

Li₂O / SiO₂

LITHIUM SILICATE (LS)45

Polysilicate

PRODUCT

Lithium Silicate, Polysilicate (Li₂SO/SiO₂)

CAS#. 12627-14-4

DESCRIPTION

LITHIUM SILICATE (LS)45 is an aqueous polysilicate solution with a molar ratio of 4.5 (4.2 - 4.8) allows for improved interaction and compounding when used as a reactive binder and/or hardener in coatings, treatments, and sealers. The reactive silicate has a higher concentration of lithium and is preferred to sodium and/or potassium silicates for many applications, including concrete surface treatments, specialty paints and coatings. Especially suitable for high performance zinc coatings for marine and industrial applications in which high pigment loading and water and wear resistance are desired.

APPLICATIONS

Raw material used as a binder and catalyst for Paint & Coatings, Protective Marine, Industrial, Maintenance Coatings, Clear Coats, Anti-Corrosive, and Surface Treatments.

Unique composition helps film formation and water resistance, abrasion, hardness and bonding.

Reactive properties of the lithium polysilicate forms a stable high ratio, low viscosity solution that results in lower levels of water in coatings improving durability and performance of coatings and treatment.

Offers enhanced formulating options for coatings and specialty treatments compared to traditional silicates.

APPEARANCE

Clear colorless liquid, water-based solution. Alkaline

FORMULA

Li₂O / SiO₂ (n=3~8)

Features

- High lithium concentration
- Improves interaction and compounding
- Offers better, more stable reactions
- Enhances durability and performance

Uses

- Inorganic paint, coatings and primers
Anti-corrosive coatings
- Refractories Catalysts
- Concrete admixture Concrete surface treatments
Welding rod binder additive
Flame retardant
- Ceramics, glazes and enamels

Product type

- Silicates

SPECIFICATION

PHYSICAL PROPERTIES <i>Value & Unit, Test Condition, Test Method</i>	COMPOSITION
Specific gravity @25°C	1.168 - 1.195
P5900.310.02.EC Total Solids	23%
Silicon dioxide content	19.0 - 21.0 % m/m
P5900.083.01.EC Ratio SiO ₂ /Li ₂ O	4.6 - 5.0
P5900.083.02.EC Transmission	> 50.0 %
P5900.523.01.EC Viscosity @25°C	< 20.0 cps
P5900.545.01.EC Sulfates as Na ₂ SO ₄	< 0.04 % m/m
P5900.277.01.EC Total Sodium as Na	< 0.06 % m/m
P5900.020.01.EC Chloride as NaCl	< 0.01 % m/m
P5900.203.01.EC Density	1.19 g/cm ³
Boiling Point (760 mm Hg)	100 °C
Melting Point	0 °C
Vapor Pressure @25°C	17.5 mm Hg
pH	11
Flash Point	N/A
VOC	< than 50 grams per liter
Freeze Point	33°F / 0 °C
Shelf life	24 months

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local technical representative before writing specifications on this product.

ORDERS and
TECHNICAL SUPPORT

Lithium Salts of America
is Division of ASG Chemie

p: (352) 358-5826
e: info@lithiumsalts.com

PACKAGING / SHIPPING CONTAINERS

Product is packaged and shipped in 55 gallon polyethylene drums or 275 gallon IBC totes.

SHIPPING LIMITATIONS

Ground Classification	Not regulated by US DOT
Shipping Name	LITHIUM SILICATE (LS)45; LiTH (LS)45
Technical Shipping Name	None
UNFIC	None
ID Number	None
Packaging Group	None
Labels	No US DOT Labels

Not regulated by IATA or IMO

HANDLING AND STORAGE

Shelf life 1 Year.

Product should be stored at or below 25°C (77°F) in original, unopened containers - stored where temperatures remain above 2° C (35° F).

Drums should be stored in heated buildings. Bulk storage tanks should, if possible, be located in a heated building. Alternately, a shed structure may be constructed to protect the tank and its piping from freezing. Tanks that must be located outside should be provided with external steam coils and lagging. The temperature of the must be kept high enough so that the air in the tank stays above freezing; otherwise, icicles and frost may form above the liquid.

It is necessary to prevent freezing but it's not desirable to store lithium polysilicate for lengthy periods at high temperatures. Continuous exposure to high temperatures will shorten the shelf life. Avoid storing the product in areas where the temperature routinely goes above 43°C (110°F). If storage tanks are located outdoors, choose a shaded location or erect a sunscreen over the tanks to avoid solar energy collection.

Storage tanks constructed of cross-linked polyethylene or fiberglass-reinforced plastic have proved satisfactory. For metal storage tanks, stainless steel type 304 is recommended. Mild steel tanks with resin lining can also be used.

HEALTH AND SAFETY

All persons handling LITHIUM SILICATE (LS)45 should be thoroughly familiar with the Safety Data Sheet.

Safety Precautions

Avoid contact with skin or eyes. Avoid circumstances that cause a mist or spray of the liquid or a dust of dried particles. Application methods using rollers or sponges are preferred rather than sprays that generate fine droplets. Installations for applying lithium polysilicate should include provisions for sufficient ventilation to control airborne particles and keep exposures below recommended limits.

First Aid

In case of skin or eye contact, flush with plenty of water for at least 15 min. Call a physician. If large amounts are inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

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LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses. Not intended for human injection. Not intended for food use.

DOCUMENTATION

A Certificate of Analysis and Safety Data Sheet (SDS) in accordance with EN 10204 are supplied with every shipment.

LIMITED WARRANTY INFORMATION.

PLEASE READ CAREFULLY.

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For more information or answers to questions about the use in specific applications, contact your Technical Sales Representative or call Toll Free 1.833.LITHUSA (1-833-548-4872).

Visit our website at www.lithiumsalts.com