The Relationship between the Industrial Sewages Characteristis and Heavy Metals Resistance Bacteria in order to Biological Treatment

A. Nasr-e-Azadani[1•], M. Hoodaji[2], A. Tahmourespour[3] and Sh. Kabirinegad[1]

1. M.Sc. Student of khorasgan university
2. Assistant Prof. of khorasgan university
3. Instructor of khorasgan university

Tolerance to heavy metals in microbial communities present in industrial sewages contaminated with these poisonous compounds that are derived as a result of metal pollutants,s contact with this microbial communities can be influenced by of the physicochemical and biological properties of the source of pollutant. Therefore, investigation the relationship between the bacterial resistance and these factors that are used as a biological treatment method to effective removal of heavy metals from sewages and even soils contaminated with metals can provide an optimum condition for a better result to biological decontamination. In order to this aim, three samples of industrial sewages of Isfahan Zob-Ahan factory (poisonous(1), first of the main drainage(2) and an usual industrial sewage(3)) were selected and sampled. pH, EC, BOD, COD and the concentration of heavy metals were specified. In order to isolate and count bacterial resistance to Lead, Zinc and Cadmium, 0.5 cc from every sample in 3 dilution and 2 replication were cultured by spread plate method on PHG-II agar and after 3 to 5 days incubation in 30°C, number of bacterial resistance to every metal per mL sewage, were calculated based on the number of colony, volume of sample and dilution. Analysis of data were done by SASS. Results showed a negative and not significant correlation between the pH and EC with the number of bacterial resistance to heavy metals. About BOD, was seen a negative significant correlation(r=0.93) to Lead and Zinc. COD had a high positive significant correlation with bacterial resistance to Lead and Zinc(r=0.99).

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* Corresponding author   Email:a_nasr59@yahoo.com