

Potassium Formate Brine

Description

Potassium formate (KCHOO) brine is a solids free liquid product available in a wide range of densities depending on the salt concentration. This product is used as a clear brine for drilling, workover and completion operations which require densities ranging from 8.4 to 13.1 ppg (1,008 to 1,570 kg/m³). The maximum solubility of potassium formate is 75% at ambient temperature.

Applications

Potassium formate brine is used to form solid-free fluids with densities ranging from 8.4 to 13.1 ppg (1,007 to 1,570 kg/m³). It has low rheological values when ran as a clean, solid-free system which promotes turbulent flow to optimize horizontal wellbore cleaning. A low crystallization point for a wide range of densities makes the potassium formate brine an appropriate fluid for cold weather.

Features and Benefits

- Reduces water activity and shale hydration due to K⁺ ion presence.
- Increases polymer temperature stability.
- Reduced corrosion rate compared to other brines.
- Naturally alkaline pH and can be buffered with carbonate/bicarbonate to handle acid gas.
- Proven as an excellent lubricity at high concentration.
- Formate anion is an anti-oxidant which reduces the occurrence of oxidation and the need for oxygen scavengers.
- Potassium formate based fluid ensures minimal formation damage.
- Non-toxic and biodegradable

Typical Properties

Appearance	Solids free liquid
Color	Clear
Dissolved KCHOO Content	1.7 - 75 %wt.
Specific Gravity	1.01 – 1.57

Recommended Treatment

Prepare the brine by adding gently Potassium formate crystals to the make-up water through the rig hopper. Use the mixing table for determining the required dry product concentration.

Barite additions to potassium formate fluid are not recommended due to the potential to create barium ions which pose an environmental risk.

Safety and Handling

Prior to using this product, refer to the safety data sheet for information on use of personal protective equipment, safe handling, storage, transport, and disposal.

Packaging

Potassium formate brine is packaged in 1m³ totes.

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