

# MICRO-PRIME

## Optimize the wellbore cleanup process for improved production

### Applications

- Oil- and synthetic-based wellbore displacements
- Deepwater, shelf, or land applications

### Features and benefits

- Optimizes displacement efficiency of S/OBM to completion brine
  - Minimize formation damage for optimized hydrocarbon recovery
- Solubilizes oil on contact
  - Easy cleanup of casing and risers
- 100% water wetting of all metal surfaces
  - Maximum cleaning efficiency
- Improves debris removal for proper tool setting
  - Reduces rig time
- No special mixing facility required
  - Improved logistics and cost savings
- Does not require a solvent to remove oil residue
  - Reduced environmental and health hazards
- Low interfacial tension
  - Yields highly efficient detergent that instantaneously incorporates oil
- Effectively cleans from 40°F to 450°F (1.44°C to 232°C)
  - Can be used in a wide temperature range

Advancements in displacement software, cleanup tools, and spacer chemistry have contributed to a more efficient displacement process, leading to lower operating costs and increased production.

The removal of drilling fluids and solids is essential to the successful completion of a well. The Baker Hughes **MICRO-PRIME™ high-efficiency, wellbore-cleaning spacer system** is revolutionary technology designed to optimize the wellbore cleanup process when displacing drilling fluids prior to the completion process.

The innovative design uses advanced Mesophase technology that cleans and water wets all surfaces, even at high levels of oil- or synthetic-based

drilling fluid contamination. In conjunction with Baker Hughes **DISPLEX™ advanced displacement simulation software**, the MICRO-PRIME spacer technology maximizes cleaning effectiveness and minimizes waste generation. The viscosified transition spacer is dual functioning, piloting the displacement and providing improved cleaning and wetting capacity. The cleaning spacer completes the process, cleaning and water wetting the metal.

The MICRO-PRIME spacer technology allows operators to maximize wellbore cleaning efficiency while reducing risks associated with challenging completion operations.

Application	Normal temperature applications ≤ 250°F (121°C)	
Product	PRIME™ 100 displacement chemical	PRIME™ 700 displacement chemical
<b>Description</b>	Proprietary surfactant blend included in the weighted/unweighted viscosified transition spacer	Proprietary surfactant blend used for solids-free Newtonian cleaning spacer
<b>Function</b>	Deliver most of the cleaning and water wetting of downhole surfaces	Complete the cleaning and wetting of downhole surfaces
<b>Recommended treatment</b>	Synthetic oil-based fluids: 8 to 10% by volume Oil-based fluids: 4 to 6% by volume	10% by volume

## Features and benefits

- Improves transition and minimizes completion time
  - Cleans and water wets in one circulation
  - Reduces filtration and rig time
  - Saves the customer money
- Works synergistically with Baker Hughes wellbore cleanup tools
  - Provides a single source of contact for all your displacement needs
- A full suite of displacement software developed
  - Accurately simulates and plans for difficult deepwater displacements

Application	High temperature applications > 250°F (121°C)		All applications
Product	<b>PRIME™ 200HT</b> high-temperature displacement chemical	<b>PRIME™ VIS HT</b> high-temperature viscosifier	<b>MPA-50™</b> performance activator
Description	Proprietary surfactant blend used for both the viscosified transition spacer and solids-free Newtonian cleaning spacer	Viscosifier for the weighted/unweighted viscosified transition spacer	Hydrophilic linker used to improve the solubilization of oil in Mesophase fluids
Function	Clean and water wetting of downhole surfaces	Provide and sustain viscosity in heavy-density brine and high temperatures	Added into the viscosified transition spacer to improve cleaning and water wetting of downhole surfaces
Recommended treatment	20% by volume	Solids-free: 6.0 to 10.0 lb <sub>m</sub> /bbl (17.2 to 28.6 kg/m <sup>3</sup> )  Solids-laden: 1.0 to 6.0 lb <sub>m</sub> /bbl (2.9 to 17.2 kg/m <sup>3</sup> )	3% by volume