

PRIME 100

Remove synthetic and oil-based residue from wellbore surfaces

Applications

- MICRO-PRIME displacement system

Features and benefits

- Blended into fresh water to formulate the PRIME 100 viscosified transition spacer for MICRO-PRIME displacements
 - Effectively displaces and cleans synthetic or oil-based drilling fluid residue from the casing and riser when pumped in laminar flow
- Functions in weighted or unweighted spacer applications
 - Provides desired density and hydrostatic overbalance for well control
- Does not require a solvent to remove oil residue
 - Reduces environmental and health hazards
- Low interfacial tension
 - Yields a highly efficient detergent that instantaneously incorporates oil
- Solubilizes oil and removes emulsions
 - Water-wets all surfaces and mobilizes all solids

PRIME™ 100 displacement chemical from Baker Hughes is a component of **MICRO-PRIME™ displacement system** to clean synthetic- or oil-based mud residue from downhole surfaces while leaving them in a water-wet state.

The following is a standard sequence of a MICRO-PRIME displacement train:

1. Base oil spacer (optional);
2. PRIME 100 weighted/unweighted viscosified transition spacer;
3. **PRIME™ 770** solids free cleaning spacer;
4. Viscosified tail spacer;
5. Clear completion brine

PRIME 100 surfactant is added to either a weighted or unweighted viscosified transition pill based in fresh water. This transition spacer is viscosified with **AKVO™ XAN family of viscosifiers** and serves as the push pill when displacing invert emulsion fluid systems from a cased wellbore and riser. To create a weighted transition pill, barite should be added to achieve the correct density rather than using a soluble salt.

The PRIME 100 viscosified transition spacer initiates the cleaning and water wetting process during invert emulsion drilling fluid displacements. As part of a completely formulated transition pill, the PRIME 100 spacer is rheologically compatible with base-oil spacers that may precede the pill, and synthetic- or oil-based drilling fluids being displaced.

Despite a high concentration of barite in some formulations, the PRIME 100 viscosified transition spacer removes >95% of the oily debris from casing and risers at both low and elevated temperatures. The subsequent PRIME 770 solids free cleaning spacer finalizes the cleaning and water wetting process.

Recommended treatment

The applied concentration for PRIME 100 surfactant blend in a weighted or unweighted viscosified transition push pill depends on the type of invert emulsion system being displaced. A concentration ranging between 8% and 10% by volume is typically required for synthetic-based drilling fluid displacements. However, when displacing oil- or mineral-based drilling fluids, the recommended field concentrations of the PRIME 100 surfactant blend in the viscosified transition spacer is between 4% and 6% by volume. As with most oilfield applications, laboratory testing is recommended to more closely identify the treatment level.

It is recommended to use these displacement chemicals in combination with the Baker Hughes mechanical Wellbore Cleanup (WBCU) system to enhance cleaning performance.

Environmental information

For information concerning environmental regulations applicable to this product, contact the Health, Safety, and Environmental department of Baker Hughes.

Shipping

PRIME 100 displacement chemical is classified as a flammable liquid (UN 1993) for transportation by international and United States regulatory agencies.

Safe handling

recommendations

Use normal precautions for employee protection when handling chemical products. See Safety Data Sheet (SDS) prior to use.

Packaging

PRIME 100 displacement chemical is packaged in 5-gal (18.9-L) pails, 55-gal (208.2-L) drums, or 275-gal (1041-L) intermediate bulk containers (IBCs).

Typical properties

Appearance	Clear yellow liquid
Specific gravity At 68°F (20°C)	1.01
pH	6.7
Flash point (Closed cup)	125.6°F (52°C)
Pour point	5°F (-15°C)