

## عنوان مقاله:

Kinetics Study of Hydrazodicarbonamide Synthesis Reaction

## محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 9

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## خلاصه مقاله:

In this study, Hydrazodicarbonamide (HDCA) synthesis reaction kinetics was investigated. Hydrazodicarbonamide is prepared by reaction of urea and hydrazine in acidic medium. Synthesis of hydrazodicarbonamide from urea and hydrazine is a two steps reaction. In the first step, semicarbazide is synthesized from reaction of urea and hydrazine in one by one mole and in the second step, semicarbazide reacts with urea and produces hydrazodicarbonamide. By controlling temperature and pH during reaction at specified values, hydrazine concentration and the amount of produced hydrazodicarbonamide were determined and by these data, reaction rate constants were calculated. Based on this study, it was found that the rate of semicarbazide formation reaction is lower than the rate of hydrazodicarbonamide formation reaction. In other words, semicarbazide formation reaction from hydrazine is the rate limiting step. Rate equation for the first step is  $r = 0.1396 C_N - 0.5810 N$  (  $N$  is hydrazine concentration) and rate equation for the second step is  $r = 0.7715 C_S - 0.8430 C_S$  (  $C_S$  is semicarbazide concentration).

## کلمات کلیدی:

Hydrazodicarbonamide – Azodicarbonamide – Semicarbazide – Synthesis - Kinetics

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/45952>

