Reno ElectroSil™ 1.0

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 1/20/2025

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Reno ElectroSil™ 1.0
Product code : 199550

1.2. Recommended use and restrictions on use

Recommended use : Refractory Applications

1.3. Supplier

Manufacturer
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 - www.renorefractories.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

Carcinogenicity, Category 1A
Specific target organ toxicity — Repeated exposure, Category 1

May cause cancer.
Causes damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : 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, and hearing protection.
If exposed or concerned: Get medical advice/attention.
Get medical advice or attention if you feel unwell.

Store locked up.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Crystalline silica	CAS-No.: 14808-60-7	91.43 – 100	Carc. 1A, H350 STOT RE 1, H372
Boron oxide	CAS-No.: 1303-86-2	0.3 – 1.75	Acute Tox. 4 (Inhalation:dust,mist), H332

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.
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 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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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/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

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.

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.

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

Reno ElectroSil™ 1.0

No additional information available

Crystalline silica (14808-60-7)

No additional information available

Crystalline silica (14808-60-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystaline - quartz
ACGIH OEL TWA	0.025 mg/m³ (Respirable fraction)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Quartz (Respirable) (Silica: Crystalline)
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.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

Boron oxide (1303-86-2)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Boron oxide
ACGIH OEL TWA	10 mg/m³
Remark (ACGIH)	TLV® Basis: Eye & URT irr
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Boron oxide (Total dust)
OSHA PEL TWA	15 mg/m³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-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:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Granular powder.
Color	:	Colourless to white-grey
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	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosion limits	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

Boron oxide (1303-86-2)	
LD50 oral rat	> 2600 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg body weight (FIFRA (40 CFR), 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 2.03 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Not classified

Crystalline silica (14808-60-7)	
pH	6 – 7

Boron oxide (1303-86-2)	
pH	5.46 (1 %, 25 °C, EPA OPPTS 830.7000: pH)

Serious eye damage/irritation : Not classified

Crystalline silica (14808-60-7)	
pH	6 – 7

Boron oxide (1303-86-2)	
pH	5.46 (1 %, 25 °C, EPA OPPTS 830.7000: pH)

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

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

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

Aspiration hazard : Not classified
Viscosity, kinematic : Not applicable

Crystalline silica (14808-60-7)	
Viscosity, kinematic	Not applicable (solid)

Boron oxide (1303-86-2)	
Viscosity, kinematic	Not applicable (solid)

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.

Boron oxide (1303-86-2)	
LC50 - Fish [1]	79.7 mg/l (ASTM E729-95: Standard Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates and Amphibians, 96 h, Pimephales promelas, Static system, Fresh water, Weight of evidence, Lethal)
ErC50 algae	52.4 mg/l (OECD 201: Alga, Growth Inhibition Test, 3 day(s), Selenastrum capricornutum, Static system, Fresh water, Weight of evidence, GLP)

12.2. Persistence and degradability

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

Boron oxide (1303-86-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

Crystalline silica (14808-60-7)	
Bioaccumulative potential	Bioaccumulation: not applicable.

Boron oxide (1303-86-2)	
BCF - Fish [1]	10.5 (3 week(s), Oncorhynchus nerka, Flow-through system, Marine water, Weight of evidence, Skeleton)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Crystalline silica (14808-60-7)	
Ecology - soil	No (test)data on mobility of the substance available.

Boron oxide (1303-86-2)	
Surface tension	No data available in the literature
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

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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

15.2. International regulations

CANADA

Crystalline silica (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Boron oxide (1303-86-2)

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)

15.3. US State regulations

Component	State or local regulations
Crystalline silica(14808-60-7)	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
Boron oxide(1303-86-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
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Full text of hazard classes and H-statements	
H332	Harmful if inhaled
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure

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.