



- Current Issue
- Browse Issues
- Search
- About this Journal
- Instruction to Authors
- Online Submission
- Subscription
- Contact Us
- RSS Feed

Acta Medica Iranica

2009;47(4) : 195-200

DEGRADATION OF MTBE USING FENTON REAGENT

A. Khavanin, S. M. Mousavian, S. B. Mortazavi, A. Rezaee H. Asiliyan

Abstract:

Methyl tertiary-butyl ether (MTBE) has been commonly used as a fuel additive because of its many favorable properties that allow it to improve fuel combustion. Unfortunately, increased production and use have led to its introduction into the water supplies. Accordingly, research studies have been initiated to investigate the treatment of contaminated water. Degradation of MTBE in aqueous solution by Fenton reagent (Fe^{2+} and H_2O_2) was investigated. This study used Fenton reagent to oxidize MTBE with an attempt to explore the behavior of MTBE decomposition and measure how factors such as pH, $[\text{H}_2\text{O}_2]$ and $[\text{Fe}^{2+}]$ may influence the degradation of MTBE, and finally the optimum conditions were obtained. Under optimum conditions of 50 mL H_2O_2 , 0.65 g/L Fe^{2+} , pH=3-4 and room temperature, the initial 1000 mg/L MTBE solution was reduced by 99% within 120 min. The results showed that application of Fenton reagent was an effective method for degradation of MTBE.

Keywords:

MTBE , degradation

TUMS ID: 2371

Full Text HTML Full Text PDF 81 KB

top ▲

[Home](#) - [About](#) - [Contact Us](#)

TUMS E. Journals 2004-2009
Central Library & Documents Center
Tehran University of Medical Sciences

Best view with Internet Explorer 6 or Later at 1024*768 Resolutions