

# SmartRecovery 100

High performance micro-emulsion flow enhancer

Stable nano-scale emulsion for enhanced pore network access

SmartRecovery 100 is a biosurfactant that has a diameter droplet size that is 10nm, which allows for a stable micro-emulsion leading to enhanced pore network access in low permeability siliceous reservoirs. SmartRecovery 100 has rapid wetting ability in reservoirs with high total organic content in addition to mature siliceous reservoirs. SmartRecovery 100 has surface and interfacial tension less than 5dyne/cm. Smart Recovery 100 also acts as a dispersant and mobilizes heavy oil molecules such as paraffin and asphaltenes.

SmartRecovery 100 is a leading flow back micro-emulsion engineered to outperform other high-end flow aids and micro-emulsions in complex silicate reservoirs. SmartRecovery 100 is chemically engineered to mobilize hydrocarbons throughout the nano-porous network of unconventional reservoirs. Water-based SmartRecovery 100 performs at treatment rates of 0.5 to 2.0gallons per thousand and easily mixes in water. Using SmartRecovery 100 in this way lowers completion chemical costs and extends the production curve for the life of the well.

## Features

- Interfacial tension <5.0dyne/cm
- Rapid wetting
- Deeper penetration by reducing contact angle further from the wellbore
- Less than 30nm diameter droplet size (critical for emulsion stability)
- Low treatment rates
- Low cost

## Benefits

- Reduced reservoir damage caused by relative permeability impairment
- Improved flow back rates and recovery
- Improved well performance

### Technical Specification\*

Appearance	Clear tan
pH	0.5 - 3.0
Specific gravity	1.003 ± 0.03
Density	8.355 (lbs/gal) ± 0.25
Freezing Point	2.0°C
PourPoint Range	2.0 to 5.0°C
Flash Point	> 94°C
Hazardous	Non-Hazardous

\*all properties tested at 25°C ± 1°C

