

Trade Name: **LithiSil™ 829 Potassium Lithium Silicate Solution**
Date Prepared: **07/14/06**

Page: 1 of 4

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **LithiSil™ 829 Potassium lithium silicate solution**
Product description: **A 29% potassium lithium silicate, solution in water**
Manufacturer: **PQ Corporation**
P. O. Box 840
Valley Forge, PA 19482 USA
Telephone: **610-651-4200**
In case of emergency call: **610-651-4200**
For transportation emergency
Call CHEMTREC: **800-424-9300**

2. COMPOSITION/INFORMATION ON INGREDIENTS

<i>Chemical and Common Name</i>	<i>CAS Registry Number</i>	<i>Wt. %</i>	<i>OSHA PEL</i>	<i>ACGIH TLV</i>
Water	7732-18-5	~70.7%	Not Established	Not Established
Silicic acid, potassium salt; Potassium silicate	1312-76-1	~24.5%	Not Established	Not Established
Silicic acid, lithium salt; lithium silicate	12627-14-4	~4.8%	Not Established	Not Established

3. HAZARDS IDENTIFICATION

Emergency Overview: **Clear to opalescent, colorless, odorless, liquid. Causes moderate eye irritation, and slight skin irritation and digestive tract irritation. Spray mist causes irritation to respiratory tract. Due to high pH of product, release into surface water is harmful to aquatic life. Noncombustible. Spills are slippery. Reacts with acids, ammonium salts, reactive metals and some organics.**

Eye contact: **Causes moderate irritation to the eyes.**

Skin contact: **Causes slight irritation to the skin.**

Inhalation: **Spray mist irritating to respiratory tract.**

Ingestion: **May cause irritation to mouth, esophagus, and stomach.**

Chronic hazards: **Possible developmental hazard. Contains lithium that may adversely affect the developing fetus. Not listed by NTP, IARC or OSHA as a carcinogen.**

Physical hazards: **Dries to form glass film which can easily cut skin. Spilled material is very slippery. Can etch glass if not promptly removed.**

4. FIRST AID MEASURES

Eye: **In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.**

<i>Skin:</i>	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention.
<i>Inhalation:</i>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<i>Ingestion:</i>	If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

<i>Flammable limits:</i>	This material is noncombustible.
<i>Extinguishing Media:</i>	This material is compatible with all extinguishing media.
<i>Hazards to fire-fighters:</i>	See Section 3 for information on hazards when this material is present in the area of a fire.
<i>Fire-fighting equipment:</i>	The following protective equipment for fire fighters is recommended when this material is present in the area of a fire: chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots.

6. ACCIDENTAL RELEASE MEASURES

<i>Personal protection:</i>	Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots. See section 8.
<i>Environmental Hazards:</i>	Sinks and mixes with water. High pH of this material is harmful to aquatic life, see Section 12. Only water will evaporate from a spill of this material.
<i>Small spill cleanup:</i>	Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
<i>Large spill cleanup:</i>	Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent runoff from entering into storm sewers and ditches which lead to natural waterways. Isolate, dike and store discharged material, if possible. Use sand or earth to contain spilled material.
<i>CERCLA RQ:</i>	There is no CERCLA Reportable Quantity for this material. If a spill goes off site, notification of state and local authorities is recommended.

7. HANDLING AND STORAGE

<i>Handling:</i>	Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with cloth dampened with water. Promptly clean up spills.
<i>Storage:</i>	Keep containers closed. Store in clean plastic containers. Separate from acids, reactive metals, and ammonium salts. Recommended storage temperature 15°-60° C (59°-140° F) . Do not store in aluminum, steel, fiberglass, copper, brass, zinc or galvanized containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<i>Engineering controls:</i>	Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.
<i>Respiratory protection:</i>	Use a NIOSH-approved dust and mist respirator where spray mist occurs. Observe OSHA regulations for respirator use (29 C.F.R. §1910.134)
<i>Skin protection:</i>	Wear body-covering protective clothing and gloves.
<i>Eye protection:</i>	Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

<i>Appearance:</i>	Liquid.
<i>Color:</i>	Clear to opalescent white.
<i>Odor:</i>	Odorless or musty odor.
<i>pH:</i>	Approximately 12
<i>Density:</i>	1.26 g/cm³ (20°C); 30° Bé; 10.5 lbs/gal
<i>Solubility in water:</i>	Miscible.

10. STABILITY AND REACTIVITY

<i>Stability:</i>	This material is stable under all conditions of use and storage.
<i>Conditions to avoid:</i>	None.
<i>Materials to avoid:</i>	Gels and generates heat when mixed with acid. Absorbs carbon dioxide on exposure to air. 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.
<i>Hazardous decomposition products:</i>	Hydrogen.

11. TOXICOLOGICAL INFORMATION

<i>Acute Data:</i>	When tested for primary irritation potential a similar material caused moderate irritation to the eyes and slight irritation to the skin. Human experience confirms that irritation occurs when potassium silicates get on clothes at the collar, cuffs or other areas where abrasion may occur. The acute oral toxicity of this product has not been tested. When chemically similar sodium silicates were tested on a 100% solids basis, their single dose acute oral LD₅₀ in rats ranged from 1500 mg/kg to 3200 mg/kg. The acute oral lethality resulted from nonspecific causes. This product contains approximately 30% potassium silicate. Other soluble lithium compounds have acute oral toxicity (LD₅₀ values) in the range 500 mg/kg to 2100 mg/kg on a 100% basis. This product contains approximately 5% lithium silicate.
<i>Subchronic Data:</i>	The subchronic toxicity of this material has not been tested. Repeated ingestion or ingestion of large doses of soluble lithium compounds is reported to cause temporary mental function impairment.
<i>Special Studies:</i>	The mutagenic potential of this material has not been tested. Chemically similar sodium silicate was not mutagenic to the bacterium E. Coli when tested in a mutagenicity bioassay. Repeated ingestion or ingestion of

large doses of soluble lithium compounds during pregnancy is reported to cause fetal abnormalities. Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans. No ingredient of this product is listed by IARC, NTP or OSHA as a carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The ecotoxicity of this material has not been tested.
Environmental Fate: This material is not persistent in aquatic systems, but its high pH when undiluted or unneutralized is acutely harmful to aquatic life. It does not contribute to BOD.
Physical/Chemical: Sinks and mixes with water. Only water will evaporate from this material.

13. DISPOSAL CONSIDERATIONS

Classification: Disposed material is not a RCRA Hazardous waste.
Disposal Method: Dispose in accordance with federal, state and local regulations and permits.

14. TRANSPORT INFORMATION

DOT UN Status: This material is not regulated hazardous material for transportation.

15. REGULATORY INFORMATION

CERCLA: No CERCLA Reportable Quantity has been established for this material.
SARA TITLE III: Not an Extremely Hazardous Substance under §302. Not a Toxic Chemical under §313. Hazard Categories under §§311/312: Acute
TSCA: All ingredients of this material are listed on the TSCA inventory.

16. OTHER INFORMATION

Prepared by: John G. Blumberg
Supersedes revision of: New issue.

THE INFORMATION ON THIS SAFETY DATA SHEET IS BELIEVED TO BE ACCURATE AND IT IS THE BEST INFORMATION AVAILABLE TO PQ CORPORATION THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONS FOR HANDLING A CHEMICAL BY A PERSON TRAINED IN CHEMICAL HANDLING. PQ CORPORATION 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.
