused silica (60676-86-0)</b>	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

### 12.3. Bioaccumulative potential

<b>Calcium oxide (1305-78-8)</b>	
Bioaccumulative potential	Not bioaccumulative.
<b>Titanium dioxide (13463-67-7)</b>	
Bioaccumulative potential	Not bioaccumulative.
<b>Silica, crystalline – cristobalite (14464-46-1)</b>	
Bioaccumulative potential	No test data available.
<b>Crystalline silica (14808-60-7)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>Amorphous/fused silica (60676-86-0)</b>	
Bioaccumulative potential	No bioaccumulation data available.

### 12.4. Mobility in soil

<b>Calcium oxide (1305-78-8)</b>	
Ecology - soil	No (test)data on mobility of the substance available.
<b>Titanium dioxide (13463-67-7)</b>	
Ecology - soil	Low potential for mobility in soil.
<b>Silica, crystalline – cristobalite (14464-46-1)</b>	
Ecology - soil	No (test)data on mobility of the substance available.
<b>Crystalline silica (14808-60-7)</b>	
Ecology - soil	No (test)data on mobility of the substance available.
<b>Amorphous/fused silica (60676-86-0)</b>	
Ecology - soil	No (test)data on mobility of the substance available.

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not applicable

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Not applicable

# Reno Lite Cast 24-60

## Safety Data Sheet

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

### Air transport

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Calcium oxide (1305-78-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Titanium dioxide (13463-67-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Silica, crystalline – cristobalite (14464-46-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Crystalline silica (14808-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Amorphous/fused silica (60676-86-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### Calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

#### Titanium dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

#### Silica, crystalline – cristobalite (14464-46-1)

Listed on the Canadian DSL (Domestic Substances List)

#### Crystalline silica (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

#### Amorphous/fused silica (60676-86-0)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### National regulations

#### Titanium dioxide (13463-67-7)

Listed on IARC (International Agency for Research on Cancer)

#### Crystalline silica (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

Component	State or local regulations
Calcium oxide(1305-78-8)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Titanium dioxide(13463-67-7)	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
Silica, crystalline – 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
Crystalline silica(14808-60-7)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List



# Reno Lite Cast 24-60

## Safety Data Sheet

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

Component	State or local regulations
Amorphous/fused silica(60676-86-0)	U.S. - New Jersey - Right to Know Hazardous Substance List

### SECTION 16: Other information

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

Revision date : 05/20/2020

Full text of H-phrases:

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

SDS US (GHS HazCom 2012)

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