



ISO 9001

“Mineralcommerce”JSC	Technical Specification	TS-2014-02
Version 01	Changes: 1	Page 1 of 2 Total pages 2

POTASSIUM SILICATE SOLUTION

This technical specification refers to liquid potassium metasilicate, an aqueous solution of the above-mentioned chemical compound, commonly known as liquid potassium water glass. It is intended for industrial use as a raw material for various groups of end products.

The technology is based on the classical method of producing water glass, involving the addition of chemically purified water and heating at high temperatures in autoclaves. No chemical transformation occurs during this process.

Water glass possesses the following main properties: neutralization and stabilization of pH; improved flowability and enhanced dispersion of structuring particles.

Alkali silicates exhibit high, yet temporary, alkalinity, do not damage textile fibres, and are excellent corrosion passivators (negative catalysts). These properties make them widely used in detergents, degreasing agents, and products for removing deposits from metal and machine parts.

Silicates are used as raw materials for the production of precipitated silica, refractory materials and compounds, as well as composites with outstanding fire-resistant properties.

Silicates are also excellent binding agents for paper and cardboard applications. In addition, they are used in the production of waterproof concrete, acid-resistant mortars, and hydrophobic coatings.

Depending on the type of raw materials used and the production technology, the following main grades are distinguished:



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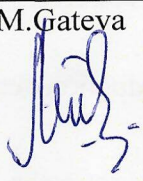
1.1. Modulus 2.0: Higher K₂O content (low modulus) – molar ratio SiO₂/K₂O of 2.0–2.2.

1.2. Modulus 3.0: Higher SiO₂ content (high modulus) – molar ratio SiO₂/K₂O of 3.0–3.5.

Parameter	Characteristics and Specifications
1.1. Organoleptic Properties Water glass is a liquid, chemically inert product. It is a transparent, slightly hazy, low-viscosity liquid, colourless and odourless.	
1.2. Physicochemical Properties	
1.2.1. Relative Density at 20°C (g/cm ³)	• Varies according to customer requirements. / ≈ 1.35
1.2.2. pH	• $12,0 \pm 1,0$
1.2.3. K ₂ O Content, %	• $11,0 \pm 1,0$
1.2.4. SiO ₂ Content, %	• $22,0 + 25,0$

Shelf Life and Storage Conditions: 3 years when stored in tanks or tightly sealed containers at temperatures above 5°C.

All products are tested in accordance with approved internal company procedures and are supplied with a Certificate of Analysis (CoA) for the respective batch.

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