Removal of Heavy Metals by Natural Adsorbent: Review

R. Sabreen Alfarra*, N. Eman Ali, Mashita Mohd Yusoff

1Faculty of Chemical and Natural Resources Engineering, University Malaysia Pahang, Malaysia

2Faculty of Industrial Sciences and Technology, University Malaysia Pahang, Malaysia

3Lebuhraya Tun Razak, Gambang, 26300, Kuantan, Pahang, Malaysia

ABSTRACT

Water pollution by heavy metals has been recorded as a major problem in the global context. It occurs due to the direct and indirect discharge of diverse chemicals into the water bodies without sufficient treatment to reduce and diminish the harmful compounds. Many methods and materials are used in heavy metal removal from water. Biosorption by plant leaves is a potent and environmentally alternative technique for heavy metals removal from water. This review article revises the most recent studies of biosorbents such as plants'' leaves, plants' seeds, barks, and agricultural wastes and their efficiency on heavy metals adsorption, like Lead. Cadmium, Mercury, Chromium, Arsenic, Copper, Zinc and Nickel. This literature revision draw the base line of our ongoing study which explores the removal efficiency of Moringa oleifera leaves on cadmium and the sorption properties of the plant Moringa oleifera Lam. leaves for decontamination of Cd at laboratory scale.

KEYWORDS: Biosorbents, water treatment, Moringa oleifera, Cadmium, Heavy metals

DOI: 10.12692/ijb/4.7.130-139