

# Hexavalent Chromium Release Frequently Asked Questions

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# **Chromium Related Questions**

## **1. What is chromium?**

Chromium is an odorless and tasteless metallic element. Chromium is found naturally in rocks, plants, soil and volcanic dust, humans and animals. The most common forms of chromium that occur in natural waters in the environment are trivalent chromium (chromium-3), and hexavalent chromium (chromium-6).

Chromium-3 is an essential human dietary element and occurs naturally in many vegetables, fruits, meats, grains and yeast. Chromium-6 occurs naturally in the environment from the erosion of natural chromium deposits but it can also be produced by industrial processes. There are demonstrated instances of chromium being released to the environment by leakage, poor storage, or inadequate industrial waste disposal practices.

## **2. What are some uses for chromium?**

Metallic chromium is used mainly for making steel and other alloys. Chromium compounds in either the chromium-3 or chromium-6 forms are used for chrome plating, dyes and pigments, leather and wood preservation.

## **3. What are chromium's health effects?**

The federal drinking water standard for total chromium was established in 1991 and is based on the best available science at the time which indicated that continued skin contact with chromium-6 could result in allergic dermatitis (skin reactions). Hexavalent chromium is known to be carcinogenic in people by the inhalation route of exposure. EPA is actively working on the development of an Integrated Risk Information System (IRIS) assessment, which will include a comprehensive evaluation of

potential health effects associated with dermal (skin) exposure, inhalation and ingestion of hexavalent chromium.

#### **4. How does chromium get into my drinking water?**

The most common forms of chromium that occur in natural waters in the environment are chromium-3 and chromium-6. Chromium-3 is in much greater natural abundance in the environment than chromium-6. Both forms are present in water from the erosion of chromium deposits found in rocks and soils. Chromium-6 is also produced by industrial processes and manufacturing activities including discharges from steel and pulp mills among others. At many locations, chromium compounds have been released to the environment via leakage, poor storage, or improper disposal practices. Chromium compounds are very persistent in water as sediments.

#### **5. How will I know if there is chromium in my drinking water?**

EPA strongly encourages people to learn more about their drinking water, and to support local efforts to provide safe drinking water. Your water bill or telephone book's government listings are a good starting point for local information.

Check your water system provider's website or contact your water provider. EPA requires all community water systems to prepare and deliver an annual consumer confidence report, sometimes called a water quality report, to their customers by July 1 of each year.

Consumer confidence reports, or CCRs summarize information regarding water sources used, detected contaminants and compliance. Some CCRs can be accessed at <https://www.epa.gov/ccr>. You can also find answers or ask a

questions about drinking water contaminants by calling EPA's safe drinking water hotline at (800) 426-4791.

If you are concerned about chromium in a private well, please visit <https://www.epa.gov/privatewells>. Consumers served by private wells can have their water tested by a state certified laboratory. You can find information on how to sample for chromium-6 and where to send samples by contacting your state water laboratory certification officer.

## Regulations

### **6. What are EPA's drinking water regulations for chromium?**

EPA has set an enforceable regulation for total chromium, called a maximum contaminant level (MCL), at 0.1 mg/L or 100 ppb. This includes all forms of chromium, including chromium-6. Water systems are required to test for total chromium. States may set more stringent drinking water MCLs for chromium than EPA.

### **7. What is the Emergency Planning and Community Right to Know Act?**

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was created to help communities plan for chemical emergencies. It also requires industry to report on the storage, use and releases of hazardous substances to federal, state, and local governments. EPCRA requires state and local governments, and Indian tribes to use this information to prepare their community from potential risks. For more information on the uses and releases of chemicals in your state, contact the community right-to-know hotline at (800) 424-9346.

### **8. Is total chromium or chromium-6 in drinking water a health concern?**

The current federal drinking water standard for total chromium is 0.1 milligrams per liter (mg/l) or 100 parts per billion (ppb). Chromium-6 and chromium-3 are covered under the total chromium drinking water standard because these forms of chromium can convert back and forth in water and in the human body, depending on environmental conditions. Measuring just one form may not capture all of the chromium that is present. In order to ensure that the greatest potential risk is addressed, EPA's regulation assumes that a measurement of total chromium is 100 percent chromium-6, the more toxic form. If tap water from a public water system exceeds this federal standard, consumers will be notified.

## **9. Why are chromium-6 and chromium-3 covered in the same standard?**

Chromium-6 and chromium-3 are covered under the total chromium drinking water standard because these forms of chromium can convert back and forth in water and in the human body, depending on environmental conditions. Measuring just one form may not capture all of the chromium that is present. In order to ensure that the greatest potential risk is addressed, EPA's regulation assumes that a measurement of total chromium is 100 percent chromium-6, the more toxic form.

## **10. If EPA decides to revise the total chromium regulation that includes chromium-6 in drinking water, what is the process the Agency will follow?**

Prior to EPA making any decisions about revising the chromium drinking water regulation, EPA must issue its final human health assessment for chromium-6. EPA will carefully review the final assessment and consider all other relevant information to

determine if a new drinking water regulation for chromium-6 or a revision to the current total chromium standard is warranted.

## **11. How often does the EPA update the total chromium drinking water standard?**

The Safe Drinking Water Act requires EPA to periodically review the national primary drinking water regulation for each contaminant and revise the regulation, if appropriate. EPA reviewed total chromium as part of the second six-year review that was announced in March 2010. The Agency noted in March 2010 that it had initiated a reassessment of the health risks associated with chromium exposure and that the Agency did not believe it was appropriate to revise the national primary drinking water regulation while that effort was in process.

In September, 2010, EPA released a draft of the scientific human health assessment (Toxicological Review of Hexavalent Chromium) for public comment and external peer review. When this human health assessment is finalized EPA will carefully review the conclusions and consider all relevant information to determine if the current chromium standard should be revised. Additional information regarding the Toxicological Review of Hexavalent Chromium can be found at [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?dirEntryId=221433](https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=221433).

To assess the levels of chromium-6 in drinking water, EPA required selected number of systems to perform chromium-6 monitoring under the third Unregulated Contaminant Monitoring Regulation (UCMR 3). The UCMR 3 required many public water systems to monitor chromium-6 for a one-year period. Results can be found at: <https://www.epa.gov/dwucmr/data-summary-third-unregulated-contaminant-monitoring-rule>

## **Additional Information**

### **12. What agency oversees Wastewater Permitting program in Indiana?**

The Indiana Department of Environmental Management, or IDEM oversees the program

General Information on Indiana's Wastewater Permitting program can be accessed at <http://in.gov/idem/cleanwater/2339.htm>. Specific Information on Indiana's Industrial Wastewater Permits can be found at <http://in.gov/idem/cleanwater/2434.htm>.

### **13. What are EPA's water enforcement authorities and where can I find information about them?**

EPA enforces requirements under the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA). Enforcing environmental laws is a central part of EPA's Strategic Plan to protect human health and the environment. Additional information is available at <https://www.epa.gov/enforcement/water-enforcement>.

### **14. Where can I find information regarding the National Park Service and the Indiana Dunes National Lakeshore?**

The Water Resources Division (WRD) of the National Park service works to conserve, protect and restore water resources in America's national parks. WRD provides assistance, expertise, and guidance for aquatic ecosystem stewardship in national parks. The National Park Service WRD website is at <https://www.nps.gov/orgs/1439/whatwedo.htm>.

The Indiana Dunes National Lakeshore is approximately 15,000 acres in size with 15 miles of shore in Lake Michigan, trails over



dunes, wetlands, prairies, rivers and forests. Information regarding the park is available at <https://www.nps.gov/indu/index.htm>.

**15. Will EPA take any follow-up actions associated with the chromium release that took place on April 11, 2017?**

U.S EPA will continue to work with authorized state programs to assess any appropriate follow-up actions within the scope of our federal authority.

If you are interested in reporting possible violations to environmental laws and regulations, you can provide this information to EPA environmental enforcement personnel and regulatory authorities by accessing the EPA Enforcement website at <https://www.epa.gov/enforcement/report-environmental-violations>.