

# Presence of Chromium 6 in Local Water Supplies

September 18, 2012

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# Where does Chromium come from?

- Much of the low level Chromium 6 in drinking water is naturally occurring, reflecting its presence in geological formations throughout the nation.
- Industrial contamination
  - manufacturing of textile dyes
  - wood preservation
  - leather tanning
  - anticorrosion coatings



# What is a Maximum Contaminant Level (MCL)?

- The legal limit on the amount of a certain substance that is allowed in public water systems under the Safe Drinking Water Act
- MCLs are established and enforced by the California DPH
- Exceedence of the MCL requires action by the local water district to notify consumers and reduce the level to below the the MCL.
- MCLs deliberately set well below level expected to cause health effects. This allows for appropriate measures to be taken when MCLs exceeded.
- In setting MCLs, consideration is given to health risks as well as detectability, treatability, and costs of treatment.



# What is a Public Health Goal (PHG)?

- A Public Health Goal (PHG) is a contaminant level guideline published by the California Environmental Protection Agency.
- PHGs are set at levels below which adverse health effects would not be expected. In determining a PHG, focus is on theoretical cancer risk in large populations over long-term exposure (i.e. 70-yr lifetime).
- A PHG is NOT an enforceable standard. It is set without regard to technological factors such as detectability and treatability, or the costs of treatment to reduce a chemical's presence in drinking water.



# What's important to know about PHG v. MCL?

- For Chromium-6, OEHHA estimates that for every one million persons who drink ALL of their daily drinking water from tap water at level of 0.02ppb, every day for 70 consecutive years – there is expected to be one additional case of cancer.
- OEHHA's conservative calculations for PHG are based primarily on animal studies, and do not take into account the comparative biology of animals-to-humans, technological feasibility, detectability, treatability, or cost
- Thus, PHGs are guidelines, which the CA DPH may or may not utilize in order to adopt an enforceable drinking water standard (MCL).



# Comparative Cancer Risks

- A population of 1 million residents is expected to have 333,000 – 500,000 cancers over the lifetime of that population.
- PHG for Chromium-6 at 0.02 ppb equates to 1 additional case of cancer expected to be found in that population of 1 million residents.
- Perspective: Breathing the air in Los Angeles County equates to an excess risk of 100 – 1,200 additional cases of cancer per 1 million residents.

