

SAFETY DATA SHEET

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

1.1 Product identifier

Product Name	Lithisil® 829
Alternative names	Potassium lithium silicate solution in water
CAS No.	Mixture

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

Identified use(s)	Industrial use only.
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	Skin Irrit. 2 Eye Irrit. 2
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Hazards summary

Alkaline.
Irritating to eyes and skin. May cause respiratory irritation.
Caution - spillages may be slippery.

2.2 Label elements

Hazard pictogram(s)



Signal word(s)

Warning

Hazard statement(s)

H315: Causes skin irritation.
H319: Causes serious eye irritation.

Precautionary statement(s)	<p>P262: Do not get in eyes, on skin, or on clothing.</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>
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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)
Lithium silicate	4.8	12627-14-4	235-730-0 Pre-registered	H315: Skin Irrit. 2 H319: Eye Irrit. 2 H335: STOT SE 3
Potassium silicate	24.5	1312-76-1	215-199-1	H315 Skin Irrit. 2 H319 Eye Irrit. 2
Water	70.7	7732-18-5	231-791-2	Not classified

EC Classification No. 67/548/EEC

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 and skin. May cause respiratory irritation.

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.
 Wear protective equipment to comply with good occupational hygiene practice.
- 7.2 Conditions for safe storage, including any incompatibilities** Do not eat, drink or smoke at the work place.
 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)** Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

SUBSTANCE.	Occupational Exposure Limits
Lithium silicate	No Occupational Exposure Limit assigned. An exposure limit of 1 mg/m3 (15 min TWA) is recommended by analogy with lithium 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** Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance Liquid. Colourless.

Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	~12 Alkaline.
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)	1.2 g/cm ³ (20°C); 25° Bé; 10.0 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.
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. This product 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	Lithium compounds may damage the central nervous system. A large dose may have the following effects: headache, nausea, dizziness, convulsions, kidney damage.
Inhalation	Mist is irritant to the respiratory tract.
Skin Contact	Repeated and/or prolonged skin contact may cause slight irritation.
Eye Contact	Liquid or mist may cause discomfort and mild irritation.
Skin corrosion/irritation	Irritating to skin.
Serious eye damage/irritation	Irritating to eyes.
Sensitisation	Not sensitising.
Mutagenicity	No data.
Carcinogenicity	IARC, NTP, OSHA, ACGIH do not list this product or any components thereof as known or suspected carcinogen.
Reproductive toxicity	Lithium compounds - teratogenic effects have been observed in laboratory animals.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

Other information

Lithium compounds may damage the central nervous system.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Lithium compounds - no data.
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	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.

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

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.


15.2 Chemical Safety Assessment	Not available.
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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.

This SDS was last reviewed: 08/2013

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

EC Classification No. 67/548/EEC	IRRITANT Xi
Hazard Symbol	
Risk Phrases	R36/38: Irritating to eyes and skin.
Safety Phrases	S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
GHS Classification	Skin Irrit. 2 Eye Irrit. 2
Signal word(s)	Warning
Hazard pictogram(s)	
Hazard statement(s)	H315: Causes skin irritation. H319: Causes serious eye 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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