



October 26, 2009

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California Environmental Protection Agency  
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Re: Draft Public Health Goal for hexavalent chromium in drinking water

To Whom It May Concern:

The Association of California Water Agencies (ACWA) appreciates the opportunity to comment on the draft public health goal (PHG) for hexavalent chromium in drinking water. ACWA represents over 450 public water agencies in California that collectively supply over 90% of the water delivered in California for domestic, agricultural and industrial uses.

ACWA firmly believes in and has consistently advocated for sound science to be utilized in the development of public health goals (PHG). Risk assessments should be carefully crafted in recognition of scientifically validated studies that will appropriately protect public health in California.

The Office of Environmental Health Hazard Assessment's (OEHHA) draft PHG of 60 parts per trillion (ppt) was based largely on the findings of a recent National Toxicology Program (NTP) study that concluded there is sufficient data to classify hexavalent chromium as a carcinogen through the oral route of exposure. The researchers reached this conclusion through selected evidence that hexavalent chromium, when ingested in very high doses, causes cancer of the oral cavity and small intestine in rats and mice.

While we recognize the efforts made by NTP and OEHHA, the known toxicity of hexavalent chromium via inhalation, and the lengthy process that has led to this draft PHG, ACWA is concerned that the results of the NTP study and other referenced studies do not sufficiently demonstrate the human carcinogenicity of hexavalent chromium in drinking water and as a result do not provide justification for the proposed PHG level of 60 ppt (parts per trillion).

As indicated in the draft PHG document, several studies previously estimated that saliva and stomach fluids have the capacity to reduce hexavalent chromium to trivalent chromium in amounts much larger than the "maximum plausible levels of hexavalent chromium in water that would likely be ingested by humans..." The document further asserts that "...exhaustion of the capacity of saliva and gastric fluids to reduce hexavalent chromium appears unlikely."<sup>1</sup> ACWA

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<sup>1</sup> "Draft Public Health Goal for Hexavalent Chromium in Drinking Water," Office of Environmental Health Hazard Assessment, August 2009

understands other studies exist and are referenced in the document providing evidence that complete reduction may not always occur, but believes the administered doses in the NTP study are so large they easily overwhelmed the reductive capacity of both the oral cavity and the stomach in the rodents. This is especially significant as the NTP study did not find excess cancers at the lowered studied doses in both rats and mice. Equally as important, the stomach composition of humans and rodents is very different, with humans having a much more sophisticated and higher level of gastric juices than rodents.

In addition, we have concerns with the interpretation and use of data from two key studies submitted as evidence that hexavalent chromium in drinking water is a human carcinogen. The Borneff *et al* study is seriously flawed due to the fact there was only a single-dose level examined and an ectromelia epidemic affected both control and treated groups with significant loss of mice. This study should not be considered in the development of the PHG. In the work completed by Zhang and Li, not all factors were considered when the authors reached their conclusions including the extremely high levels of hexavalent chromium.

An internal Department of Toxic Substances Control (DTSC) memo recently obtained by our members titled "Hexavalent Chromium Public Health Goal" also expressed some concerns with the conclusions reached in the OEHHA document. ACWA would like to know how those comments have been or will be taken into consideration by OEHHA staff prior to finalizing a draft PHG for hexavalent chromium.

ACWA has a long record of supporting a timely and consistent process for setting public health goals that are developed through regulatory channels and governed by good science. While ACWA has supported OEHHA's efforts thus far to determine the potential human health risks of hexavalent chromium when ingested, we strongly support additional scientific studies and a separate external peer review of the existing technical support document. It would be the intent of these studies and peer review to validate or refute the human carcinogenicity of orally ingesting hexavalent chromium before establishing a final PHG that will be used by the California Department of Public Health to set its maximum contaminant level (MCL). ACWA will be submitting under separate cover a request for an external peer review of the proposed hexavalent chromium technical support document and PHG pursuant to California's Health & Safety Code (§116365).

Our highest priority continues to be protecting public health while ensuring a reliable water supply for consumers and we look forward to working with OEHHA staff on this very important issue.

Thank you for your consideration.

Sincerely,



Danielle Blacet  
Regulatory Advocate