
Study of in-situ washing remediation of oil-polluted soil using a surfactant

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A column water flow test was conducted in the laboratory assuming in-situ washing remediation using a surfactant on oil-contaminated soil. Then, the surfactants and the methods with the more superior effect of the washing processing were examined. Nine types of non-ion surfactants, prepared the hydrophilicity-hydrophobic index (HLB value) for 8-13, based on two types of polyoxyethylene alkyl ether, were used. As a result, the hydrophilic material with a high HLB value showed a high remediation effect. The remediation effect was also high in the treatment method of filling with a high concentration of surfactant by ground injection, allowing to stand for 24 to 48 hours, and then rinsing with water. The treatment method, in which the surfactant is uniformly dissolved in the water used and passed through the soil, was less effective than the ground injection method, when washing oil-contaminated soil with the same amount of surfactant and water.
