



*Healthy people and places*

**CHROME6 (HEXAVALENT CHROMIUM) IN  
MADISON DRINKING WATER SUPPLIES - SUMMARY REPORT**

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In December 2010, a report issued by the Environmental Working Group (EWG) suggested that the municipal water supplies of the City of Madison contained potentially dangerous levels of hexavalent chromium (Cr VI). As a result of this report and the subsequent coverage of the report by local and national media outlets, local residents have voiced concerns about water quality and potential health impacts related to Cr VI. To address these concerns and provide the public with accurate information, Public Health Madison and Dane County (PHMDC) evaluated the EWG report, water quality regulation and monitoring activities, and relevant scientific literature.

The health risk from exposure to hexavalent chromium in Madison's water is very low. This conclusion was based upon the following information:

- The United States Environmental Protection Agency (US EPA) and the state of Wisconsin regulatory standard for chromium, measured as "total chromium" (Cr III and Cr VI) in drinking water is 100 ppb. To date, the City of Madison municipal drinking water supplies are well within these regulatory requirements.
- Most studies connecting CrVI in drinking water with chronic health problems involve exposing animals to very high concentrations of the metal, ranging from 1,100 to 25,000 ppb per day. Exposures of this magnitude are not relevant to typical levels of Cr VI commonly experienced by the general public and much higher than levels identified in drinking water supplies in the City of Madison.
- One human study of Cr VI contaminated drinking water supplies reported an elevated risk of stomach cancer when participants drank water with high concentrations of Cr VI (approximately 20,000 ppb); however, the results of this study are in dispute. Regardless, this concentration of Cr VI is considerably higher than concentrations reported in drinking water sources in the City of Madison.
- The rate of stomach cancer in Dane County is low and continuing to decline. In fact, these trends are also significantly lower than state or national averages.

- In response to questions raised by the EWG report, the City of Madison Water Utility started an investigation of several Madison drinking water wells; the reported results of the first samples ranged from 0.41 to 1.79 ppb of Cr VI. Additional sampling is expected later this year and will be accompanied by the implementation of a monitoring program to better evaluate Cr VI in all Madison wells.

In summary, the trace amounts of Cr VI found in Madison's drinking water are much lower than the amounts found to cause disease in the health studies completed to date. As a result the risk of illness, specifically stomach cancer, from this exposure is very low. In fact, rates of stomach cancer in our area are low compared with state and national averages and appear to be declining. PHMDC will continue to monitor this issue and any potential developments or improved guidance released from the US EPA.