



Revista ION

ISSN: 0120-100X

revistaion@uis.edu.co

Universidad Industrial de Santander
Colombia

Silva Capuci, Ana Paula; de Carvalho, Noemy D.; Franco Jr, Moilton R.; Malagoni, Ricardo A.
Solubility of Urea in ethanol-water mixtures and pure ethanol from 278.1K to 333.1K
Revista ION, vol. 29, núm. 2, 2016, pp. 125-133
Universidad Industrial de Santander
Bucaramanga, Colombia

Available in: <http://www.redalyc.org/articulo.oa?id=342050982011>

Abstract

This paper deals with the solubility of urea in ethanol-water mixtures in mole fractions of ethanol between 0.0901 and 1.000 at temperatures ranging from 278.1 to 333.1K. The investigation of solubility contributes to research in many others fields of study in chemical engineering, since there are several studies where the solubility of urea and its behavior in solution influence the system. The experiment was carried out at constant temperature, stirring for 2h and then leaving the solution at rest for 2h. After collecting the data, the solubility of urea was calculated based on the gravimetric method. The experimental results obtained were correlated with the temperature of the solvents using three equations based on the literature. The three models demonstrated results in line with the experimental data. It was observed that adding ethanol to the water decreased urea solubility in all cases. The differences between the predicted and the experimental values were on average 4.7%.

Keywords

urea, ethanol, gravimetric method, solubility.

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System
Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal
Non-profit academic project, developed under the open access initiative