



15 - Application of dairy sludge derived products for removal of pollutants from the industrial effluents: A way to sustainable disposal

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Available online 7 October 2022, Version of Record 7 October 2022.

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<https://doi.org/10.1016/B978-0-323-85584-6.00016-9>

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Abstract

Effluents discharged from electronics manufacturing industry, thermal power plants, electroplating industries, mining, and tanneries are the prime sources of toxic heavy metal pollutants that contaminate freshwater bodies and posing risks to living organisms and the environment. Besides these, the wastewater discharged from textile, ceramic and leather industries contains various toxic high colored organic dyes that can act as a mutagen or carcinogen even at lower concentrations affecting mankind and aquatic organisms. Therefore, it is necessary to treat these effluents coming from industries containing toxic heavy metals and carcinogenic dyes by industry or by government mechanism before discharging them into water bodies. Easy availability and the presence of several functional groups in biowastes such as cheese, whey protein make them remarkable renewable adsorbents that can be applied for adsorptive removal of heavy metals and dyes from contaminated water. Major water pollutants are heavy metals and portable water polluted with higher concentrations of heavy metals, i.e., above the permissible limit recommended by WHO could induce cancers, diabetes, hypertension, kidney disorders, lung diseases, brain damage and may even be fatal to living organisms.

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