**DCA™-32003 Surfactant**

DCA™-32003 anionic surfactant is formulated to help improve production from unconventional reservoirs with oil and low gas/oil ratio (GOR) production. DCA-32003 surfactant is compatible with a broad array of fracturing fluid systems including but not limited to DFS™-BGL, DFS™-BGB, and DFS™-BCG fluid systems.

**Applications**

To prevent emulsions between injected treatment fluids in stimulation treatments and formation fluids, DCA-32003 surfactant can be added at concentrations of 0.02% and up to 0.3% concentrations. Typical stimulation treatments will use 0.20% - 0.30%, but this is dependent on the well fluids and produced oil. DCA-32003 surfactant has demonstrated chemical compatibility in demulsification testing Halliburton stimulation fluids. It is advisable to perform pilot tests with reservoir fluids prior to inclusion of DCA-32003 surfactant in any treatment regimen to determine the appropriate concentration to provide the optimum results. Anionic surfactants can alter the wettability of reservoir surfaces with exposed carbonate mineralogy and may have unfavorable wettability condition in carbonate containing shales. Compatibility testing is recommended for specific reservoir fluids and rock wettability optimization.

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