

# SAF-2

Non-ionic Surfactant

## Description

SAF-2 is a non-ionic liquid surfactant concentrate used as an optional component of the ORCA™ for WBM system. SAF-2 is used at low concentrations to improve water-wetting of water-based filter cake solids that have been exposed to hydrocarbons during drilling or production.

## Benefits

- Improves cleanup and restores production and injection of water-based mud filter cakes containing hydrocarbon from drilling or production.
- Non-hazardous for transportation purposes, low environmental impact, and highly biodegradable.

## Application

SAF-2 non-ionic surfactant can be used in a wide range of downhole stimulation and completion applications in oil and gas production wells and water and gas injection wells. For treating drilling mud damage within the reservoir arising from drilling with water-based muds or drill-in fluids.

Common base fluids for ORCA for WBM include fresh water, sea water, monovalent and divalent completion brines.

Typically used in wells with a bottom hole static temperature in the range of 20 to 130°C. SAF-2 is particularly useful when treating mud damage or previously produced oil production wells where hydrocarbon deposited during drilling or production may coat residual drilling mud cake damage on the producing wellbore face.

## Treatment Recommendation

Prior to utilizing SAF-2 or other components of the ORCA for WBM system, lab testing is required to test for compatibility and effectiveness against the specific type of damage anticipated downhole. Concentration of SAF-2 is typically up to 0.1% v/v in completion brine for most applications.

SAF-2 is compatible with other ORCA for WBM products including Cleansorb™ polymer breakers and acid precursors to deliver simultaneous downhole acidizing and polymer breaker treatments.

## Typical Physical Properties

|                               |  |
|-------------------------------|--|
| Appearance.....               | Clear, solids-free liquid                        |
| Color .....                   | dark brown                                       |
| pH (1% v/v in water) .....    | 6 – 8  |
| Specific Gravity @ 20°C ..... | 1.15 (9.6 lb/gal)                                |
| Solubility .....              | Fully miscible in water and most oilfield brines |

## Handling and Storage

SAF-2 is stable for at least 12 months at ambient temperature if stored in the sealed containers as supplied and out of direct sunlight to avoid product being heated for prolonged periods. Avoid contact with skin and eyes. Use appropriate hygiene, clothing, and personal protective equipment suitable for work being done. Review the SDS thoroughly before using this product.

## Packaging

SAF-2 is available in: 10-kilogram (9-liter) plastic pails, 20-kilogram (17-liter) plastic pails, and 200-kilogram (174-liter) drums as required.