

DEEPCLEAN NS

DEEPCLEAN NS* 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.

DEEPCLEAN NS* product satisfies all the requirements of a multiple-stage displacement wash train. This efficient combination of powerful solvents, surfactants and water-wetting agents not only provides excellent surface cleaning, but does so with an exemplary HSE profile. When used in wellbore-cleaning operations, the unique DEEPCLEAN NS 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 clean, water-wet state.

Typical Physical Properties

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|--------------------------------|----------------------------|
| 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 NS 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 NS 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 NS additive can be mixed in freshwater, seawater, and clear brine fluids at densities up to 14.0ppg (1.68 s.g.). 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 and performance across a wide range of temperatures
- Compatible with freshwater, drill water, seawater, and clear brine fluids
- Wash pill density to 14.0 lb/gal (1.68 s.g.)
- One-drum chemical – simplified logistics
- Effective in low concentrations – Requires less than other surfactants to perform same job
- Smaller pill size – minimum waste potential, eases pit management logistics
- Reduced contact time – Pump faster for more effective cleanup
- Versatile additive – One product provides dissolution, dispersion, and water-wetting for transition, wash, and push pills
- Enhanced wellbore cleanliness – achieve cleanliness specifications in shorter time, reducing operational and waste management costs
- 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 NS 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).

DEEPCLEAN NS additive has been classified as a GOLD chemical with CEFAS for completion and workover applications in the UK Sector of the North

DEEPCLEAN NS PRODUCT has been classified 'Yellow' for applications in the Norwegian Sector of the North Sea

Packaging and Storage

DEEPCLEAN NS 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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