

Facts About Chromium

What is chromium?

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), which is also known as hexavalent chromium. No taste or odor is associated with chromium compounds.

How is chromium used?

Metallic chromium, which is the chromium(0) form, is used for making steel. Chromium(VI) and chromium(III) compounds are used in a number of industrial processes, including chrome plating, dye and pigment manufacturing, leather tanning, and wood preserving.



How might I be exposed to chromium(VI)?

- Breathing air that contains chromium(VI).
- Eating food or unintentionally swallowing dirt that contains chromium(VI).
- Drinking contaminated water.
- Skin contact with soil that contains chromium(VI).

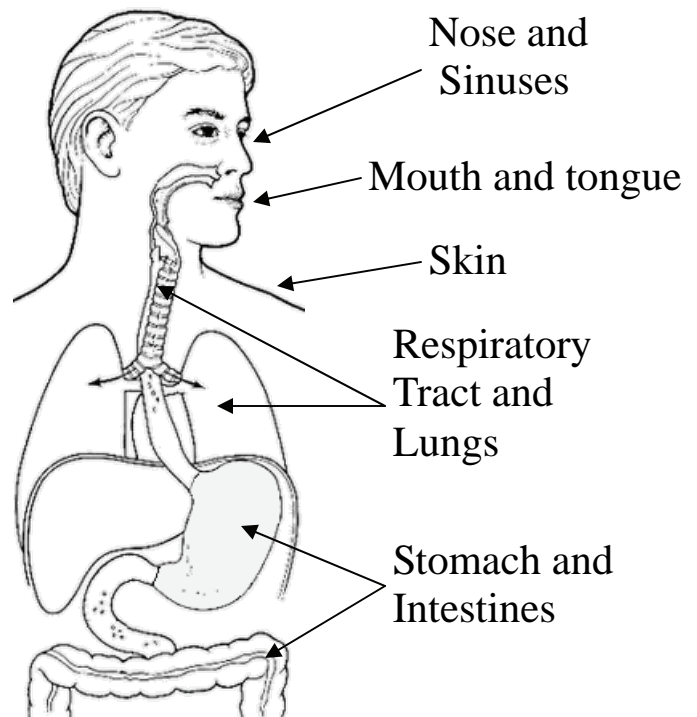
How can chromium(VI) affect my health?

- Breathing high levels of chromium(VI) can cause irritation to the lining of the nose, nose ulcers, runny nose, and breathing problems such as asthma, cough, shortness of breath, or wheezing. For persons in industrial or occupational environments, it has been shown to cause nose, sinus, and lung cancers.

- Ingestion of soil, food, or water that contains chromium(VI) can cause irritation, ulcers in the stomach and intestines, and anemia (this means your body does not have enough healthy red blood cells). In animals, ingestion of chromium(VI) in drinking water has been shown to cause cancers of the mouth, tongue, and intestines.
- Direct contact with some chromium(VI) compounds on your skin can cause skin ulcers. Allergic reactions consisting of severe redness and swelling of the skin have been seen in some people who are very sensitive to chromium(VI).

After an extensive review of currently available health information, the U.S. Environmental Protection Agency (EPA) and the Missouri Department of Health and Senior Services (MDHSS) are not aware of any studies indicating that chromium(VI) is associated with primary brain or central nervous system tumors.

Where can chromium(VI) affect your body?



UPDATE: Results of May 2009 Northwest Missouri Farm Field Sampling

What are the farm field sampling results and their impact to human health?

On May 1, 2009, Missouri Department of Natural Resources (DNR) and U. S. Environmental Protection Agency (EPA) Region 7 representatives collected a total of eight soil samples from three farm fields in Buchanan, Andrew and DeKalb counties where sludge from the National Beef Leathers tannery (formerly Prime Tanning) has been applied as fertilizer. Chromium(VI) was detected in five of the eight soil samples, at levels ranging from 20 to 49 parts per million.

EPA and Missouri Department of Health and Senior Services (MDHSS) have reviewed these results using the latest scientific information to evaluate potential risks to human health from exposure to chromium(VI). EPA and MDHSS conclude that these levels are not of potential health concern even for the farmers who routinely work these fields and for the families who live adjacent to the fields. In addition, the sample results do not indicate a potential health concern for visitors or for nearby communities.

Investigation into the levels of possible chromium(VI) present on farm fields in northwest Missouri is ongoing, and additional soil sampling activity is being planned. EPA, the Missouri Department of Natural Resources (MDNR), and the Missouri Department of Health and Senior Services (MDHSS) are committed to sharing the results of future sampling and any conclusions or recommendations as the investigation continues.



To talk to someone about health effects caused by exposure to chromium(VI), contact:

- **Jonathan Garoutte, Missouri Department of Health and Senior Services**
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- **Kelly Schumacher, U. S. Environmental Protection Agency**
Phone: (913) 551-7963. E-mail: schumacher.kelly@epa.gov

For more information about chromium, go to:

- <http://www.atsdr.cdc.gov/tfacts7.html>
- <http://www.atsdr.cdc.gov/toxprofiles/tp7.html>