

**RU™ Sodium Silicate Solution**

ACCORDING TO US CFR 1910.1200

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Product Name **RU™ Sodium Silicate Solution**
Alternative names Silicic acid, sodium salt solution (1.6<MR<=2.6)
CAS No. 1344-09-8

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

Identified Use(s) General purpose industrial chemical for use in a wide range of applications. Binding agent, Corrosion inhibitor, Dust binding agent, Flame retardant or fire preventing agent, Flotation agent, Stabiliser, Viscosity control agent.

Uses Advised Against None known.

1.3 Details of the supplier of the safety data sheet

Company Identification PQ LLC.
P.O. Box 840
Valley Forge
PA 19482
USA
Telephone: +1 610-651-4200
E-mail sds.uk@pqcorp.com

1.4 Emergency telephone number

Emergency Phone No. +1 800-424-9300
Contact CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

US CFR 1910.1200 Skin Irrit. 2 :Causes skin irritation.
Eye Dam. 1 :Causes serious eye damage.

2.2 Label elements

According to US CFR 1910.1200

Hazard Pictogram(s)



Signal Word(s)

Danger

Hazard Statement(s)

H315: Causes skin irritation.
H318: Causes serious eye damage.

Precautionary Statement(s)

P262: Do not get in eyes, on skin, or on clothing.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

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P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

None known.

2.4 Additional Information

Dries to form glass film, which can easily cut skin. Spilled material is very slippery. Can etch glass if not promptly removed.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Ingredient(s)	CAS No.	%W/W	Hazard Statement(s)
Water	7732-18-5	52.9	Not classified
Silicic acid, sodium salt (1.6<MR<=2.6)	1344-09-8	47.1	Skin Irrit. 2 H315 Eye Dam. 1 H318 STOT SE 3 H335

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove patient from exposure, keep warm and at rest. Obtain medical attention.
Skin Contact	Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.
Eye Contact	Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
Ingestion	Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Alkaline. Irritating to skin. Risk of serious damage to eyes. The toxicity of sodium silicate is dependent on the silica to alkali ratio and on the pH.

4.3 Indication of any immediate medical attention and special treatment needed

Obtain immediate medical attention.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media Compatible with all standard fire fighting techniques.



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Unsuitable extinguishing media

None known.

5.2 Special hazards arising from the substance or mixture

Not applicable. Aqueous solution. Non-combustible.

5.3 Advice for firefighters

None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing. Wear eye/face protection. See Section: 8.2

6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Caution - spillages may be slippery. Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Avoid generation of mist. Provide adequate ventilation.

Emergency shower and eye wash facilities should be readily available.

See Also Section 8

7.2 Conditions for safe storage, including any incompatibilities

Do not allow material to freeze. Provide an adequate bund wall.

Unsuitable containers: Aluminium

See Also Section 10

Storage temperature

Keep at a temperature not exceeding (°C): 60

Storage life

Stable under normal conditions.

Incompatible materials

None known.

7.3 Specific end use(s)

General purpose industrial chemical for use in a wide range of applications. Binding agent, Corrosion inhibitor, Dust binding agent, Flame retardant or fire preventing agent, Flotation agent, Stabiliser, Viscosity control agent.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters



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8.1.1 Occupational Exposure Limits

SUBSTANCE	Occupational Exposure Limits
Silicic acid, sodium salt	No exposure limits have been set for this substance. An exposure limit of 2 mg/m ³ (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40).

8.2 Exposure controls

8.2.1. Appropriate engineering controls	Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.
8.2.2. Personal protection equipment	
Eye Protection	Chemical goggles (EN 166).
Skin protection	Wear suitable protective clothing and gloves. Plastic or rubber gloves. For example EN374-3, level 6 breakthrough time (>480min). Wear suitable overalls. For example EN ISO 13982 (dust), EN 14605 (liquid splashes).
Respiratory protection	Respiratory protection not normally required. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS(G)53.
Thermal hazards	Not applicable.
8.2.3. Environmental Exposure Controls	The primary hazard of sodium silicate is the alkalinity. Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Almost colourless. White or translucent.
Odour	Odourless.
Melting point/freezing point	Not applicable.
Boiling point or initial boiling point and boiling range	100°C (212°F)
Flammability	Non-flammable.
Lower and upper explosion limit	Not applicable.
Flash Point	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
pH	Strongly alkaline. 11-13
Kinematic Viscosity	Not known.
Solubility	Solubility (Water) : Soluble in water. Solubility (Other) : Not known.
Partition coefficient n-octanol/water (log value)	No data.
Vapour pressure	Not applicable.
Density and/or relative density	No data.
Relative vapour density	Not applicable.
Particle characteristics	Not applicable.

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9.2 Other information

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

See Section: 10.3

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air.

10.4 Conditions to avoid

See Section: 10.3

10.5 Incompatible materials

See Section: 10.3

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion

Material will cause irritation. All symptoms of acute toxicity are due to high alkalinity.

LD50 (rat) 3400mg/kg bw

Acute toxicity - Skin Contact

Material will cause irritation. Dermal LD50 (rat) >5000mg/kg bw

Acute toxicity - Inhalation

Mist is irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity.

Inhalation LC50 (rat) >2.06g/m³

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye damage.

Skin sensitization data

Not sensitising.

Respiratory sensitization data

Not classified.

Germ cell mutagenicity

No evidence of genotoxicity. In vitro/in vivo negative.

Carcinogenicity

No structural alerts. IARC, NTP, OSHA, ACGIH do not list this product as known or suspected carcinogen.

Reproductive toxicity

No evidence of reproductive toxicity or developmental toxicity.

Lactation

Not classified.

STOT - single exposure

Not classified.

STOT - repeated exposure

Not classified. NOAEL (oral) mg/kg bw/d : >159(rat)

Aspiration hazard

Not classified.

11.2 Other information

Not known.



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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates

Low toxicity to invertebrates.

EC50 (48 hour) (*Daphnia magna*) : 1700mg/l

Toxicity - Fish

Low toxicity to fish.

LC50 (96 hour) (*Brachydanio rerio*) : 1108mg/l

Toxicity - Algae

Low toxicity to algae.

Toxicity - Sediment Compartment

Not classified.

Toxicity - Terrestrial Compartment

Not classified.

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.

12.3 Bioaccumulative potential

Inorganic. The product has no potential for bioaccumulation.

12.4 Mobility in soil

Soluble in water.

12.5 Other adverse effects

The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of this material and its container to hazardous or special waste collection point. Waste material is classified as a RCRA Hazardous waste if it exhibits the corrosive characteristic (pH greater than or equal to 12.5)

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

Not classified as hazardous for transport.

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable



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14.5 Environmental hazards

Not classified as a Marine Pollutant.

14.6 Special precautions for user

Not known

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not known

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Inventory Status

TSCA Inventory Status: Reported/Included.

AIIC Inventory Status: Reported/Included.

DSL/NDL Inventory Status: Reported/Included.

SECTION 16: OTHER INFORMATION

This SDS was last reviewed:

12/2025

The following sections contain revisions or new statements:

1-16

LEGEND

Acronyms

ATE : Acute Toxicity Estimate

CAS : Chemical Abstracts Service

LTTEL : Long term exposure limit

STEL : Short term exposure limit

STOT : Specific Target Organ Toxicity

Key literature references and sources for
data used to compile the SDS

US CFR 1910.1200

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