

## عنوان مقاله:

PHENOL ADSORPTION ON POWDERED EGGSHELL

## محل انتشار:

سومین کنفرانس بین المللی نفت، گاز و پتروشیمی (سال: 1394)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

Phenol is a known prejudicial ecotoxin and finds in the environment due to the activity of the petrol industry. The aim of this applied-analytical study is to investigate phenol removal from urban drinking water using batch reactor with using powdered eggshell. Various operating variables are tested for their effects on phenol removal; these include pH, contact time, adsorbent doses, initial phenol concentration, reaction kinetics, and powdered eggshell characteristics. Sample of urban drinking water is prepared containing 5-15 mg/L phenol. Powdered eggshell is prepared in a laboratory oven at 105°C for 12 h. The phenol-containing water enters batch reactor and phenol removal efficiency is studied in different cases of the variables pH (3-11), contact time (0-120 min), and adsorbent doses (3-5 gr/dl). Characteristics of the eggshell powder show that the average diameter size of eggshell powder is 2 μm. The main component of eggshell powder is calcium carbonate (CaCO<sub>3</sub>). The best conditions for phenol removal are obtained to be pH 3, contact time 80 min, and adsorbent dose 4 gr, and phenol concentration 5 mg/L. The adsorption of phenol on powdered eggshell is obtained from Langmuir isotherm

## کلمات کلیدی:

Adsorption, Isotherm, Phenol, Powdered eggshell, Urbane drinking water

## لینک ثابت مقاله در پایگاه سیویلیکا:

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