

SAFETY DATA SHEET

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

1.1 Product identifier

Product Name	KASIL® SS Powder Potassium Silicate
Alternative names	Potassium silicate
CAS No.	1312-76-1
EINECS No.	215-199-1
REACH Registration No.	

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	National Silicates 429 Kipling Ave Toronto, ON M8Z 5C7
Telephone:	416-255-7771
E-mail:	sds.uk@pqcorp.com

1.4 Emergency telephone number

Emergency Phone No.	National Silicates 416-255-7771 USA CHEMTREC 1-800-424-9300 (24 hrs)
---------------------	---

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification	Carcinogen Category 1 Skin Irrit. 2 Eye Irrit. 2 STOT - single exposure Category 3
---------------------------	---

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. (Inhalation)
Precautionary statement(s)	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing dust. P262: Do not get in eyes, on skin, or on clothing. P264: Wash (hands and exposed skin) thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. 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. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313: IF exposed or concerned: Get medical advice/attention. P332+P313: If skin irritation occurs: Get medical advice/attention. P362: Take off contaminated clothing and wash before reuse. P405: Store locked up. P501: Dispose of contents/container to: Disposal should be in accordance with local, state or national legislation.

2.3 Other hazards Not classified as PBT or vPvB. Can etch glass if not promptly removed.

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, potassium salt	> 99	1312-76-1	215-199-1	H319 : Eye Irrit. 2 ; H315 : Skin Irrit. 2 ; H335 : STOT SE 3 ;
Crystalline silica	<1	14808-60-7	2388784	Carcinogen Category 1

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.
 Irritating to eyes, respiratory system and 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 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. 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 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, potassium salt	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m ³ (15 min TWA) is recommended by analogy with potassium 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).
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	The primary hazard of potassium 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	Flakes. White
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Alkaline. 11-12
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 (Pascal)	
Vapour Density (Air=1)	No data.
Density (g/ml)	Approximately.42 lbs/ft3 untamped.
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)	None known.

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) >5000 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/m³

Skin Contact Dermal LD50 (rat) >5000 mg/kg bw

Eye Contact Material will cause severe irritation.

Skin corrosion/irritation Material will cause irritation.

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 159 mg/kg bw/d

Prolonged or repeated inhalation of crystalline silica causes lung diseases including silicosis, emphysema, obstructive airway disease and lung cancer.

Aspiration hazard Not classified

SECTION 12: ECOLOGICAL INFORMATION

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

Aquatic invertebrates: (*Daphnia magna*) EC50 (24 hour) >146 mg/l
Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.

12.2 Persistence and degradability

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

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.

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

Crystalline silica

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

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

- 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: 02/2016

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

Signal word(s) Danger

GLOSSARY

H319: Causes serious eye irritation.

H315: Causes skin irritation.

H335: May cause respiratory irritation.

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

R36/37/38: Irritating to eyes, 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

THE INFORMATION ON THIS SAFETY DATA SHEET IS BELIEVED TO BE ACCURATE AND IT IS THE BEST INFORMATION AVAILABLE TO NATIONAL SILICATES THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONS FOR HANDLING A CHEMICAL BY A PERSON TRAINED IN CHEMICAL HANDLING. NATIONAL SILICATES MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED WITH RESPECT TO SUCH INFORMATION OR THE PRODUCT TO WHICH IT RELATES, AND WE ASSUME NO LIABILITY RESULTING FROM THE USE OR HANDLING OF THE PRODUCT TO WHICH THIS SAFETY DATA SHEET RELATES. USERS AND HANDLERS OF THIS PRODUCT SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION PROVIDED HEREIN FOR THEIR OWN PURPOSES.