## عنوان مقاله:

Production of urea nanoparticles by induction crystallization

## محل انتشار:

سومین کنگره بین المللی علوم و مهندسی (سال: 1398)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

The aim of this study is to produce urea nanoparticles for agriculture and industrial applications. Producing urea nanoparticles through adding an anti-solvent (nitric acide) and using PVD and SDS as stabilizers in various concentrations and volumes of urea and stabilizers is discussed in this paper. Induction time is measured by visual observations and the effect of stabilizers on primary and secondary nucleation mechanisms is investigated. A refractometer is used to determine the urea equilibrium concentration. The results show that the nucleation mechanism is of primary type, whether there s a stabilizer or not. Thus, the stabilizer type doesn t influence the nucleation mechanism. Also, photos are taken of a sample consisting of A molar urea and B molar SDS stabilizer using a TEM microscope. The photos confirmed urea nanoparticles formation.

## کلمات کلیدی:

Urea nanoparticles, PVP stabilizer, SDS stabilizer, Anti-solvent. Induction time