

عنوان مقاله:

Preliminary evaluation of ozonation of methyl tert-butyl ether in the presence of perfluorooctyl alumina

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

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خلاصه مقاله:

In this work perfluorooctyl alumina (PFOAL) was prepared by reacting alumina and perfluoro-octanoic acid and the catalytic efficiency of it studied for catalytic ozonation of MTBE. The results showed that PFOAL is an effective catalyst for enhancing the molecular mechanism of ozone reactions. The organic molecules of pollutants (e.g. MTBE) and also ozone tend to accumulate in the nonpolar layer of perfluorooctyl groups on the surface of PFOAL which lead to high concentrations of reactants and higher rate of ozonation reaction in this layer. For a catalyst concentration of about 5 g/L the contribution of heterogeneous catalytic reaction was about 75% of the total reaction rate observed in the system. The surface reaction is the controlling step in this catalytic system.

کلمات کلیدی:

Catalytic ozonation, Perfluorooctyl alumina (PFOAL), MTBE

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