Product Bulletin

SODIUM SILICATE

P1629.0206

WBM Drilling

Product Description

SODIUM SILICATE is a concentrated solution of sodium silicate in water, used for wellbore stabilization in water based drilling fluids.

Features and Benefits

SODIUM SILICATE forms a gel by reacting with formation waters, and prevents the pore pressures transmission. SODIUM SILICATE has a synergistic effect of improved shale inhibition and better viscosity control of the fluid when used in conjunction with a salt. Therefore, it is advisable to use potassium chloride with sodium silicate. SODIUM SILICATE is effective at temperature up to 275 ?F (135 ?C).

International Shipping References

Transportation of SODIUM SILICATE is not restricted by any regulatory agency.

Safe Handling Recommendations

SODIUM SILICATE solution maybe irritating to skin and eyes due to its higher alkalinity. Utilize normal precautions for employee protection when handling chemical products. Utilize appropriate respirator, gloves, goggles and apron. Refer to the Material Safety Data Sheet (MSDS) for this product prior to use.

Typical Physical Properties

- Physical State: Liquid
- Max Temperature: 275
- Reservoir Compatible: Both
- Category: Shale Stabilizers
- Sub Category: Cation Exchange
- Product Tier: Regular
- SG value: 1.4
- Appearance: Opaque thick liquid
- pH (Neat): > 12
- Specific Gravity (20 ?C): 1.3 - 1.5
- Flash Point: >100 ?C
- Viscosity (neat) mPas: 200 - 300
- Wt. Ratio SiO? / Na?O: 2.6 - 3.0 : 1
- Solubility: Soluble in cold water

Product Function

SODIUM SILICATE improves the chemical inhibition of reactive shale in water based fluids from fresh water to salt saturated.

Recommended Treatment

SODIUM SILICATE can be added at 5% by volume of the liquid phase to enhance inhibition. This is the minimum recommended concentration. Due to rapid depletion of silica ($SiO_?$) from contamination e.g. $Ca^{2?}$ or CO? when drilling certain formations, 12% by volume SODIUM SILICATE in the liquid phase (50 g/l $SiO_?$) is recommended as initial treatment.

Standard Packing

SODIUM SILICATE is packaged in 280 kgs net HDPE drum.

+971 2 610 7000
info@ppc.ae | www.ppc.ae
Abu Dhabi | UAE

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