

Synthesis of precipitated calcium carbonate for single phase and morphology

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The carbon dioxide emitted from the industries during combustion of fossil fuel for power generation comprises 80% or greater among the greenhouse gas in the atmosphere. This increasing CO₂ concentration may result in various climatic disasters and hence it is to be controlled in near future. Thus, CCS process has been developed for removing the carbon dioxide progresses actively. However, the existing carbon dioxide absorption process is highly expensive and it stands out in the extended application of CCS process as the obstacle. In addition, our country does not have enough storage space, reducing operating costs and does not require additional storage space of the new concept of carbon dioxide treatment process needs to be developed. Based on the above views, this study, deals the conversion of captured CO₂ into the carbonate anion by using CaCl₂. CaCO₃ exist in three crystalline forms. Hence, CaCO₃ precipitation conditions were optimized to obtain the shape of the vaterite, calcite and aragonite which was pure and single shape.