

Biodegradable natural surfactants obtained from plants can be an attractive alternative to synthetic surfactants in the remediation of contaminated soils. In this research, a plant-based surfactant obtained from the fruit pericarp of *Sapindus mukurossi*, a tree generally grown in tropical regions of Asia, is tested. A simple and economical method for the preparation of the surfactant is developed. An empirical formula for the surfactant was determined to be  $(C_{26}H_{31}O_{10})_n$ . The aqueous solubilities of hexachlorobenzene (HCB) and naphthalene in the natural surfactant solutions were found to vary linearly with the concentration of the surfactant showing trends comparable to that of typical commercial surfactants. Natural surfactant solutions were also employed for flushing HCB from one-dimensional soil columns. HCB recoveries after 12 pore volumes of flushing with 0.5 and 1% natural surfactant solutions were 20 and 100 times more than that recovered by water flooding. These promising results warrant further research to establish the usefulness of plant-based surfactants for soil washing applications.