

SAFETY DATA SHEET

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

1.1 Product identifier

Product Name AgSil™ 25 Potassium Silicate Solution

Alternative names Potassium silicate solution

(2.6 < MR < = 3.2)

CAS No. 1312-76-1 EINECS No. 215-199-1

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

Identified use(s) Agriculture
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 H319 : Serious eye damage/irritation Category 2

H315 : Skin corrosion/irritation Category 2

2.2 Label elements

Hazard pictogram(s)



Signal word(s) Warning

Hazard statement(s) H319: Causes serious eye irritation.

H315: Causes skin irritation.

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.

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2.3 Other hazards

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

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, potassium | 29.1 | 1312-76-1 | 215-199-1 | H318 : Eye Dam. 1 ; |
| salt ; Potassium silicate | | | | H315 : Skin Irrit. 2 ; |
| | | | | H335 : STOT SE 3 ; |
| Water | 70.9 | 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 potassium 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
Unsuitable extinguishing Media

Compatible with all standard fire fighting techniques.

None known.

5.2 Special hazards arising from

Not applicable. Aqueous solution. Non-combustible.

the substance or mixture

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.

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. 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.

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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.

Provide an adequate bund wall.

Unsuitable containers: Do not store in aluminum, fiberglass,

copper, brass, zinc or galvanized containers.

See Also Section 10.

7.3 Specific end use(s) Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

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

8.2 Exposure 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

8.2.1 Appropriate engineering

Respiratory protection Wear suitable respiratory protective equipment if exposure to

levels above the occupational exposure limit is likely.

Eye/face 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).

8.2.3 Environmental Exposure

Controls

controls

The primary hazard of potassium silicate is the alkalinity. Avoid

release to the environment.

<u>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</u>

9.1 Information on basic physical and chemical properties

Appearance Liquid . Almost colourless.

Odour Odourless.
Odour Threshold (ppm) Not applicable.

pH (Value) Strongly alkaline. 11-12

Freezing Point (°C)

Melting Point (°C)

No data.

Not applicable.

Boiling Point (°C) 100

Flash Point (°C) [Closed cup]

Evaporation rate

Flammability (solid, gas)

Explosive Limit Ranges

Vapour Pressure (mm Hg)

Vapour Density (Air=1)

Not applicable.

Not applicable.

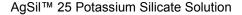
Not applicable.

Not applicable.

Not applicable.

Density (g/ml) 1.39 g/cm3 (20°C), 40.4° Bé, 11.56 lbs/gal

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Solubility (Water) Miscible. Solubility (Other) No data. Partition Coefficient No data. Auto Ignition Point (°C) Not applicable. Decomposition Temperature (°C) Not applicable. Viscosity (mPa. s) No data. Explosive properties Not applicable. Oxidising Properties Not applicable. 9.2 Other information

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity See Section: 10.3

10.2 Chemical stability Stable.

When arc welding vessels containing aqueous solutions of this 10.3 Possibility of hazardous

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.

No data.

10.4 Conditions to avoid Gels and generates heat when mixed with acid. May react with

> ammonium salts resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with

aluminum, tin, lead, and zinc.

10.5 Incompatible materials

10.6 Hazardous decomposition

product(s)

reactions

See Section: 10.3 None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

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

will cause irritation. Oral LD50 (rat) >5000 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

Skin Contact Material will cause irritation. Dermal LD50 (rat) >5000 mg/kg bw Material will cause severe irritation. Risk of serious damage to **Eve Contact**

eves.

Skin corrosion/irritation Irritating to skin.

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

Not sensitising. Sensitisation

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

Carcinogenicity No structural alerts.

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

Aspiration hazard Not classified

Other information

SECTION 12: ECOLOGICAL INFORMATION

Fish (Leuciscus idus) LC50 (48 hour) >146 mg/l 12.1 Toxicity

Aquatic invertebrates: (Daphnia magna) EC50 (24 hour) >146

mg/l

12.2 Persistence and

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

silica.

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12.3 Bioaccumulative potential

12.4 Mobility in soil

12.5 Results of PBT and vPvB

assessment

12.6 Other adverse effects

Inorganic. The substance has no potential for bioaccumulation.

Not applicable.

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

Discharge of this product to sewage treatment works is 13.1 Waste treatment methods

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.

Waste material is classified as a RCRA Hazardous waste if it

exhibits the corrosive characteristic (pH greater than or

equal to 12.5).

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

SECTION 15: REGULATORY INFORMATION

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

the IBC Code

Unsuitable containers: Aluminium

Not applicable.

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.

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.

3,0,0

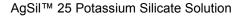
SECTION 16: OTHER INFORMATION

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: 04/2015

The following sections contain revisions or new statements: 2

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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

DNEL: Derived No Effect Level

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

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