

POTASSIUM FORMATE

70-75%

Definition

Potassium Formate (CHKO_2) is the potassium salt of formic acid with a molar mass of 84.12 g/mol-1. It is a highly water-soluble product that has many industrial applications, including heat transfer, de-icing, and as a brine for use in oilfield applications such as drilling and completion operations.

Applications

- In roadway deicing, **Potassium Formate** effectively dissolves the crystalline structure of ice and carries a lower BOD than other deicing alternatives. Because it biodegrades more rapidly than some products used for this purpose, it can be less likely to negatively impact groundwater.

- In oilfield applications, **Potassium Formate** provides a high-density solution that is very well suited for HTHP drilling operations. It has a low level of corrosiveness and a more attractive HSE profile, and provides for polymer thermal stability. Carries a low risk of formation damage in loss of permeability.

- As a heat transfer agent, **Potassium Formate** can perform at lower temperatures than water-based glycols.

Usage

Potassium Formate is hygroscopic and should be kept away from moisture and in sealed packaging/ containers. It has a density of 1.560 g/mL at 20°C.

Warning - It is inadvisable to run a standard API retort test on formate fluids!

Potassium Formate solubilizes alkaline earth metal sulfates, including barium sulphate. Solubilization increases when the concentration of potassium formate is increased. Barite should not be used as a weighting agent as soluble barium is toxic and found therein. A combination of potassium formate and barite is not recommended for this reason.

Consult MSDS and follow all precautionary statements and measures.

Advantages

- Low Environmental Risk
- Low Health/Safety Risk
- Provides Thermal Stability
- Performs at Low Temperatures
- Low Corrosion

Physical Properties

Molecular Formula	CHKO_2
Molar Mass	84.12 g mol ⁻¹
Appearance	Colorless Liquid
Density	1.908 g/cm ³
Boiling Point	Decomposes
Solubility in Water	32.8 g/100 mL (0°C) 331 g/100 mL (25°C) 657 g/100 mL (80°C)
Solubility	Soluble in Alcohol Insoluble in Ether
Basicity (pKb)	10.25



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