

Viscosity and Density Measurements of Water-Corexit 9500A-Alkane Organics

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The viscosity and density of selected binary and ternary mixtures of distilled water (or sea water)-Corexit 9500A-alkane mixtures were determined from 4°C to 40°C. The measurements were conducted at atmospheric pressure. Corexit 9500A is a commercial surfactant that was used extensively to mitigate the crude oil released during the Macondo well blowout. The concentration dependence of both the density and viscosity show nonlinear dependencies. At fixed concentrations the temperature dependence is linear, however, the functional dependence is unique to each concentration. Distilled water and sea water binary and ternary solutions have different behaviors and functional dependencies. Finally, the addition of linear alkanes to the sea water or distilled water system show different functional dependencies. In summary, for the current mixtures measured, in this study, we have not found any correlation from one concentration set to others.

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