

Organic Acid Precursor

Description

ORCA™ FG3 organic acid precursor is a component of the ORCA for WBM system used for removal of WBM damage and filter cakes in the reservoir. Acid generation is delayed allowing the ORCA for WBM system to be spotted in the well across the full open hole section.

Benefits

- Enables safe transportation and handling since acid generation occurs after pumping fluid downhole
- Acid precursor eliminates pin-holes and inadequate coverage compared to application with strong acids and live organic acids.
- Restores production and injection within reservoirs blocked with WBM filter cakes containing carbonate as a weighting agent or from carbonate drill cuttings.
- Maximize effectiveness of damage removal with a single spacer containing both acid precursor and enzymes.

Application

ORCA™ FG3 organic acid precursor can be used in a wide range of downhole stimulation and completion applications in oil and gas production wells and water and gas injection wells. For treating drilling mud damage within the reservoir arising from drilling with water-based muds or drill-in fluids.

Common base fluids for ORCA for WBM include fresh water, sea water, monovalent and divalent completion brines.

Typically used in wells with a bottom hole static temperature in the range of 20°C to around 80°. With appropriate placement techniques it can be used at higher downhole reservoir temperatures particularly if the duration of the mud damage removal is to be minimized.

Treatment Recommendation

Concentration of ORCA™ FG3 is typically in the range of 4-12% v/v depending on the known concentration of carbonates within the filter cake. The ideal pH of the base fluid should be in the range of 6-8.

Prior to utilizing ORCA™ FG3 or other components of the ORCA for WBM system, lab testing is required to test for compatibility and effectiveness against the specific type of damage anticipated downhole.

The rate of acid production from ORCA™ FG3 may be accelerated downhole by including GBC-1 catalyst in the fluid formulation. Cleansorb™ polymer breakers such as starch, cellulose, xanthan breaker enzymes can also be incorporated into ORCA for WBM formulations to deliver simultaneous downhole acidizing and polymer breaker treatments.

Typical Physical Properties

Appearance..... Clear liquid free from suspended matter
 Color, Hazen..... < 100
 Specific Gravity..... 1.27 - 1.31

Handling and Storage

ORCA™ FG3 is stable for at least 36 months at ambient temperature if stored in the sealed containers as supplied and out of direct sunlight to avoid product being heated for prolonged periods. Avoid contact with skin and eyes. Use appropriate hygiene, clothing, and personal protective equipment suitable for work being done. Review the SDS thoroughly before using this product.

Packaging

ORCA™ FG3 is available in: 210-kg (162-liter) plastic drum and 1100-kg (815liter) IBCs as required.

