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(54) Title: A METHOD OF TREATING OILY SOLID PARTICLES

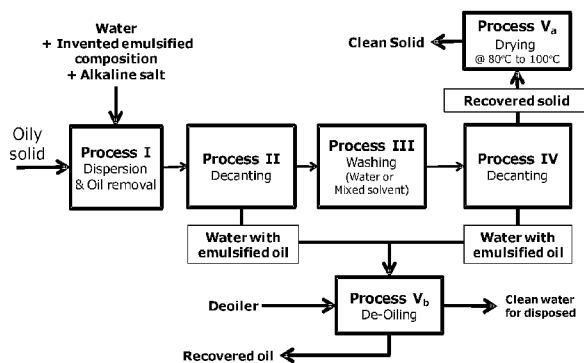


Figure 1

(57) Abstract: A method of cleaning oily solid particles entrapping heavy crude oil comprises the steps of creating electrostatic repulsion in between the surface of the oily solid particles and the entrapped heavy crude oil through negatively charging the surface of the oily solid particles with a basic solution; reacting the oily solid particles with an emulsified composition containing light hydrocarbon in the presence of the basic solution to displace the entrapped heavy crude oil from the surface of the oily solid particles using the light hydrocarbon; separating the reacted oily solid particles into a liquid phase and a solid phase; and removing residues of the emulsified composition from solid phase, wherein the emulsified composition comprises a surfactant in 2 to 40% by weight of total composition selected from alkyl polyglycosides, glyceryl-based surfactant, polyglyceryl-based surfactant, sucrose-based surfactant, sorbitol fatty acid esters, sulfofatty acid methyl esters, acylated aminoacids, acyl glutamates, acyl glycinate, acyl alaninate, lauroyl sarcosinate, nopol alkoxylates; a co-surfactant in 1 to 30% by weight of total composition selected from the group consisting of C3 to C18 alcohols, C3 to C18 alkyl lactates, lecithins, C3 to C18 fatty acids, diols, amino acids and any mixtures thereof; an oil phase in 15 to 90% by weight of total composition; and an aqueous phase in 0.5 to 20% by weight of total composition.



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