

Heavy metals play an important role in the metabolic processes of the biota, some of them are essential for organisms as micronutrients such as cobalt, chromium, nickel, iron, manganese and zinc. They are involved in redox processes, to stabilize molecules through electrostatic interactions, as catalysts in enzymatic reactions, and regulating the osmotic balance. Physicochemical methods have been used, such as electrochemical treatment, ion exchange, precipitation, reverse osmosis, evaporation, and sorption (Congeevarama et al., 2007). Thus, bioremediation affords a substitute to destroy or reduce the harmful contaminants through biological activity and this method is cost effective (Salem et al., 2012). However, at high levels, both of the essential and non essential metals become toxic to the organisms (Rathnayake et al., 2010). In addition, these metals cannot be degraded to harmless products and hence persist in the environment indefinitely.