



## Metalloid Knew for their Potential Toxicity in Environmental Conditions

Marie Vahter\*

Department of Environmental Medicine, University of Karolinska, Sweden

### DESCRIPTION

Metal toxicity or metal poisoning is the toxic effect of certain metals in certain forms and doses on longevity. Some metals become toxic when they form toxic soluble compounds. Certain metals have no biological role. They are neither essential minerals nor toxic in any particular way. In the case of lead, measurable amounts can have adverse health effects. Although it is often believed that only heavy metals are toxic, lighter metals such as beryllium and lithium can also be toxic in certain circumstances. Not all heavy metals are particularly toxic, and some, like iron, are essential. This definition may also include trace elements whose unusually high doses can be toxic. One of his options for treating metal poisoning is chelation therapy, a technique that uses chelating agents to remove metals from the body. Toxic metals can mimic the actions of essential elements in the body, disrupting metabolic processes and causing disease. Many metals, especially heavy metals, are toxic, but some heavy metals are essential and others, such as bismuth, are less toxic. In most cases, the definition of toxic metals includes at least thallium, cadmium, manganese, lead, mercury, and radioactive metals. Metalloids (arsenic, polonium) can be included in the definition. Radiometals are both radiotoxic and chemically toxic. Metals that are in an unusual oxidation state for the body can also become toxic. Chromium (III) is an essential trace element, while Chromium (VI) is a carcinogen. Toxicity is a function of solubility. Insoluble compounds, like metal forms, often have negligible toxicity. The toxicity of each metal depends on the ligand. In some cases, organometallic forms such as methyl mercury and tetraethyl lead can be highly toxic. In other cases, organometallic derivatives such as the cobaltocenium cation are less toxic. Decontamination of toxic metals is different from organic toxins. Toxic metals are elements, so they cannot be destroyed. Toxic metals can be insolubilized or collected, possibly with the help of

chelating agents or bioremediation. Alternatively, it can be diluted into a sufficiently large reservoir such as the ocean, as direct toxicity depends on concentration rather than quantity. Another method of decontaminating heavy metals in soil is phytoremediation and is to use method called this method uses plants to extract toxic heavy metals in the soil and reduce their levels. This is especially noticeable with radioactive heavy metals such as radium, which mimic calcium to the point of being incorporated into human bones, but similar health effects are seen with lead or mercury poisoning. Heavy metals “can bind to important cellular components such as structural proteins, enzymes, and nucleic acids, impairing their function.” Symptoms and effects depend on the dose involved with the metal or metal compound. In general, long-term exposure to toxic heavy metals can have carcinogenic effects on the central nervous system, peripheral nervous system, and circulatory system. For humans, the table presents typical phenomena associated with exposure to “classical” toxic heavy metals, chromium (another toxic heavy metal) or arsenic (asemimetal). Chelation therapy is a medical procedure that uses chelating agents to remove heavy metals from the body. Chelating agents are molecules with multiple electron-donating groups that can form stable coordination complexes with metal ions. Complexation prevents metal ions from reacting with molecules in the body, allowing them to dissolve in the blood and be excreted in the urine. Use only in people diagnosed with metal poisoning. This diagnosis should be verified by tests performed on appropriate biological specimens.

### ACKNOWLEDGEMENT

None.

### CONFLICT OF INTEREST

Author declares that there is no conflict of interest.

<b>Received:</b>	31-January-2023	<b>Manuscript No:</b>	IPJHMCT-23-15860
<b>Editor assigned:</b>	02-February-2023	<b>PreQC No:</b>	IPJHMCT-23-15860 (PQ)
<b>Reviewed:</b>	16-February-2023	<b>QC No:</b>	IPJHMCT-23-15860
<b>Revised:</b>	21-February-2023	<b>Manuscript No:</b>	IPJHMCT-23-15860 (R)
<b>Published:</b>	28-February-2023	<b>DOI:</b>	10.21767/2473-6457.23.8.007

**Corresponding author** Marie Vahter, Department of Environmental Medicine, University of Karolinska, Sweden, E-mail: vahter.m@ki.se

**Citation** Vahter M (2023) Metalloid Knew for their Potential Toxicity in Environmental Conditions. J Heavy Met Toxicity Dis. 8:007.

**Copyright** © 2023 Vahter M. 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.