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Inhibition of calcium carbonate ($CaCO_3$) scale formation by calix [4] resorcinarene compounds

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ABSTRACT

Inhibition effect of tetrakis{(dimethylamino)methyl}C-methyl calix [4] resorcinarene (TDMACMKR) compound on calcium carbonate ($CaCO_3$) scale formation has been studied using seeded experiment and bottle roller bath method. The effect of the addition TDMACMKR as inhibitor on $CaCO_3$ scale formation was analyzed by measuring the weight of precipitation of $CaCO_3$ formed. The morphology and particle size distribution of obtained $CaCO_3$ crystals caused by the addition of TDMACMKR were analyzed by scanning electron microscopy (SEM), and particle size analyzer. The data obtained show that the TDMACMKR inhibits formation of $CaCO_3$ scale at various inhibitor concentrations added.

Keywords: Calix [4] resorcinarene; Scale inhibitor; Calcium carbonate

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