



Physicochemical Analysis of Wastewater from Chemistry Laboratory of St. Joseph's College, Jakhama, Nagaland

Vineinu Rhetso, A. Chubarenla, Sharonbeni and Daniel Kibami*

Department of Chemistry, Kohima Science College, Jotsoma, Nagaland, 797002, **INDIA**
Email: danielkibs80@yahoo.co.in

Accepted on 3rd July, 2023

ABSTRACT

Wastewater from laboratory is a type of wastewater containing certain contaminants as a result of using mixtures of chemicals by the students or researchers while carrying out their practical's in institutions. The discharge of this wastewater without proper treatment into the lands or through improper drainage systems can be hazardous to the environment as well as human health in the long run. The main objective of this study is to analyze the physicochemical parameters of a lab wastewater and see its impact on the environment. Four samples were collected from the chemistry laboratories of St. Joseph's College, Jakhama, Nagaland. After which the experiment was carried out from the chemistry laboratory of Kohima Science College, Jotsoma and during which the samples were labeled as Sample-1, 2, 3 and 4 respectively. In this study, the 15 Physico-chemical parameters that were considered and analyzed using Standard Analytical Method were pH, TDS, EC, ORP, Salinity, Total Hardness, Alkalinity, DO, Chloride, Iron, Sulfate, Phosphate, Nitrate, Sodium and Potassium, respectively. After the determination, the resulting values were compared with the limited values directed by BIS and WHO Standards for drinking water. Thus, after all the thorough analysis and comparison, the study revealed that some collected samples were very acidic and contain some parameters which were at a very high concentration hence needs a proper treatment before directly discharging onto the environment and it is suggested that institutions should be provided with proper drainage systems for cleaner and safer environment.

Graphical Abstract:

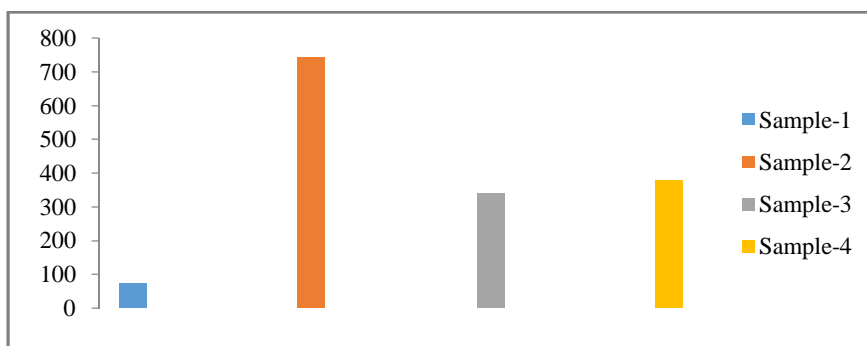


Chart showing ORP values of the four samples.

Keywords: Benzothiazole, Heterocycles, Aromatics, Antimicrobial, Biocidal.