

PETROSTEP[®] ND-1

EMULSIFIER



Aromatic solvents are commonly used to clean pipes, wellbores and other equipment, and are often emulsified into aqueous systems. Stepan Oilfield Solutions' PETROSTEP ND-1 is a nonionic surfactant blend that can emulsify these compounds as macroemulsions for oilfield cleaning applications.

Emulsion formulations with PETROSTEP ND-1 can be further stabilized with the addition of a co-solvent to create microemulsions for use in flowback additives and corrosion inhibitors. PETROSTEP ND-1 is effective in both acids and brines.

MACROEMULSIONS



Oil-in-water (o/w)
 43.5% Toluene
 43.5% 15% Hydrochloric acid (HCl)
 13% PETROSTEP ND-1
 Stable for at least 24 hours at room temperature



Oil-in-water (o/w)
 43.5% d-limonene
 43.5% 15% HCl
 13% PETROSTEP ND-1
 Stable for at least 24 hours at room temperature

MICROEMULSIONS



Oil-in-water (o/w)
 33% Xylene
 33% 2% Potassium chloride
 13% PETROSTEP ND-1
 20% Isopropanol
 Stable over time and difficult to break.

PRODUCT PROPERTIES AND APPLICATION RECOMMENDATIONS

TYPICAL PROPERTIES

- Appearance at 25°C: Clear to hazy liquid
- Actives, %: 99 min.
- pH (5% aqueous): 5.0 – 9.0
- Density at 25°C, g/mL: 0.99
- Flash Point (PMCC): >94°C
- Pour Point: 3°C
- Freeze Point: 0°C
- Color, Gardner: 7 max.
- Viscosity at 25°C cps: 1325
- Viscosity at 40°C cps: 420
- Viscosity at 60°C cps: 135

APPLICATIONS

Emulsifier for aromatic solvents

- Wellbore cleaning
- Pipe cleaning
- Flowback additives

Dispersant for aromatic compounds

- Corrosion inhibitor actives

DIRECTIONS FOR USE

- As an emulsifier or dispersant alone
- Add a co-solvent to further stabilize formulation

For more information about PETROSTEP ND-1 and other PETROSTEP products, email oilfield@stepan.com or call 713.955.8100.