

عنوان مقاله:

Synthesis and absorption performance of reduced graphene oxide-polyurethane sponge for highly efficient oil-water separation

محل انتشار:

پنجمین کنگره ملی شیمی و نانوشیمی از پژوهش تا فناوری (سال: 1401)

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نویسندگان:

Soheila Javadian - Department of Physical Chemistry, Faculty of Basic Science, Tarbiat Modares University, Tehran, Iran

Anita Ramezani - Department of Physical Chemistry, Faculty of Basic Science, Tarbiat Modares University, Tehran, Iran

S.Morteza Sadrpoor - Department of Physical Chemistry, Faculty of Basic Science, Tarbiat Modares University, Tehran, Iran

Amir Hossein Saeedi Dehaghani - Department of Petroleum Engineering, Faculty of Chemical Engineering, Tarbiat Modares University, Tehran, Iran

خلاصه مقاله:

For a long time, there was this idea in the human mind that the seas and oceans are so vast and the amount of pollution can be ignored. But today, the issue of removing this pollution is more serious. Sources of seawater pollution such as industrial effluents, urban wastes, oil spills caused by oil tankers accidents and oil platforms, and natural factors such as storms and volcanoes leave destructive effects on the marine ecosystem. The gradual spread of this pollution to the coasts and islands causes fatal diseases and genetic complications in humans. Oil pollution has an important effect on marine plants and animals and human health. The purpose of this research is to investigate the absorption of oil pollutants such as light crude oil by a modified polyurethane sponge. Fourier transform infrared spectroscopy has been used to investigate the characteristics of graphene oxide and functionalized reduced oxidized graphene. Based on the obtained results, it can be said that the sponge functionalized with modified reduced graphene oxide has a high absorption capacity and can be used as an effective absorbent to remove crude oil pollution.

کلمات کلیدی:

Crude oil spilling, Polyurethane sponge, Reduced graphene oxide, Separation crude oil and water

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