



Just The Right Chemistry

TECHNICAL DATA SHEET
March 1, 2003

DSC GOLD SURF S Displacement and Stimulation Additive

Outstanding Characteristics:

Ideal for lowering surface and interfacial tensions

Description:

DSC Gold Surf S is a concentrated blend of non-ionic surfactants and special alcohols. **DSC Gold Surf S** is designed to lower surface and interfacial tensions so that **DSC Gold Flush SA** can penetrate and get under the synthetic oil or oil base drilling fluid wall cake and residuals and lift these particles from the downhole tubular and casing walls thereby allowing them to be circulated out and completely removed from the wellbore during the displacement and stimulation process. **DSC Gold Surf S** continues the cleaning process by coating oil or synthetic oil droplets (wall cake and mud particles that do not dissolve in water) with surfactant to keep them from reagglomerating and migrating to the casing and tubular surface.

Application:

The unique ability of **DSC Gold Surf S** to diffuse the surface of a liquid, adsorb to the surface and subsequently lower the surface tension of the solution of the oil base and synthetic oil base drilling fluid. **DSC Gold Surf S** works by orientating its polar and apolar head and tail groups at the liquid/liquid interface. When present in sufficient quantities, **DSC Gold Surf S** molecules aggregate to form clusters or "micelles" which prevent further change in the surface tension of the oil base and synthetic drilling fluid wall cake and residue. The concentration of the **DSC Gold Surf S** present when micelle formation occurs is characteristic of the critical micelle concentration or "CMC" of the solution. Adding more **DSC Gold Surf S** past the CMC can not only destroy the effectiveness of the **DSC Gold Surf S**, but significantly increase the cost of the displacement.

DSC Gold Surf S is appropriate for a wide variety of brine and completion fluid types.

For a specific **DSC Gold Surf S** recommendation, technical and application information is available to help provide the recommended amount of **DSC Gold Surf S** for your downhole cleaning needs. Please call a **DSC Customer Service Representative** at **1-800-737-3546**.

Shipping And Handling Instructions:

DSC Gold Surf S is shipped in 55 gallon drums, 350 gallon and 550 gallon stainless steel tote tanks. A Material Safety Data Sheet outlining recommended safe handling of **DSC Gold Surf S** is available upon request.