Review – Techniques involved in (Water Chemistry) Heavy Metal analysis.

Thangamalathi S[1], Anuradha V[2*]

[1]Research Scholar, Department of BioChemistry, Mohamed Sathak College Of Arts & Science, Sholinganallur – 600119, TamilNadu, India.

[2]Assistant professor and Research Supervisor, Department of BioChemistry, Mohamed Sathak College Of Arts & Science, Sholinganallur – 600119, TamilNadu, India.

[*]Corresponding author e.mail: vanuradha.2003@gmail.com

ABSTRACT

The chemical components in water and changes can control the ecology, ecological characteristics, hydrology and interactions with the atmosphere and geo - sphere control water chemistry. This review explains, the occurrence of heavy metals in water bodies can be natural origin – eroded minerals within sediments, leaching of ore deposits and volcanism extruded products and anthropogenic in nature – solid waste disposal, industrial or domestic effluents, harbor channels dredging. The term heavy metal includes essential and non – essential trace metals, which maybe toxic to the organisms depending on their own properties, availability and concentration levels. Heavy metals can be present in the aquatic system in both dissolved forms and particulates ones. The dynamics which regulates the transference of heavy metals between the dissolved and the particulate phases depends on the pH and oxide – reduction potential of the system. Also these parameters regulate the chemical speciation of heavy metals within the system. Different analytical methods are available to determine metals within aquatic samples. The main analytical methods can be applied to determine metal concentrations in water samples are classical methods, spectrometric method, FAAS, ETAAS, ICP – MS, Electrochemical and chromatographic techniques. Other techniques are Luminescence, X – RFC and Neutron activation analysis. In particular case of mercury, most successful one is cold vapour – atomic absorption spectroscopy. The main goal of this chapter is deals with the instrumental techniques to determine the heavy metals, trace elements and major metals in natural waters.