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TREATMENT OF ADSORBENTS FOR SEWAGE TREATMENT IN MINES

Abstract This article describes the treatment with adsorbents for wastewater treatment in oil fields. Scientific analysis of adsorbent treatment in determining the iodine number. Research is underway to determine the iodine number of sorbents. Sorbents are materials that accumulate petroleum products by adsorption and adsorption.).

Keywords: adsorption, sorbents, synthetic, inorganic, iodine number, activated carbon, sodium thiosulfate.

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KONLARDA OQAVA SUVLARNI TOZALASH UCHUN ADSORBENT BILAN ISHLOV BERISH

Annotatsiya Ushbu maqolada neft konlarida oqava suvlarni tozalash uchun adsorbent bilan ishlov berish tasvirlangan. Yod sonini aniqlashda adsorbent bilan ishlov berishning ilmiy tahlili. Sorbentlarning yod sonini aniqlash bo'yicha tadqiqotlar olib borilmoqda . Sorbentlar-bu adsorbsiya va adsorbsiya orqali neft mahsulotlarini to'playdigan materiallar .

Kalit so'zlar: adsorbsiya, sorbentlar, sintetik, noorganik, yod raqami, faol uglerod, natriy tiosulfat.

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ОБРАБОТКА АДСОРБЕНТАМИ ДЛЯ ОЧИСТКИ СТОЧНЫХ ВОД НА МЕСТОРОЖДЕНИЯХ

Аннотация В этой статье описывается обработка адсорбентами для очистки сточных вод на нефтяных месторождениях. Научные анализ обработки адсорбентами при определении йодного числа. Ведутся исследования по определению йодного числа сорбентов . Сорбенты - это материалы, которые накапливают нефтепродукты путем адсорбции и адсорбции .

Ключевые слова: адсорбция, сорбенты, синтетические, неорганические, йодное число, активированный уголь, тиосульфат натрия.

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Introduction.

It is difficult to imagine our life without the extraction and use of oil. In various jobs related to the production, transportation or operation of a variety of liquids, such as fuels or acids, uncontrolled leaks may occur. Sets of sorbents provide invaluable assistance in this case. In industrial enterprises where the risk of leakage of harmful substances is high, universal professional sorbents are used for oils, oil, water and chemicals. They are distinguished by their ease of use, non-combustibility and versatility of application. These are materials of organic and inorganic origin, which, after absorbing toxins, increase in volume and weight – swell. They perfectly absorb crude oil, diesel fuel, kerosene, gasoline, engine oil, aggressive chemicals both in fresh and salty reservoirs and on the ground. [1,2]

The processes of extraction and refining of oil and petroleum products are accompanied by a negative impact on the environment in the form of various production leaks. Sorbents are materials used to collect petroleum products due to adsorption and absorption (sticking or absorption). Currently, as an adsorbent, I receive sorbent samples from plants at various temperatures by pyrolysis at high temperatures. After processing the sorbent, I chose the Gauss method to determine the amount of iodine in it. This method is based on a reaction between a polymer and bromine iodide. Therefore, the larger the specific surface area, the higher the sorption capacity.[2,3]

Material.

In addition to oil capacity, adsorbents are also characterized by repeatability, which is expressed by the amount of adsorbent (%) that has sunk into the water after a certain time from the moment it is on the surface. The efficiency of using a carbonaceous adsorbent has been shown when cleaning swamps from petroleum products trapped in them. At the same time, the adsorbent was scattered over the water and collected after absorption of petroleum products. In addition, the adsorbent was used for a long time at an automobile enterprise, where wastewater from car washing was collected in a sump. Regular metered supply of adsorbent to the sump allowed to eliminate the oil film formed in it and reduce the discharge of petroleum products with wastewater from 100- 800 to 5-40 mg/dm^3

Chemical composition (%) of vermiculite

Table-1

SiO_2	CaO	Fe_2O	Al_2O3	MgO	Mn	TiO_2	K_2O	FeO
34.00-36.00	1.02-1.22	5.60-6.50	9.10-9.90	24.70-26.00	0.05-0.07	0.40-0.47	0.70-0.87	0.20-0.27

The main application of adsorbents, in which the sorption process occurs at the interface of the solid-liquid phases. The main indicator of the effectiveness of such a sorbent is its sorbing ability. As an alternative to natural substances that are used as sorbents of petroleum products. Activated carbon of various weights is treated with an iodine solution under special conditions, the resulting mixtures are filtered. The iodine number of the sorbent is determined by titration of the filtrate and expressed in milligrams per 1 g of coal at a concentration of iodine in the filtrate of 0.02 n [1,2,3].

Method.

The iodine number of the sorbent is a relative indicator of the porosity of activated carbons. The iodine number is not a measure of the ability of activated carbons to adsorb other substances. The iodine number of the sorbent can be used to approximate the specific surface area of some types of activated carbons. [2,4].

Characteristics of the halogenation process.

Halogenating refueling is obtained mainly in three different ways.

1. Attachment; 2.Substitution; 3. With decomposition methods. Hydrogen is squeezed out as a result of the substitution reaction:

$$RH+J_2 \longrightarrow RJ+HJ$$

As a result of the removal of monatomic halogens, for example, a fluoro-chlorine-iodine dressing dissolves:

$$CCl_4+2HF \longrightarrow CCl_2F+2HCl$$
$$RCl+NaBr \longrightarrow RBr+NaCl$$

When the na-OH group acts, chlorangidrides and other chlorangidrides are formed. They are isolated to form acids:

$$ROH+HCl=RCl+H_2O$$
$$RCOOH+COCl_2=RCOCl+CO_2+HCl$$

Result.

And the connection boils down to the fact that unsuspecting hydrocarbons are cut off from the connection.

$$CH_2=CH_2+J_2 \rightarrow JCH_2\text{-}CH_2J;$$
$$CH=CH+2J_2 \rightarrow CHJ_2\text{-}CHJ_2;$$
$$C_6H_6+3J_2 \rightarrow C_6H_6J_6$$

During hydrohalogenation and chlorohydrogenation .

$$CH_2=CH_2+HCl \rightarrow CH_3\text{-}CH_2Cl;$$
$$CH=CH+HCl \rightarrow CH_2=CHCl$$
$$CH_2=CH_2+Cl_2+H_2O \rightarrow CH_2Cl\text{-}CH_2OH+HCl$$

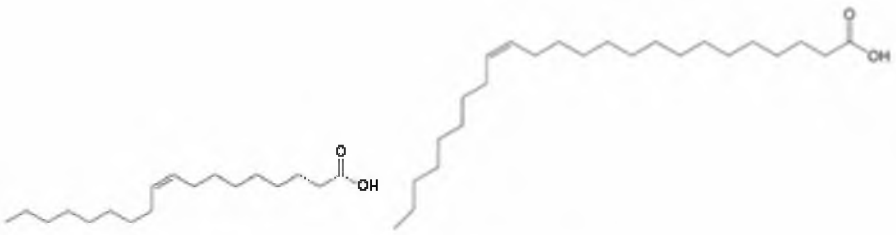
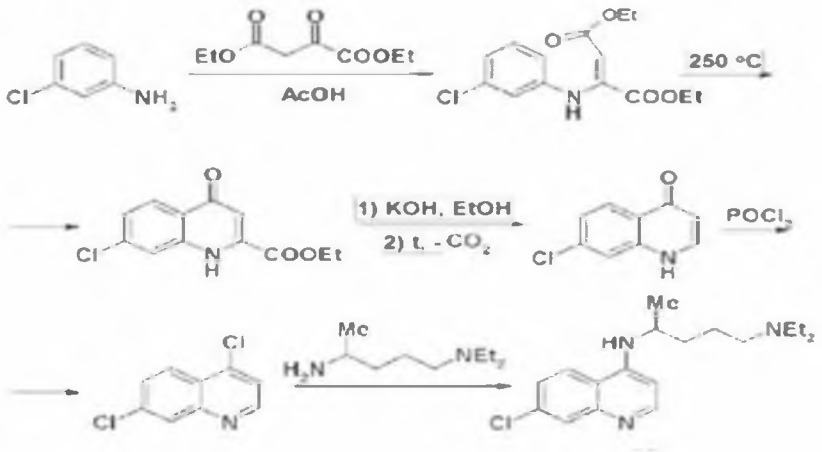


Fig. 2. The molecular bond of iodine.

Each of them has only one double bond.



Analysis of the results.

Thus, the use of adsorbate makes it possible to determine the adsorption capacity of sodium thiosulfate adsorbents without the need to weigh adsorbent samples to determine the mass of absorbed sodium thiosulfate, which significantly reduces the experiment time and increases the accuracy of the results due to the exclusion of the possibility of saturation of the adsorbent with atmospheric moisture. It can be said that the developed adsorbent can be used for wastewater treatment in oil fields. [4,5]

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