

Internship Program

Report on experiments

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INTERNSHIP TOPIC-BIOREDUCTION OF Cr (VI) and
WASTEWATER & WATER QUALITY TESTING.

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BIOREDUCTION OF Cr(VI):-

INTRODUCTION:Cr(VI) is very kercenogen.In this Biological method of reducing of Cr(VI) to Cr(III), Bacteria are used.

HOW Cr(VI) IS CONVERTED INTO Cr(III):

Bacteria takes nutrients from media and the nutrient get converted into glucose .During this process, Carbon releases free electrons .Cr(VI) has structural similarity as sulphate, due to this ,protein present in cell membrane of Bacteria called transpoter, allow Cr(VI) to enter inside the cell. Inside the Bacteria cell ,it produces Enzymes. Cr(VI) gets bind with the Enzymes. By getting electrons carbon (glucose), Cr(VI) is converted into Cr(III). This process can be happened in three path which are :

(i).Interacellular (ii).Cell membrane (iii).extracellular

APPLICATION OF THIS METHOD:

(I).This is Eco-friendly method.

(II).This can be applied on large area contaminated by Cr(VI).

(III).This does not add more chemicals to that prone area as chemical reduction method of Cr(VI).

(IV).This is not difficult as physical method of reduction of Cr(VI).

WASTEWATER & WATER QUALITY TESTING :-

INTRODUCTION:

Wastewater: The quality of wastewater discharged from domestic use, different industries, commercial & institution and agriculture purposes are tested before releasing to water bodies.

Water: The quality of water before supplying to the public must be tested.

After testing, if required that means, the concentration of impurities are in excess quantity, they must be treated.

So, that in case of wastewater, it will less pollute the water bodies as possible. And, in case of water supply to the public, it will less affect the Human Body.

WASTEWATER & WATER PARAMETERS :-

***PH. CONDUCTIVITY, ACIDITY, ALKALINITY, TOTAL SOLID, SUSPENDED SOLID, DISSOLVED SOLID, ORGANIC and INORGANIC SOLID, CHLORIDE, SULPHIDE, C.O.D., B.O.D., T.O.C., SULPHATE, NITRATE, PHOSPHATE, etc.**

APPLICATION:-

(I).The quality of water & wastewater are determined.SO, if impurities present ,it is possible to minimize .

(II).This makes easy for engineers that the wastewater and water will be treated for which particular impurity.