

# <u>SAFETY DATA SHEET</u>

# <u>SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE</u> AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name STAR™ Sodium Silicate Solution

Alternative names Sodium silicate solution

(1.6 < MR < = 2.6)

CAS No. 1344-09-8 EINECS No. 215-687-4

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 Corporation

P.O. Box 840 Valley Forge PA 19482 USA

Telephone: +1 610-651-4200 E-Mail (competent person) sds.uk@pqcorp.com

1.4 Emergency telephone number

Emergency Phone No. +1 800-424-9300

## **SECTION 2: HAZARDS IDENTIFICATION**

2.1 Classification of the substance or mixture

GHS Classification Skin Irrit. 2

Eye Dam. 1

Hazards summary Alkaline.

Risk of serious damage to eyes.

Irritating to skin.

2.2 Label elements

Hazard pictogram(s)



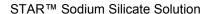
Signal word(s) Danger

Hazard statement(s) H315: Causes skin irritation.

H318: Causes serious eye damage.

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P262: Do not get in eyes, on skin, or on clothing. Precautionary statement(s)

P280: Wear protective gloves/protective clothing/eye

protection/face protection.

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

water/shower.

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

do. Continue rinsing.

Dries to form glass film, which can easily cut skin. Spilled 2.3 Other hazards

material is very slippery. Can etch glass if not promptly removed.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Regulation (EC) No. 1272/2008 (CLP)

Ingredient(s)	%W/W	CAS No.	EINECS No. /	Hazard symbol(s) and	
			REACH Registration	hazard statement(s)	
Silicic acid, sodium salt	37.1	1344-09-8	215-687-4	H315 : Skin Irrit. 2 ;	
(1.6 <mr<=2.6)< td=""><td></td><td></td><td>01-2119448725-31</td><td>H318 : Eye Dam. 1 ;</td></mr<=2.6)<>			01-2119448725-31	H318 : Eye Dam. 1 ;	
				H335 : STOT SE 3 ;	
Water	62.9	7732-18-5	231-791-2		

## SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye Contact** Irrigate with eyewash solution or clean water, holding the eyelids

apart, for at least 15 minutes. Obtain immediate medical

attention.

Skin Contact Wash affected skin with plenty of water. If symptoms develop,

obtain medical attention.

Inhalation Remove patient from exposure, keep warm and at rest. Obtain

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.

Risk of serious damage to eyes.

Irritating to skin.

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: FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable Extinguishing Media Compatible with all standard fire fighting techniques. Unsuitable extinguishing Media None known.

5.2 Special hazards arising from

the substance or mixture

Not applicable. Aqueous solution. Non-combustible.

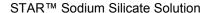
5.3 Advice for fire-fighters

None.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing. Wear eye/face protection.

See Section: 8.2

Do not allow to enter drains, sewers or watercourses. Advise 6.2 Environmental precautions Authorities if spillage has entered water course or sewer or has

contaminated soil or vegetation.

6.3 Methods and materials 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.

See Also Section 8. 6.4 Reference to other sections

## 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

Storage temperature 0-95° C. Loading temperature 45-95 ° C.

Do not allow material to freeze. Provide an adequate bund wall. Unsuitable containers: Aluminium

See Also Section 10.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

SUBSTANCE.	Occupational Exposure Limits		
Silicic acid, sodium salt	No Occupational Exposure Limit assigned.		
	An exposure limit of 2 mg/m3 (15 min TWA) is recommended by analogy		
	with sodium hydroxide (UK EH40).		

Wear protective equipment to comply with good occupational 8.2 Exposure controls

hygiene practice. Do not eat, drink or smoke at the work place. Engineering methods to prevent or control exposure are

8.2.1 Appropriate engineering controls

preferred. Methods include process or personnel enclosure. mechanical ventilation (dilution and local exhaust), and control of

process conditions.

8.2.2 Personal Protection

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.

Chemical goggles (EN 166). Eye/face protection

Wear suitable protective clothing and gloves. Skin protection

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).

8.2.3 Environmental Exposure

The primary hazard of sodium silicate is the alkalinity. Avoid

Controls

release to the environment.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

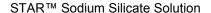
Appearance Liquid . Almost colourless. White or translucent.

Odour Odourless. (musty) Odour Threshold (ppm) Not applicable.

Strongly alkaline. 11-13 pH (Value)

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Freezing Point (°C) Not applicable. Melting Point (°C) Not applicable.

Boiling Point (°C) 100

Flash Point (°C) [Closed cup] Not applicable. Evaporation rate Not applicable. Flammability (solid, gas) Not applicable. **Explosive Limit Ranges** Not applicable. Vapour Pressure (mm Hg) Not applicable. Vapour Density (Air=1) No data. Density (g/ml) No data. Solubility (Water) Soluble. Solubility (Other) No data. Partition Coefficient No data. Auto Ignition Point (°C) Not applicable. Decomposition Temperature (°C) Not applicable. Viscosity (mPa. s) Not applicable. Explosive properties Not applicable.

## SECTION 10: STABILITY AND REACTIVITY

See Section: 10.3 10.1 Reactivity

10.2 Chemical stability Stable.

10.3 Possibility of hazardous

reactions

Oxidising Properties

9.2 Other information

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. Can react violently if in contact with acids. Can react with sugar residues to form carbon

monoxide.

Not applicable.

No data.

10.4 Conditions to avoid See Section: 10.3 10.5 Incompatible materials See Section: 10.3 10.6 Hazardous decomposition None known.

product(s)

## SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Acute toxicity** 

Other information

Ingestion All symptoms of acute toxicity are due to high alkalinity. Material

will cause irritation. Oral LD50 (rat) 3400 mg/kg bw

Mist is irritant to the respiratory tract. All symptoms of acute Inhalation

toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/m3 Material will cause irritation. Dermal LD50 (rat) >5000 mg/kg bw

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Skin Contact Material will cause severe irritation. Risk of serious damage to **Eye Contact** 

eves.

Skin corrosion/irritation Irritating to skin.

Irritating to eyes. Risk of serious damage to eyes. Serious eye damage/irritation

Not sensitising. Sensitisation

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.

STOT - single exposure Not classified

STOT - repeated exposure Not classified. NOAEL oral (rat) >159 mg/kg bw/d

Not classified **Aspiration hazard** 

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## **SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity** Fish (Brachydanio rerio) LC50 (96 hour) 1108 mg/l

Not applicable.

Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700

mq/l

12.2 Persistence and

degradability

Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved

Inorganic. The substance has no potential for bioaccumulation.

silica.

12.3 Bioaccumulative potential

12.4 Mobility in soil

12.6 Other adverse effects

12.5 Results of PBT and vPvB

assessment

Not classified as PBT or vPvB.

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** Disposal should be in accordance with local, state or national

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

hazardous or special waste collection point.

Discharge of this product to sewage treatment works is dependent on local regulations with regard to pH controls.

### SECTION 14: TRANSPORT INFORMATION

14.1 UN numberNot applicable.14.2 Proper Shipping NameNot applicable.14.3 Transport hazard class(es)Not applicable.14.4 Packing groupNot applicable.

14.5 Environmental hazards
14.6 Special precautions for user

Not classified as a Marine Pollutant.

Unsuitable containers: Aluminium

14.7 Transport in bulk according to Annex II of MARPOL73/78 and

the IBC Code

## **SECTION 15: REGULATORY INFORMATION**

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

Not applicable.

TSCA Inventory Status: Reported/Included. AICS Inventory Status: Reported/Included. DSL/NDSL Inventory Status: Reported/Included.

SARA TITLE III: This material is not a listed Toxic Chemical subject to the reporting

requirements of SARA Title III §313 and 40 C.F.R. Part 372. Hazard

Categories under SARA Title III §§311/312: Acute.

German Water Hazard Classification VwVwS: Product ID number 1314, WGK class 1 (low hazard to water).

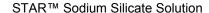
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## **SECTION 16: OTHER INFORMATION**

Data referenced in this eSDS is from company-owned information and from data legitimately accessed by PQ Corporation through membership of Industry Consortia or other agreements. This includes data relating to toxicology, ecotoxicology, DNELs, PNECs and other information in this eSDS and its annex.

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This SDS was last reviewed: 02/2015

The following sections contain revisions or new statements: None.

GHS Classification Skin Irrit. 2 Eye Dam. 1

Signal word(s)

Danger

Hazard pictogram(s)

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.

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

water/shower.

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

do. Continue rinsing.

#### **GLOSSARY**

H315: Causes skin irritation.

H318: Causes serious eye damage. H335: May cause respiratory irritation.

STOT SE 3: Specific target organ toxicity — single exposure Category 3

R41: Risk of serious damage to eyes.

R38: Irritating to skin.

R37/38: Irritating to respiratory system and skin.

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration PBT: Persistent, Bioaccumulative and Toxic

EC Classification: According to Directive 67/548/EEC & Directive 1999/45/EC

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