

Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 04/16/2019

SECTION 1: Identification	
1.1. Identification	
Product form	: Mixture
Trade name	: Reno Cast 65 CLC
Product code	: 149800
1.2. Recommended use and restrictions of	
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	
1.4. Emergency telephone number	
	: 1-800-262-8200 CHEMTREC
SECTION 2: Hazard(s) identification	
2.1. Classification of the substance or mix	ture
GHS-US classification	
Carcinogenicity Category 1A	May cause cancer
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Category 1	
2.2. GHS Label elements, including preca	utionary statements
GHS US labeling	
Hazard pictograms (GHS US)	
Signal word (GHS US)	: Danger
Hazard statements (GHS US)	: 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/vapors/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 exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell.
	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	
2.4. Unknown acute toxicity (GHS US)	
Not applicable	
<b>SECTION 3: Composition/Information</b>	on ingredients
3.1. Substances	
Not applicable	
3.2. Mixtures	

## Safety Data Sheet

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Name	Product identifier	%	GHS-US classification
Crystalline silica	(CAS-No.) 14808-60-7	0.9 - 1.33	Carc. 1A, H350 STOT RE 1, H372
Titanium dioxide	(CAS-No.) 13463-67-7	0.06 - 0.27	Carc. 2, H351

Full text of hazard classes and H-statements : see section 16

you feel unwell. Get medical advice/attention if you feel unwell. First-aid measures after inhalation in the Fenrove person to fresh air and Keep comfortable for breathing. First-aid measures after site eye contact in the fenrove person to fresh air and Keep comfortable for breathing. First-aid measures after ingestion is call a poison centro/idcottor/hybris/clan if you feel unwell. 42. Most important symptoms and effects (acute and delsyed) No additional information available 43. Immediate medical attention and special treatment, if necessary Treat symptomatically. SECTION 51: Fire-fighting measures SECTION 51: Fire-fighting measures 51. Suitable (and unsuitable) extinguishing media Suitable extinguishing media i: Water spray. Dry powder. Foam. 52. Specific hazards arising from the chemical No additional information available 43. Immediate medical attention and special treatment, if necessary Treat symptomatically. SECTION 51: Fire-fighting measures 53. Specific hazards arising from the chemical No additional information available 43. In or non-meangenety proceedures 54. Personal proceutions, protective equipment and proceutions for fire-fighters 54. Personal proceutions, protective equipment and mergency procedures 54. Personal proceutions, protective equipment and mergency procedures 54. Personal proceutions, protective equipment and mergency procedures 54. Personal proceutions, protective equipment and chemical No 54. Personal proceutions, protective equipment and chemical No 54. Personal proceutions, protective equipment and chemical No 55. Methods and material for containment and chemical public waters. 56. Methods and material for containment and chemical public waters. 57. Methods and material for containment and chemical public waters. 58. Control No first and channical public waters. 58. Control No first and chemical No 59. Methods and material for containment and chemical public waters. 50. Methods and material for containment and chemical public waters. 50. Suppose	SECTION 4: First-aid measures	
you feel unwell. Get medical advice/attention if you feel unwell. First-aid measures after inhalation in the Remove person to fresh air and Keep comfortable for breathing. First-aid measures after skin contact : Wash skin with plenty of water. First-aid measures after skin contact : Remove person to fresh air and Keep comfortable for breathing. First-aid measures after skin contact : Remove person to fresh air and Keep comfortable for breathing. First-aid measures after signed in the second delayed	4.1. Description of first aid measure	S
First-aid measures after skin contact       : Wash skin with plenty of water.         First-aid measures after give contact       : Rinse eyes with water as a precaution.         First-aid measures after give contact       : Rinse eyes with water as a precaution.         First-aid measures after give contact       : Rinse eyes with water as a precaution.         First-aid measures after give contact       : Rinse eyes with water as a precaution.         Strict and the medical attention and special treatment, if necessary         Treat symptomatically.         SECTION 5: Fire-fighting measures         5.1.       Suitable endiquisiting media         Suitable endiquisiting media       : Water spray. Dry powder. Foam.         5.2.       Specific hazards arising from the chemical         No additional information available       3.         5.3.       Specific hazards arising from the chemical         No additional information available       5.         5.3.       Specific hazards         SECTION 6: Accidental release measures       Conplete protective deciny without suitable protective equipment. Self-contained breathing apparatus. Complete protective dothing.         SECTION 6: Accidental release measures       : Only qualified personnel equipped with suitable protective equipment, For further information refer to section 8: "Exposure controls/personal protective equipment. For further information refer to section 8: "Exposure controls/personal protecti	First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell.
First-aid measures after eye contact       : Rinse eyes with water as a precaution.         First-aid measures after ingestion       : Call a poison center/doctor/physician if you feel unwell.         42. Most important symptoms and effects (acute and delayed)         No additional information available         43. Immediate medical attention and special treatment, if necessary         Treat symptomatorial with a symptom in a symptom in and special treatment, if necessary         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       : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective equipment. Self-contained breathing apparatus. Complete protective equipment. Self-contained breathing apparatus. Complete protective equipment may intervene. Do not attempt to take action without suitable protective equipment may intervene. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection*:         6.1. Per comergency responders       : 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       : Mechanically recover the product. Notify authorities if product enters severs or public waters.	First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after ingestion       : Call a poison center/doctor/physician if you feel unwell.         4.2. Most important symptoms and offects (acute and delayed)       No additional information available         4.3. Immediate medical attention and special treatment, if necessary       Treat symptomalically.         SECTION 5: Fire-fighting measures         Subable extinguishing media         Subable exti	First-aid measures after skin contact	: Wash skin with plenty of water.
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No additional information available A.3. Immediate medical attention and special treatment, if necessary Treat symptomatically. SECTION 5: Firre-fighting measures 5.1. Suitable (and unsuitable) extinguishing media Suitable extinguishing media : Water spray. Dry powder. Foam. 5.2. Specific heards artising from the chemical No additional information available 5.3. Special protective equipment and procautions for fire-fighters Protection during firefighting : D on ot attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective coulting. SECTION 6: Accidental release measures 6.1.1 For one-mergency personnel Emergency procedures 6.1.2 For emergency procedures 6.1.1 For one-mergency personnel Emergency procedures 6.1.2 For emergency responders Protection 8: "Exposure control/s/personal protective equipment. For further information refer to section 8: "Exposure control/s/personal protection." 6.2. Environmental procautions 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. 6.4. Reference to other sections For further information   : Dispose of materials or solid residues at an authorized site. 6.4. Reference to other sections For further information for safe handling Precautions for safe handling Precautions for safe handling Precautions for safe handling For further information the composite avoid or minimum encessary for hereing area and understood. Take all necessary technical measures to avoid or minimum encessary for handling and further exposed workers. Provide local exhaust or general room ventilation. Ware personal protective workers. Provide local exhaust or general room ventilation. Ware personal protective   avoid or minimum encessary for handling and further exposed   workers. Provide local exhaust or general room ventilation.	First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
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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.         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         Precautions for safe handling         Precautions for safe handling         Section: Storage in 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/vapors/spray.         Hygiene measures       : Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.	Emergency procedures	
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04/16/2019 EN (English US) 2/7	Hygiene measures	: Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke
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#### 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

Crystalline silica (1	4808-60-7)	
ACGIH	Local name	Silica crystaline - quartz
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (Respirable fraction)
ACGIH	Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use formulas: (250/ (%SiO2+5)) for mppcf and (10 mg/m3 / (%SiO2+2))for mg/m3. CAS No. source: eCFR Table Z-1.
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Titanium dioxide (1	13463-67-7)	
ACGIH	Local name	Titanium dioxide
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m³
ACGIH	Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

#### Appropriate engineering controls 8.2.

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.

<b>SECTION 9: Physical and chemica</b>	Il properties	
9.1. Information on basic physical and	d chemical properties	
Physical state	: Solid	
Color	: Gray	
Odor	: Almost odourless	
Odor threshold	: No data available	
рН	: 6.5 - 8	
Melting point	: > 3000 °F	
Freezing point	: Not applicable	
Boiling point	: 2327	
Flash point	: Not applicable	
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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	: 2.56
Solubility	: Water: < 0.1 %
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 %

SECTIO	ON 10: Stability and reactivity
10.1.	Reactivity
The prod	luct is non-reactive under normal conditions of use, storage and transport.
10.2.	Chemical stability
Stable ur	nder normal conditions.
10.3.	Possibility of hazardous reactions
No dange	erous reactions known under normal conditions of use.
10.4.	Conditions to avoid
None und	der recommended storage and handling conditions (see section 7).
10.5.	Incompatible materials
No additi	ional information available
10.6.	Hazardous decomposition products
Under no	ormal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological info	ormation
11.1. Information on toxicological	effects
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Titanium dioxide (13463-67-7)	
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	: Not classified
	pH: 6.5 - 8
Serious eye damage/irritation	: Not classified
	pH: 6.5 - 8
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer.
Crystalline silica (14808-60-7)	
IARC group	1 - Carcinogenic to humans
Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans
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Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Crystalline silica (14808-60-7)	
Specific target organ toxicity – repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

<b>SECTION 12: Ecological in</b>	formation
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Titanium dioxide (13463-67-7)	
LC50 fish 1	> 100 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)

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	1
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ErC50 (algae)

Crystalline silica (14808-60-7)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Titanium dioxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

#### 12.3. Bioaccumulative potential

Titanium dioxide (13463-67-7)				
Bioaccumulative potential	Not bioaccumulative.			
12.4. Mobility in soil				
Titanium dioxide (13463-67-7)				
	Low potential for mobility in soil.			
Titanium dioxide (13463-67-7)	Low potential for mobility in soil.			

No additional information available

SECTION 13: Disposal considerations			
13.1.	Disposal methods		
Waste t	reatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.	

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#### **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

#### Air transport

Not applicable

<b>SECTION 15:</b>	Regulatory	information

15.1. US Federal regulations

## Crystalline silica (14808-60-7)

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

#### 15.2. International regulations

#### CANADA

# Crystalline silica (14808-60-7) Listed on the Canadian DSL (Domestic Substances List) Titanium dioxide (13463-67-7) Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations No additional information available

#### National regulations

Crystalline silica (14808-60-7)	
Listed on IARC (International Agency for Research on Cancer)	
Titanium dioxide (13463-67-7)	
Listed on IARC (International Agency for Research on Cancer)	
15.3. US State regulations	

Component	State or local regulations
Crystalline silica(14808-60-7)	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

### **SECTION 16: Other information**

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#### Full text of H-phrases:

T dir text of 11-phrases.			
	H350	May cause cancer	
	H351	Suspected of causing cancer	
	H372	Causes damage to organs through prolonged or repeated exposure	

#### SDS US (GHS HazCom 2012)

The information provided in the Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of it's publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. Reno Refractories, Inc. makes no warranties, expressed or implied, with respect to such information, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade. User is responsible for determining whether the product is fit for a particular purpose and suitable for user's method of use or application. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.