$CaCO_3$ Crystallization in Water/Oil Microemulsion Systems

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To produce fine crystals without crystal agglomeration crystallization of calcium carbonate via water in oil emulsion was attempted. The crystallization was induced by the reaction between two aqueous micelle solutions of sodium dodecyl sulfate (SDS) and sodium bis(2-ethylhexyl)sulfosuccinate (AOT). The influences of fluid shear and micellar stability on the crystal size, distribution and morphology of calcium carbonate were scanned by the variation of mixing intensity and surfactant concentration against water and reactants.