

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

1.       Jensification         Product form       :         Network       :         Product code       :         Tade name       :         Recommended use       :         Recommended use       :         Recommended use       :         Reno Refractories inc.         Bonn Drive         P.O. Box 201         Morris, AL 35116 - United States         T 205447.0240 - F. 205 447 6834         A.       Emergency telephone number         Emergency number       :         CHSU2 Charactel(S) Identification         CASIS       May cause cancer         Specific target organ toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure         CHSU3 ClassEffaction       Causes damage to organs through prolonged or repeated exposure         CHSU3 ClassEffaction       Causes damage to organs through prolonged or repeated exposure         CHSU3 ClassEffaction       :         VESUS ClassEffaction       :         Causes damage to organs through prolonged or repeated exposure       :         CHSU3 ClassEffaction       :         VESUS ClassEffaction       :         Causes damage to organs through prolonged or repeated exposure       :      <			
Product form : Muture Trade name : Reno Lite Cast 80 Product code : 179700 <b>1. Recommended use and restrictions on use</b> Recommended use : Refractory Applications <b>1.3. Suppler</b> Reno Refractories, Inc. <b>3.0. Suppler</b> Reno Refractories, Inc. <b>3.0. Suppler</b> Reno Refractories, Inc. <b>3.1. Class Fast States</b> <b>2.0. Class 201</b> Morris, AL 35118 - United States <b>2.0. Class 201</b> Morris, AL 35118 - United States <b>2.0. Class 201</b> <b>1.1. Class Inclaimed States</b> <b>2.1. Class Inclaimed States</b> <b>2.1. Class Inclaimed States</b> <b>2.1. Class Inclaimed States</b> <b>2.2. Class 1.2.</b> <b>Class 2.3.</b> <b>Class 3.3.</b> <b>Class 3.</b>	SECTION 1: Identification		
Trade rame : Reno Lic Cast 80   Product code : 137900 <b>1.2. Recommended use and restrictions on use</b> Recommended use : Refractory Applications <b>1.3. Suppler</b> Reno Refractories, Inc.   601 Reno Drive   P.O. Box 201   Worris, AL 35118 - United States   7 205-647-0240 - F 205-647-8854 <b>1.4. Energency talophone number 1.6. Classification 1.7. Classification 1.8. Classification Carcingopenity (Jepeted exposure) Carls States (Classification) Carls States (Classification) Carls States (Classification) Carls State (Classification) Carls (Classification) Carls (Classification)</b> Carls (Classification)   Carls (Class			
Product code : 137900  1. Recommended use and restrictions on use Recommended use : Refractors inc.  1.3 Suppler Recommended use : Refractors inc.  1.4 Energency telephone number Energency number : 1-800-262-8200 CHEMTREC  SECTION 2: Hostor for the substance or muture CHS-US classification of the substance or muture CHS-US classification Carrier : Causes damage to organs through prolonged or repeated exposure Carringonicity (repeated exposure) Causes clamage Specific arged organ toxicity (repeated exposure) Causes clamage to organs through prolonged or repeated exposure Carringonicity (repeated exposure) Causes clamage to organs through prolonged or repeated exposure Carringonicity (repeated exposure) Causes clamage to organs through prolonged or repeated exposure Causes dama			
12.       Recommended use       :: Refractory Applications         Recommended use       :: Refractory Applications         13.       Supplier         Reno Refractories, Inc.       601 Reno Drive         90. Box 201       Box 201         Morris, AL 33116 - United States       1.3.         7 205 647-0240 - F 205 647-02854       1.4.         A.       Energency telephone number         Emergency number       : 1-800-262-8200 CHEMTREC         SECTION 2: Hazard(s) identification       1.4.         Carsingenicity Category 1A       May cause cancer         Specific target regan toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure         Category 1       May cause cancer         Specific target regan toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure         Category 1       ::       Organ         Signal word (GHS US)       ::       Doing F         Hazard statements (GHS US)       ::       Onerger         Causes damage to organs through prolonged or repeated exposure       Causes damage to corgans through prolonged or repeated exposure         Precautionary statements (GHS US)       ::       Onerger         Way cause cancer       Causes damage to forgans through prolonged or repeated exposure			
Recommended use       : Refactory Applications         13.       Supplier         Reno Refactories, Inc.       Supplier         Reno Refactories, Inc.       Supplier         PO, Box 2011       Supplier         Morris, AL S116 - United States       Total States         7 205-807-0240 - 205-647-8854       Total States         14.       Emergency telephone number         Emergency number       : 1:400-262-8200 CHEMTREC         Carcing sciencity Calegory 14         Supplier Calegory 10         Supplier Calegory 10         Supplier Calegory 10         Calegory Calegory 10         Supplier Calegory 10         Calegory 10         Supplier Calegory 10         Supplier Calegory 10         Calegory 10         Calegory 10         Supplier Calegory 10         Supplier Calegory 10         Calegory 10         Calegory 10         Supplier Calegory 10         Calegory 10         Calegory 10         Calegory 10         Calegory 10 <td cols<="" td=""><td></td><td></td></td>	<td></td> <td></td>		
1.3.       Supplier         Renc Refractories, Inc.       601 Renc Dirvie         P.O. Box 201       Morris, AJ, 35116 - United States         T.205-647-2040 - F 205-647-8654       1.4 <b>1.4.</b> Emergency telephone number         Emergency number       : 1-800-262-8200 CHEMTREC         SECTION 22 Hazard(5) Identification       Causes damage to organs through prolonged or repeated exposure         Catalogenicity Category 1A       May cause cancer         Specific target organ toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure         Cate Stabiling       May cause cancer         Category 1       Causes damage to organs through prolonged or repeated exposure         CHS US tabele elements, including precautionary statements       CHS US tabele fements, including precautionary statements         CHS US tabele idements, including precautionary statements       Causes damage to organs through prolonged or repeated exposure         Category 1       :       Way cause cancer         Causes damage to organs through prolonged or repeated exposure       :         Precautionary statements (CHS US)       :       :         Way cause cancer       :       :         Do not thardle until all safety precautions have been read and understood.       :         Do not thardle until all safety precautio			
Reno Refractories, Inc.       601 Reno Drive         601 Reno Drive       P.O. Box 201         Morris, AL. 35116 - United States       7205-647-0240 - F205-647-0854 <b>14.</b> Emergency telephone number       Emergency telephone number         Emergency number       : 1.800-262-8200 CHEMTREC <b>SECTION 2.1 Hazard(s) identification</b> Gracinogenitic/Category 1A         Scatification of the substance or mixture       GHS-US classification (Category 1A)         Carcinogenitic/Category 1A       May cause cancer         Specific larget organ toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure <b>2.2.</b> GHS Label elements, including precautionary statements       GHS US labeling         Hazard pictograms (GHS US)       : Danger         Hazard statements (GHS US)       : May cause cancer         Causes damage to organs through prolonged or repeated exposure         Precautionary statements (GHS US)       : Danger         Hazard statements (GHS US)       : May cause cancer         Causes damage to consens through prolonged or repeated exposure         Do not handle until ai statiy precautions have been read and understood.         Do not handle until ai statiy precautions have been read and understood.         Do not handle until ai statiy precautions have been read and understood.         Do not handle until ai stati	Recommended use :	Refractory Applications	
601 Reno Drive   P.O. Box 201   Morris, AL: 35116 - United States   7.205-647-0240 - F 205-647-0854   Intergency telephone number Ethergency number I: 1-800-262-8200 CHEMTREC SECTION 2: Hazard(S) identification Catalisation of the substance or mixture CHISSING Cataspring 1A Section to substance or mixtures CHISSING Cataspring 1A Section target organ toxicity (repeated exposure) Catalisation of the substance or mixtures Catalisation of the substance or mixtures Catalisation intervention of the substance or mixtures CHISSING Cataspring 1A Section target organ toxicity (repeated exposure) Catalisation intervention of the substance or mixtures Catalisation of the substance or mixtures Catalisation intervention of the substance or mixtures Catalisation of the substance or mixtures Catalisation intervention of the substance or mixtures Catalisation intervention of the substance or mixtures Catalisation intervention of the substance or mixtures Catalisation of the substance or mixtures Signal word (CHS US) Ether and statements (CHS US) E Substances Signal word (CHS US) Signal word (CHS US) E Substances Challes at a substance or concerned. Cell substance protection. If exposed or concerned. Cell substance protection. If exposed or concerned. Cell substances Do not eta-dim custing index intervention. Signal word (CHS US) Do not eta-dim custing index intervention. Cell medical advice/attention. Cell medical advice/attention. Cell medical advi	1.3. Supplier		
P.O. Box 201   Morris, AL. 35116 - United States   1205-647-2062 - P. 205.647-20634 <b>1.4. Emergency telephone number</b> Emergency number : 1.400-262-8200 CHEMTREC <b>SECTION 2: Hazard(s) identification 2.1. Classification of the substance or mixture Carling-encipt Category 1A</b> Specific target organ toxicity (repeated exposure) <b>Causes damage to organs through prolonged or repeated exposure 2.2. GHS Label elements, including precautionary statements CHS US labeling</b> Hazard pictograms (GHS US) Figure 2. Bigging Word (GHS US) Figure 2. Bigging Word (GHS US) Figure 2. Bigging Word (GHS US) Figure 2. Class exposure 2. Classe cancer Causes damage to organs through prolonged or repeated exposure <b>2.2. GHS Label elements, including precautionary statements CHS US labeling</b> Hazard pictograms (GHS US) Figure 2. Bigging Word (GHS US) E. Bigging Word (GHS US) E. Bigging Word (GHS US) E. Danger E. Causes damage to organs through prolonged or repeated exposure Causes damage to organs through prolonged or repeated exposure E. Causes damage to organs through prolonged or repeated exposure Figure 2. Other hazard statements (GHS US) E. Do not hazard subject instructions before use. Do not hazard cut unit attempt precaution have been read and understood. Do not hazard organs through prolonged or repeated exposure. Figure 2. Other hazard subject in tassification Do not hazard is forerwars and face through yieler handing. Do not hazard diversitation if you feel unitil advice/attemton. Editional information available 2. Other hazard subject in tassification Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. If expo	Reno Refractories, Inc.		
Morris, AL 35116 - United States T 205-647-0240 - F 20-6 647-6854 1.1. Emergency telephone number : 1-800-262-8200 CHEMTREC Emergency number : 1-800-262-8200 CHEMTREC SECTION 2: Hazard(s) Identification 2.1. Classification of the substance or mixture Carcinogenicity Category 1A Specific target organ toxicity (repeated exposure) Category 1 2.2. GHS Label elements, including proceutionary statements CHS US labeling Hazard pictograms (GHS US) : May cause cancer Causes damage to organs through prolonged or repeated exposure Signal word (GHS US) : May cause cancer Causes damage to organs through prolonged or repeated exposure Procautionary statements (GHS US) : May cause cancer Causes damage to organs through prolonged or repeated exposure Procautionary statements (GHS US) : Data special instructions before use. Do not thrafte uritid Hay cause cancer Causes damage to organs through prolonged or repeated exposure Procautionary statements (GHS US) : Data special instructions before use. Do not thrafte uritid Hay cause cancer Causes damage to organs through prolonged or repeated exposure Procautionary statements (GHS US) : Do tata special instructions before use. Do not thrafte durity Hay fore handling. Do not trafte durity Hay Hay Fore Hay Hay Hay Fore Hay Hay Hay Fore Hay	601 Reno Drive		
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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         2.1. Classification of the substance or mixture         Carcinogenicity Category 1A       May cause cancer         Specific target organ toxicity (repeated exposure)       Causes damage to organs through prolonged or repeated exposure         2.2. GHS Labol elements, including precautionary statements       GHSU 5 labeling         Hazard pictograms (GHS US)       :: Danger         Hazard statements (GHS US)       :: Danger         Hazard statements (GHS US)       :: Obtain special instructions before use.         Do not breather dus/fumigea/mist/vapors/spray.       Wash drades forearms and face through prolonged or repeated exposure         Precautionary statements (GHS US)       :: Obtain special instructions before use.         Do not breather dus/fumigea/mist/vapors/spray.       Wash hands, forearms and face through prolonged or repeated exposure.         Precautionary statements (GHS US)       :: Obtain special instructions and face through prolemation.         Lifexposed or concerned: Cet medical advice/attention.       If exposed or concerned: Cet medical advice/attention.         Do not breather dus/fumige/get protection/face protection.       If exposed or concerned: Cet medical			
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GHS US labeling         Hazard pictograms (GHS US)       :: is in the provided of the provid	0.0 CUC Label elemente including prese		
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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         SECTION 3: Composition/Information on ingredients         3.1.       Substances	Precautionary statements (GHS US)		
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         SECTION 3: Composition/Information on ingredients         3.1.       Substances			
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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 SECTION 3: Composition/Information on ingredients 3.1. Substances			
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.         2.4.       Unknown acute toxicity (GHS US)         Not applicable       SECTION 3: Composition/Information on ingredients         3.1.       Substances			
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.         2.4.       Unknown acute toxicity (GHS US)         Not applicable       SECTION 3: Composition/Information on ingredients         3.1.       Substances			
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			
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2.4.       Unknown acute toxicity (GHS US)         Not applicable         SECTION 3: Composition/Information on ingredients         3.1.       Substances		classification	
Not applicable         SECTION 3: Composition/Information on ingredients         3.1.       Substances			
SECTION 3: Composition/Information on ingredients 3.1. Substances			
3.1. Substances			
		on ingredients	
	Not applicable		
3.2. Mixtures	J.Z. WIXLUIUS		

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Name	Product identifier	%	GHS-US classification
Silica, crystalline – cristobalite	(CAS-No.) 14464-46-1	4.2 - 8.049	STOT RE 1, H372
Crystalline silica	(CAS-No.) 14808-60-7	< 3.57	Carc. 1A, H350 STOT RE 1, H372
Titanium dioxide	(CAS-No.) 13463-67-7	0.25 - 2.35	Carc. 2, H351
Amorphous/fused silica	(CAS-No.) 60676-86-0	0 - 1.7	STOT RE 2, H373

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. Call a poison center/doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell.
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.
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.
4.2. Most important symptoms and effects	(acute and delayed)
No additional information available	
4.3. Immediate medical attention and spec	ial treatment, if necessary
Treat symptomatically.	e e e e e e e e e e e e e e e e e e e
SECTION 5: Fire-fighting measures	
	a madia
5.1. Suitable (and unsuitable) extinguishin	
	Water spray. Dry powder. Foam.
5.2. Specific hazards arising from the cher	nical
No additional information available	
5.3. Special protective equipment and pred	cautions 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 measu	ires
6.1. Personal precautions, protective equi	
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/vapors/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
	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.
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/vapors/spray.
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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.

## 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

Crystalline silica (	14808-60-7)	
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 (	13463-67-7)	·
ACGIH	Local name	Titanium dioxide
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
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/m <sup>3</sup> )	15 mg/m³
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Silica, crystalline -	- cristobalite (14464-46-1)	
ACGIH	Local name	Silica crystaline - cristobalite
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 ½ the value calculated from the count or mass formulae for quartz. CAS No. source: eCFR Table Z-1.
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Amorphous/fused	silica (60676-86-0)	
OSHA	OSHA PEL (TWA) (ppm)	20 mppcf
OSHA	Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use formula: (80 mg/m3 / (%SiO2)) for mg/m3. CAS No. source: eCFR Table Z-1.
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
	1	1

### 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:

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#### Safety glasses

### Skin and body protection:

Wear suitable protective clothing

#### **Respiratory protection:**

Wear respiratory protection.

#### **SECTION 9: Physical and chemical properties** Information on basic physical and chemical properties 9.1. : Solid Physical state Color : Gray Odor : Almost odourless Odor threshold : No data available pН : 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 : Water: < 0.1 % Solubility Log Pow : No data available Auto-ignition temperature : Not applicable Decomposition temperature : No data available : No data available Viscosity, kinematic Viscosity, dynamic : No data available Explosion limits Not applicable · Explosive properties : No data available : No data available Oxidizing properties

#### 9.2. Other information

No additional information available

## **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

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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
Serious eye damage/irritation	: Not classified
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
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.
Silica, crystalline – cristobalite (14464-46-1)	
Specific target organ toxicity – repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Amorphous/fused silica (60676-86-0)	
Specific target organ toxicity – repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

<b>SECTION 12: Ecological info</b>	rmation
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

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	
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ErC50 (algae)

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Titanium dioxide (13463-67-7)		
Persistence and degradability	Biodegradability: not applicable.	
Chemical oxygen demand (COD)	Not applicable (inorganic)	
ThOD	Not applicable (inorganic)	
Silica, crystalline – cristobalite (14464-46	δ-1)	
Persistence and degradability	Biodegradability: not applicable.	
Chemical oxygen demand (COD)	Not applicable	
ThOD	Not applicable	
BOD (% of ThOD)	Not applicable	
Amorphous/fused silica (60676-86-0)		
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		
Titanium dioxide (13463-67-7)		
Bioaccumulative potential	Not bioaccumulative.	
•••• · · · · · · · · · · · · · · · · ·		

Silica, crystalline – cristobalite (14464-46-1)	
Bioaccumulative potential	No test data available.
Amorphous/fused silica (60676-86-0)	
Bioaccumulative potential	No bioaccumulation data available.

## 12.4. Mobility in soil

Titanium dioxide (13463-67-7)		
Ecology - soil	Low potential for mobility in soil.	
Silica, crystalline – cristobalite (14464-46-1)		
Ecology - soil	No (test)data on mobility of the substance available.	
Amorphous/fused silica (60676-86-0)		
Ecology - soil	No (test)data on mobility of the substance available.	

## 12.5. Other adverse effects

No additional information available

<b>SECTION 13: Disposal consideration</b>	S
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

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#### Air transport

Not applicable

## SECTION 15: 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

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

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

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)
Silica, crystalline – cristobalite (14464-46-1)
Listed on the Canadian DSL (Domestic Substances List)
Amorphous/fused silica (60676-86-0)
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
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
Amorphous/fused silica(60676-86-0)	U.S New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

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Revision date

: 04/16/2019

#### Full text of H-phrases:

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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