

Chromium 6 PHG Talking Points*

- California state scientists have released a public health goal (PHG) for hexavalent chromium, also known as chromium 6, in drinking water. This completes the first step in the rigorous process of developing the first regulatory drinking water standard in the nation specifically for hexavalent chromium.
- The current drinking water standard for “total chromium” was established several decades ago to address the toxic effects of chromium, including but not limited to chromium 6, the form of chromium that is of public health concern. The state’s total chromium standard of 50 parts per billion (ppb), which includes less-toxic chromium 3 as well as chromium 6, will remain in effect until a drinking-water standard specific for chromium 6 is established.
- The PHG, developed by Cal/EPA’s Office of Environmental Health Hazard Assessment (OEHHA), identifies a level of a contaminant in drinking water that OEHHA determines poses no significant public health risk when consumed over a lifetime. A PHG is not an enforceable regulatory standard. State law requires the California Department of Public Health (CDPH) to use the PHG as guidance in developing a Maximum Contaminant Level (MCL), the enforceable state standard for drinking water that public water systems must meet.
- The PHG of 0.02 parts per billion (ppb) identifies a level of chromium 6 in drinking water that would not pose a significant risk of cancer. At that level, not more than one person in a population of one million people who consume a half-gallon of water daily for 70 years would be expected to develop cancer as a result of exposure to chromium 6. The “one-in-one million” risk level is widely accepted in the medical and scientific communities as the “negligible risk” level.
- PHGs are established solely on the basis of health-effects data and cannot consider technical or economic feasibility. PHGs are sometimes at levels lower than can be detected or attained with current treatment technologies. The PHG for chromium 6 is below the limit of detection. State law requires CDPH to set drinking water standards as close to the corresponding PHG as economically and technically feasible, placing primary emphasis on protection of public health.
- A PHG is NOT a boundary line between a “safe” and “dangerous” level of a contaminant, and it is not considered the highest level of a chemical that is safe to drink. Drinking water containing chemical levels exceeding the PHGs can still be considered acceptable for public consumption. The purpose of the PHG is to provide scientific guidance to CDPH in developing a regulatory drinking water standard, which is officially called a “Maximum Contaminant Level” or “MCL.”
- PHGs are not developed as regulatory levels for cleanup of groundwater or surface water contamination.

- The PHG for chromium 6 is based on long-term exposure, also referred to as chronic exposure. The PHG should not be used to estimate risks from short-term exposures.
- Exposure to chromium 6 from breathing dust or fumes (such as by workers in a chromium plating facility) is considered much more dangerous than exposure from drinking water. When chromium 6 in dust or fumes is inhaled, its cancer-causing potency is estimated to be about 1000 times greater than when it is ingested in drinking water. Although some chromium 6 in drinking water can be inhaled during showering, the exposure is relatively low and the cancer risk is very small compared to ingestion.
- The PHG is based on a major study of the health effects of chromium 6 in drinking water that the federal National Toxicology Program (NTP) completed in 2007. OEHHA, CDPH and other entities petitioned NTP several years ago to conduct the study to produce critical toxicological data from animal studies needed to develop a PHG and MCL for chromium 6. The PHG and MCL, when finalized, are expected to be the first in the nation developed specifically for chromium 6.
- OEHHA held a public workshop, two public comment periods, and requested two external scientific peer reviews overseen by the University of California prior to finalizing the PHG document. OEHHA made changes to its PHG document in response to public and peer-review comments, and has released a document containing its responses to major public and peer-review comments.
- CDPH will proceed with the MCL process, which is subject to the Administrative Procedure Act. CDPH will assess treatment technologies, analytical capabilities, costs to public water systems, provide an opportunity for public comment, and set the MCL at a level that is considered both protective of public health and feasible to achieve. The MCL process is explained in more detail at the following CDPH web site: <http://cdph.ca.gov/certlic/drinkingwater/Pages/MCLprocess.aspx>.
- For several years, the cities of Glendale, Burbank, and Los Angeles have been voluntarily providing treatment to limit the chromium 6 levels in their drinking water. The experience of these communities in the treatment of water containing chromium 6 will be helpful in CDPH's evaluations of treatment technologies and associated costs, which are required as part of a proposed MCL regulation package.
- Adequate water intake is essential to maintain health. The World Health Organization estimates that adult water requirements (obtained in the form of water as well as all drinks and foods) may range from about a half gallon a day to over a gallon per day depending on many factors such as work and exercise, heat and humidity, age, sex, clothing, etc. Women who are pregnant or nursing have additional requirements. Bottled water is not required to meet any higher standard than California tap water. Other beverages, such as fruit juices, soda and energy drinks, should never be viewed as acceptable substitutes for water. People should not interpret this PHG as a reason to limit their tap water consumption.

*These talking points were developed by OEHHA with the participation of CDPH.