

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.

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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

Toxicity and Handling

Moderately hazardous substance in terms of health effects; wear PPE; provide storage and handling rooms with supply and exhaust ventilation; read the Safety Data Sheet carefully before use. Biological analysis data can be provided upon request.

Packaging and Storage

The product is supplied in 200 L plastic drums and 1000 L tote tanks. Store in a dry, well ventilated place. Keep container closed. Keep away from heat, sparkles or fire sources. Observe the rules for storing materials regarding packaging, attachment, and warehousing.

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