

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	SS® 65 Powder Sodium Silicate
Alternative names	Sodium silicate , powder
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 ; Intermediate See also Annex to the extended Safety Data Sheet.
Uses advised against	None known.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification	Carcinogen Category 1 Eye Irritation Category 2 Skin corrosion/irritation Category 2 STOT - single exposure Category 3
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2.2 Label elements

Hazard pictogram(s)



Signal word(s)

Danger

Hazard statement(s)

H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H350: May cause cancer.

Precautionary statement(s)	<p>P201: Obtain special instructions before use.</p> <p>P202: Do not handle until all safety precautions have been read and understood.</p> <p>P261: Avoid breathing dust.</p> <p>P262: Do not get in eyes, on skin, or on clothing.</p> <p>P264: Wash (hands and exposed skin) thoroughly after handling.</p> <p>P271: Use only outdoors or in a well-ventilated area.</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313: IF exposed or concerned: Get medical advice/attention.</p> <p>P362: Take off contaminated clothing and wash before reuse.</p> <p>P405: Store locked up.</p> <p>P501: Dispose of contents/container to: Dispose of contents in accordance with local, state or national legislation.</p>
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2.3 Other hazards Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	%W/W	CAS No.	EINECS No. / REACH Registration	Hazard symbol(s) and hazard statement(s)
Silicic acid, sodium salt Powder	>99	1344-09-8	215-687-4 01-2119448725-31	Eye Dam. 1 ; Skin Irrit. 2 ; STOT SE 3
Crystalline silica	<1	14808-60-7	2388784	STOT RE1

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.
Causes serious eye irritation
Irritating to respiratory system and 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. Inorganic powder or granules. Non-combustible.
- 5.3 Advice for fire-fighters** None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures** Wear suitable protective clothing. Wear eye/face protection. An approved dust mask should be worn if dust is generated during handling. 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 materials for containment and cleaning up** Caution - spillages may be slippery. Avoid generation of dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal.
- 6.4 Reference to other sections** See Also Section 8.

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid contact with eyes, skin and clothing. Avoid generation of dust. Emergency shower and eye wash facilities should be readily available. See Also Section 8.
- 7.2 Conditions for safe storage, including any incompatibilities** Keep container tightly closed and dry. Unsuitable containers: Aluminium. See Also Section 10.
- 7.3 Specific end use(s)** See also Annex to the extended Safety Data Sheet.

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/m ³ (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40).
Crystalline silica	OSHA PEL 10 mg/m ³ / %SiO ₂ +2 (Respirable) ACGIH TLV 0.05 mg/m ³ Respirable

- 8.2 Exposure controls** Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place.
- 8.2.1 Appropriate engineering controls** 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**
- Respiratory protection Avoid inhalation of dusts. Wear suitable respiratory protective equipment if working in confined spaces with inadequate ventilation or where there is any risk of the exposure limits being exceeded. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS(G)53. Dust mask: FFP2 (EN 149).
Chemical goggles (EN 166).
- Eye/face protection

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).
8.2.3 Environmental Exposure Controls	The primary hazard of sodium silicate is the alkalinity. Avoid generation of dust. Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Powder. White.
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Alkaline.
Freezing Point (°C)	Not applicable.
Melting Point (°C)	> 1000
Boiling Point (°C)	Not applicable.
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.
Oxidising Properties	Not applicable.
9.2 Other information	No data.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	See Section: 10.3
10.2 Chemical stability	Stable.
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. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide.
10.4 Conditions to avoid	See Section: 10.3
10.5 Incompatible materials	See Section: 10.3
10.6 Hazardous decomposition product(s)	Hydrogen

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Ingestion	All symptoms of acute toxicity are due to high alkalinity. Material will cause irritation. Oral LD50 (rat) 3400 mg/kg bw
Inhalation	Dust is irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/m ³

Skin Contact	Material will cause irritation. Dermal LD50 (rat) >5000 mg/kg bw
Eye Contact	Material will cause severe irritation. Risk of serious damage to eyes.
Skin corrosion/irritation	Irritating to skin.
Serious eye damage/irritation	Irritating to eyes.
Sensitisation	Not sensitising.
Mutagenicity	No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity	Cancer hazard. Contains crystalline silica which can cause cancer and delayed lung injury (silicosis). Crystalline silica is listed by US NTP as a known human carcinogen, and it is classified by IARC in Group 1: materials for which there is sufficient evidence in humans for carcinogenicity.
Reproductive toxicity	No evidence of reproductive toxicity or developmental toxicity.
STOT - single exposure	Irritating to respiratory system.
STOT - repeated exposure	Prolonged or repeated inhalation of crystalline silica causes lung diseases including silicosis, emphysema, obstructive airway disease and lung cancer.
Aspiration hazard	Not classified
Other information	Prolonged or repeated inhalation of crystalline silica causes lung diseases including silicosis, emphysema, obstructive airway disease and lung cancer.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Fish (Brachydanio rerio) LC50 (96 hour) 1108 mg/l Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 mg/l
12.2 Persistence and degradability	Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
12.3 Bioaccumulative potential	Inorganic. The substance has no potential for bioaccumulation.
12.4 Mobility in soil	Not applicable.
12.5 Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
12.6 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	Discharge of this product to sewage treatment works is dependent on local regulations with regard to pH controls. Dispose of this material and its container to hazardous or special waste collection point. Disposal should be in accordance with local, state or national legislation.
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SECTION 14: TRANSPORT INFORMATION

14.1 UN number	Not applicable
14.2 Proper Shipping Name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	Not classified as a Marine Pollutant.
14.6 Special precautions for user	No special packaging requirements. Unsuitable containers: Aluminium
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

SECTION 15: REGULATORY INFORMATION

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

TSCA Inventory Status: Reported/Included.

AICS Inventory Status: Reported/Included.

DSL/NDSL Inventory Status: Reported/Included.

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM) : WHMIS (Canada): Class D2A, D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

SARA

Not an Extremely Hazardous Substance under §302. Not a Toxic Chemical under §313. Reportable as a hazardous substance. Hazard Categories under §§311/312: Acute, Chronic. Check with your Local Emergency Planning Committee for reportable quantities.

Proposition 65 (California) : SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM : Crystalline silica

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

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.

This SDS was last reviewed: 04/2016

The following sections contain revisions or new statements: No significant changes required to this version at last review.

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