

Total Chromium (Cr)

What is Chromium?

Metallic elemental chromium (chrome) does not occur naturally in the environment. It is used to make steel and other metal alloys and is produced from chrome bearing ore.

Trivalent chromium occurs naturally in the environment and can be found in rocks and soil. It can also be found in fruits, vegetables, and meat. It is used to make bricks, metal alloys, and chemical compounds.

Hexavalent chromium does not occur naturally in the environment. It is produced by certain chemical processes and is considered toxic.

Chromium is a naturally occurring element found in rocks, animals, plants, and soil. It can exist in several different forms. Depending on the form it takes, it can be a liquid, solid, or gas. The most common forms are chromium (0), chromium (III), and chromium (VI). No taste or odor is associated with chromium compounds. The metal chromium, which is the chromium (0) form, is used for making steel. Chromium (VI) and chromium (III) are used for chrome plating, dyes and pigments, leather tanning, and wood preserving.

Does Chromium have any additional names?

Total Chromium, Elemental Cr, Trivalent Cr (III): Cr³⁺, Hexavalent Cr (VI): dichromate, Hexavalent Cr (VI): chromate

What are the known health effects?

Trivalent chromium is an essential nutrient that helps the body use sugar, protein, and fat. Hexavalent chromium can cause nausea, gastrointestinal distress, stomach ulcers, skin ulcers, allergic reactions, kidney and liver damage, reproductive problems, lung and nasal cancer.

How does exposure occur?

Exposure to chromium comes from eating foods containing chromium, drinking contaminated water, breathing contaminated workplace air, or living near uncontrolled hazardous waste sites containing chromium or industries that use chromium. Children should avoid playing in soils near uncontrolled hazardous waste sites where chromium may have been discarded.

Is this contaminant regulated?

Yes, and water supplied to Mount Laurel MUA customers is in compliance with USEPA and NJDEP requirements. The maximum concentration of Chromium permitted in drinking water is 100 ppb; water supplied by the MLTMUA system has a detected a maximum of 1.53 ppb.

How can I reduce exposure?

Chromium can be removed by point of use treatment such as reverse osmosis or distillation.

Additional information regarding Chromium, including the information referenced, can be found at:

<https://www.atsdr.cdc.gov/ToxProfiles/tp7-c1-b.pdf>

https://www.wqa.org/Portals/0/Technical/Technical%20Fact%20Sheets/2016_Chromium.pdf