

Chromium (Cr)

Definition

Chromium(Cr) is a naturally occurring element found in rocks, animals, plants, and soil that can exist in different chemical forms: Cr(VI) and Cr(III).

Where Does Cr Come From?

Industries associated with Cr use include leather tanning operations, metal processing, stainless steel welding, chromate production and chrome pigment production (among others). Cr(VI) can be present as chromate pigments in dyes, paints, inks and plastics. Cr is heavily used in the automotive industry and it is also an impurity present in Portland cement.

How Might I Be Exposed To Cr?

Through industrial processes and improper management of waste products which can result in Cr-contaminated air, water, soil and food. Common routes of exposure are ingestion, inhalation and skin contact with soil, water, or particulates in contaminated air. Skin exposure can occur during direct handling of Cr(VI)-containing solutions, coatings, and cements.

Potential Health Effects

Cr(VI) poses a greater health risk than Cr(III) due to its higher toxicity including damage to the gastrointestinal, respiratory and immunological systems, as well as reproductive and developmental problems. Cr(VI) is a known human carcinogen and renal toxicant that has high acute toxicity. Breathing high levels of Cr can cause irritation of the nose such as ulcers and perforation, breathing problems, asthma, cough, shortness of breath, or wheezing.

How Can I Reduce The Risk Of Exposure To Cr?

With prevention and control measures in Cr-contaminated environmental/occupational areas. Avoid playing in soils near uncontrolled hazardous waste sites where Cr may have been discarded. It is a component of tobacco smoke, therefore, avoid smoking in enclosed spaces.



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