

Editorial Note on Heavy Metals

Bala Sundaram*

Department of Chemistry, Osmania University, Hyderabad, India

Editorial

Environmental contamination is one of the most pressing issues confronting modern society. Heavy metal pollution and poisoning of the environment is a major hazard to the ecosystem. Because of their toxicity, endurance in the environment and bioaccumulative nature, heavy metals are well-known environmental contaminants. Heavy metals are naturally occurring elements having a high atomic weight and at least five times the density of water. Cr, Ni, Cu, Zn, Cd, Pb, As and Hg are some of the most environmentally dangerous heavy metals and metalloids.

Since the Earth's creation, these heavy metals have been found naturally on the Earth's crust. The massive growth in the usage of heavy metals has resulted in an impending influx of metallic compounds in both the terrestrial and aquatic environments.

Metals are not biodegradable and cannot be broken down. Metal ions can be detoxified by concealing the active ingredient inside a protein or storing them in an insoluble state in intracellular granules to be expelled in the organism's faeces or stored for lengthy periods of time.

Heavy metals are toxic to humans and their exposure has grown as a result of industrial and anthropogenic activities, as well as contemporary industrialisation. The dose, method of exposure and chemical species, as well as the age, gender, genetics and nutritional state of those exposed, all influence their toxicity.

Industrial and mining processing for mineral resource extraction, as well

as their subsequent applications for industrial, agricultural and economic development, have resulted in an increase in the mobilisation of these elements in the environment, as well as disruption of their biogeochemical cycles. Toxic heavy metal contamination of aquatic and terrestrial ecosystems is an environmental issue that is a public health risk. Heavy metal exposure has skyrocketed as a result of the twentieth century's industrial activity. The most frequent heavy metals that cause human poisoning are mercury, lead, chromium, cadmium and arsenic.

Water is a vital resource for the survival of all species on the earth. The overpopulation, human activities, rapid industrialisation, unskilled exploitation of natural water resources and unplanned urbanisation has all had a negative impact on water quality. Heavy metals are naturally poisonous, causing significant health problems in humans and animals even at extremely low concentrations.

Heavy metal toxicity and carcinogenicity is dosage dependant. Animal and human reactions to high-dose exposure are severe, resulting in greater DNA damage and neuropsychiatric problems. Heavy metal toxicity is generally caused by the production of reactive oxygen species, the inactivation of enzymes and the inhibition of antioxidant defences. Different heavy metal toxic processes expand our understanding of their detrimental effects on bodily organs, allowing for improved management of animal and human poisonings.

Heavy metals enter the body through a variety of routes, including drinking water, breathing air, eating food, and, on rare occasions, cutaneous exposure. Heavy metals are retained after absorption and accumulate in the human body. Harmful metal bioaccumulation has a wide range of toxic consequences on various bodily tissues and organs.

How to cite this article: Bala Sundaram. "Editorial Note on Heavy Metals". *J Environ Anal Chem* 8 (2021): 324.

*Address for Correspondence: Sundaram Bala, Department of Chemistry, Osmania University, Hyderabad, India, E-mail: blscsc89@gmail.com

Copyright: © 2021 Bala S. This is an open-access article distributed under the terms of the creative commons attribution license which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Received 06 July, 2021; **Accepted** 11 July, 2021; **Published** 16 July, 2021