

# SAFETY DATA SHEET

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

### 1.1 Product identifier

<b>Product Name</b>	<b>Kasil® 1 Potassium silicate solution (MR&gt;3.2)</b>
Alternative names	Potassium silicate solution
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)	General purpose industrial chemical for use in a wide range of applications. Binding agent ; 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
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## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification** Not classified as dangerous for supply/use.

**EC Classification** Not classified as dangerous for supply/use.

**Hazards summary** Alkaline. May cause irritation to skin and eyes. Caution - spillages may be slippery. Dries to form glass film which can easily cut skin.

Hazard pictogram(s)

Signal word(s) None.

Hazard statement(s) None.

Precautionary statement(s)

**EC Classification** Not classified as dangerous for supply/use.

Hazard Symbol

Risk Phrases None.

Safety Phrases S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**2.3 Other hazards**

Not applicable.

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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

Ingredient(s)	%W/W	CAS No.	EINECS No. / REACH Registration	Hazard symbol(s) and hazard statement(s)
Silicic acid, potassium salt	29.1	1312-76-1	215-199-1	H319 : Eye Irrit. 2 ; 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.  
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      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**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear suitable protective clothing. Wear eye/face protection.

**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.

## **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** Keep at a temperature not exceeding (°C): 50  
Do not allow material to freeze.  
Provide an adequate bund wall.  
Unsuitable containers: Aluminium  
See Also Section 10.
- 7.3 Specific end use(s)** See Section: Annex to the extended Safety Data Sheet.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

SUBSTANCE.	Occupational Exposure Limits
Silicic acid, potassium salt	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m <sup>3</sup> (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.
- 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 Respiratory protection not normally required. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS(G)53.
- 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.
- 8.2.3 Environmental Exposure Controls** The primary hazard of potassium silicate is the alkalinity. Avoid release to the environment.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

Appearance	Liquid . Almost colourless.
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Alkaline. 11.3
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)	1.26 g/cm <sup>3</sup> (20°C), 29.8° Bé, 10.50 lbs/gal
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.
<b>9.2 Other information</b>	No data.

## **SECTION 10: STABILITY AND REACTIVITY**

<b>10.1 Reactivity</b>	See Section: 10.3
<b>10.2 Chemical stability</b>	Stable.
<b>10.3 Possibility of hazardous reactions</b>	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.
<b>10.4 Conditions to avoid</b>	See Section: 10.3
<b>10.5 Incompatible materials</b>	See Section: 10.3
<b>10.6 Hazardous decomposition product(s)</b>	None known.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

<b>11.1 Information on toxicological effects</b>	
<b>Acute toxicity</b>	
Ingestion	All symptoms of acute toxicity are due to high alkalinity. Material will cause irritation. Oral LD50 (rat) >5000 mg/kg bw
Inhalation	All symptoms of acute toxicity are due to high alkalinity. Mist is irritant to the respiratory tract. Inhalation LC50 (rat) >2.06 g/m <sup>3</sup>
Skin Contact	Repeated and/or prolonged skin contact may cause slight irritation. Dermal LD50 (rat) >5000 mg/kg bw
Eye Contact	Liquid or mist may cause discomfort and mild irritation.
<b>Skin corrosion/irritation</b>	Repeated and/or prolonged skin contact may cause slight irritation.
<b>Serious eye damage/irritation</b>	Liquid or mist may cause discomfort and mild irritation.
<b>Sensitisation</b>	Not sensitising.
<b>Mutagenicity</b>	No evidence of genotoxicity. In vitro/in vivo negative.
<b>Carcinogenicity</b>	No structural alerts.
<b>Reproductive toxicity</b>	No evidence of reproductive toxicity or developmental toxicity.
<b>STOT - single exposure</b>	Not classified
<b>STOT - repeated exposure</b>	Not classified. NOAEL oral (rat) 159 mg/kg bw/d
<b>Aspiration hazard</b>	Not classified
<b>Other information</b>	

## **SECTION 12: ECOLOGICAL INFORMATION**

<b>12.1 Toxicity</b>	Fish (Leuciscus idus) LC50 (48 hour) >146 mg/l Aquatic invertebrates: (Daphnia magna) EC50 (24 hour) >146 mg/l
<b>12.2 Persistence and degradability</b>	Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
<b>12.3 Bioaccumulative potential</b>	Inorganic. The substance has no potential for bioaccumulation.
<b>12.4 Mobility in soil</b>	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. This material is classified as hazardous waste under EC Directive 2008/98/EC. This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894. This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894. Disposal should be in accordance with local, state or national legislation.

## **SECTION 14: TRANSPORT INFORMATION**

**14.1 UN number** Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.  
**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** 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.

German Water Hazard Classification VwVwS: Product ID number 1316, WGK class 1 (low hazard to water).

## **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: 05/2013

The following sections contain revisions or new statements: All sections updated to comply with Regulation (EC) No.1907/2006 (REACH) and Regulation (EC) No.1272/2008 (CLP) and their amendments.

**EC Classification No. 67/548/EEC** Not classified as dangerous for supply/use.

**Hazard Symbol**

**Risk Phrases**

**Safety Phrases**

None.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

GHS Classification	Not classified as dangerous for supply/use.
Signal word(s)	None.
Hazard pictogram(s)	
Hazard statement(s)	None.
Precautionary statement(s)	

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