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CLEANING SOILS FROM PETROLEUM PRODUCTS CHEMICAL METHOD

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Actuality of theme. Fuel lubricants are vital in public and social life. However, according to experts, even with careful storage, they lose oil, which reduces 2% of their residential consumption and which includes the development of the transfer and use. The output of this loses petroleum products reaches thousands tons. Getting into the environment, they pollute the air, water and soil environment.

Oil and petroleum products, in addition to the main components (hydrocarbons of different classes), contain a large number of impurities (sulfur-containing, nitrogen-containing compounds, organic acids, etc.) that can form complex compounds with heavy metals. They have low solubility in water, but good solubility in organic solvents. In this regard, when the oil and petroleum products fall into natural waters, where heavy metals are constantly present in small quantities, there is accumulation of the latter.

The purpose of our research was to analyze various chemical reagents used to disinfect oil and petroleum products. At the same time, special attention was paid to the integrated approach to chemical reagents given their distribution, cost, nature of interaction with petroleum products, efficiency, the nature of compounds arising after the neutralization of petroleum products, especially the interaction with the impurities of petroleum products, the impact on the natural environment, etc. Components formed after the neutralization of petroleum derivatives should be absolutely harmful to the environment and all living things. *Chemical* methods for neutralizing ground-contaminated soils are based on the addition of a neutralizing mass of chemical reagents. Depending on the type of chemical reaction of the reagent with the pollutant, deposition, oxidation-reduction, replacement, complex-formation occurs. The method of depositing organic pollutants is based on the reactions of complex formation and crystallization. Precipitation is used to clean the soil from polychlorinated biphenols, pentachlorophenols, chlorinated and nitrate carbohydrates.

Reagents can be in both liquid and gaseous phases. However, in this case there is an increase in the volume of discharged soil mass.

For chemical immobilization or complex action, inorganic viscous components such as cement, ash, potassium and sodium silicates, lime and gel forming substances (bentonite or cellulose) are used. Immobilization is used to link poly cyclic and aromatic carbohydrates, trichlorethylene and petroleum products.

The disadvantage of complex formation is the low stability of the coherent substances to atmospheric and soil moisture, as well as the variable temperature resulting in the destruction of this composite material. The volume of waste after complex formation decreases only 2 times. It should be noted that when applying the chemical method of purification of soils from petroleum products, particular importance are the simple compounds formed during the interaction of chemical reagents with impurities of fuel and lubricants (sulfur, nitrogen, etc.). They must be non-toxic, not harmful to the environment.

Conclusions. When using the chemical method of soil treatment from fuel and lubricants, the distribution, the cost of chemical reagents used, the peculiarities of their interaction with impurities of petroleum products, the impact on the environment is taken into account.