

DEEPCLEAN

DEEPCLEAN* additive is a highly effective, single-stage well-displacement chemical.

It combines the dissolving capacity of powerful hydrocarbon solvents with the water-wetting capability of optimized Hydrophile-Lipophile Balance (HLB) surfactants, creating a double emulsion. The DEEPCLEAN product satisfies all the requirements of a multiple-stage displacement wash train with just one product. This efficient combination of powerful solvents, surfactants and water-wetting agents not only provides excellent surface cleaning, but does so with a good-to-very-good HSE profile. When used in wellbore-cleaning operations, its double emulsion performs the task of thinning, dissolving and dispersing oil/synthetic-base-mud residue, while leaving all downhole tubulars and metal surfaces in a water-wet state.

Typical Physical Properties

Physical appearance	Clear yellow to tan liquid
Solubility in water	Dispersible
Specific gravity.....	0.92
Flash point (closed cup)	143° F (61° C)

Applications

DEEPCLEAN additive is designed primarily for downhole use in oil and gas wells for cleanup during the displacement of oil- or synthetic-base drilling fluids prior to the start of completion operations. M-I SWACO recommends concentrations of 5 – 20% (v/v) in the main cleanup pill, pumped in turbulent flow. The combined action of the solvents and surfactants with the double emulsion in DEEPCLEAN product provides efficient cleanup of solids and drilling-fluid residue during displacement operations and leaves all downhole tubulars in a water-wet state - without the need for a subsequent surfactant wash.

The DEEPCLEAN additive functions in freshwater, seawater, and high-density brines. Under static conditions, the solvent fraction will eventually phase separate. Mild agitation is required before pumping. The product can also be incorporated into a high-viscosity pill to aid in the removal of heavy solids prior to pumping the main cleanup pill or as a high-viscosity displacement aid that follows the main cleanup pill.

The exact product concentration and spacer/wash volumes will vary depending on mud type and wellbore conditions. Recommendations for a specific application should be made after consulting M-I SWACO representatives.

Advantages

- Solvents and surfactants that creates a double emulsion and provide stability at a wide range of temperatures
- Compatible with freshwater, seawater and heavy brines
- Wash pill density to 14.0 lb/gal (1.68 sg)
- One-drum chemical – Lower storage requirement at the rigsite
- Low chemical concentration – Use less than other surfactants for the same job
- Smaller pill size – Minimal waste potential
- Reduced contact time – Pump faster for more effective cleanup
- Fewer pills – Lower volume on surface required in pits; less waste generated
- Enhanced wellbore cleanliness
- Oil droplets readily dispersed – Cleaner pill interfaces for better waste separation at the surface
- Leaves casing and pipe surfaces in a water-wet state, ready for completion brine

Limitations

- Although combustible, DEEPCLEAN additive is not considered hazardous for shipping.

Toxicity and Handling

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

DEEPCLEAN additive is packaged in 55-gallon poly drums.

Keep drums tightly sealed to avoid contamination. Keep away from heat, sparks and flames.



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