

LyoCell

Cellulose Breaker Enzyme

Description

LyoCell cellulose breaker enzyme is a component of the ORCA™ for WBM system used for removal of WBM damage and filter cakes in the reservoir. LyoCell slowly degrades cellulose polymer chains allowing for uniform filter cake removal across the open hole reservoir section.

Benefits

- Enables safe transportation and handling as a non-hazardous chemical.
- Restores production and injection within reservoirs blocked with WBM filter cakes containing cellulose polymers.
- Highly soluble in and compatible with a wide range of completion brine types and brine densities.
- Maximize effectiveness of damage removal with a single spacer containing both acid precursor and enzymes.

Application

LyoCell is a liquid product that is readily dissolved in fresh water, sea water or completion brine. Typically used for well treatments to remove drilling mud damage in a wide range of wells including oil and gas production wells and water and gas injection wells. The characteristics of the ORCA for WBM system makes it particularly suited for open hole horizontal/directional wells including slotted liner, screen or gravel pack completions.

Typically used in wells with a bottom hole static temperature below 90° C.

Treatment Recommendation

Prior to utilizing LyoCell 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. Concentration of LyoCell is up to 1% v/v depending on the concentration of cellulose within the filter cake.

LyoCell is compatible with other Cleansorb™ breaker enzymes designed to remove starch and xanthan. Acid precursors can also be incorporated into ORCA for WBM formulations to deliver simultaneous downhole acidizing and polymer breaker treatments.

Typical Physical Properties

Appearance..... Pale to dark brown, solids-free liquid
pH 5.6 – 6.0
Specific Gravity @ 20°C1.1 (9.2 lb/gal)
Solubility Completely miscible with water and brines

Handling and Storage

LyoCell is stable for at least 6 months if stored in the sealed containers as supplied, out of direct sunlight, and below 25°C. 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

LyoCell is available in: 20-kilogram (18-liter) plastic pails and 1,000-kilogram (909-liter) IBCs as required.