

vanBaerle AG guidelines - Storage and Handling of liquid Silicates

- Liquid sodium-, potassium- and lithium-silicates are sensitive to drying-out, to reaction with airborne carbon dioxide leading to precipitation and can corrode non alkali resistant media. Therefore, liquid silicates must be stored in closed tanks and vessels made of steel, stainless steel, plastic or other suitable materials.

Aluminium, tin, zinc and their alloys must not be used for all direct contact to silicates including handling and storage, because they are reacting with silicates under generation of hydrogen.

- Ideal storage temperature for liquid sodium-, potassium- and sodium-potassium silicates is between 15 and 35°C. Do not store below 5°C or above 50°C, and do not expose to direct sun.
- Lithium silicates are more sensitive and must not be stored above 40°C. It is desirable to locate liquid silicate storage tanks inside a heated building to minimize the possibility of the silicate cooling or freezing during the cold season. Due to viscosity increase at lower temperatures pumping problems may occur if silicates are stored at low temperatures.
- If silicates are stored over a long period at fluctuating temperatures precipitation of small particles may occur due to concentration changes at the surface of the storage vessel. To prevent this effect we recommend tanks equipped with a stirring or recirculation device. Air bubbles stirring must not be used.
- Soluble silicate products stored in original closed container show shelf-life of 12 months when stored according to vanBaerle best practice guidelines above mentioned.
- This guideline is valid for all standard liquid silicates except otherwise mentioned.