Hexavalent Chromium (Cr6) Toxicity Re-Assessment

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What is Chromium?

Chromium:

- Naturally-occurring metal – also used industrially: metal plating, pigments
- Present in 2 forms:
  - Trivalent: Cr₃
  - Hexavalent: Cr₆
Chromium & Health

Chromium:

• Cr3 is an essential nutrient – present in vegetable, fruits, meats, grains & many multi-vitamines

• Cr6 can cause cancer
  • Strong evidence by inhalation exposure
  • Weak evidence by oral exposure – relevance to Cr6 in drinking water uncertain

• Cr6 converted to Cr3 in the stomach
Chromium Toxicity Re-Assessment

Re-Assessment Underway:

• Is Cr6 a cancer risk in drinking water?
• Timeframe uncertain
  • EPA is revising toxicity re-assessment priorities in response to National Academy of Sciences – re-assessment schedules being revised.
Chromium – Other Activities

• Cr6 now being monitored in U.S. drinking water systems
• EPA will reconsider the drinking water standard after completion of the toxicity re-assessment
  • “likely that EPA will tighten drinking water standards” (Lisa Jackson)
Summary…

Questions?
MCLs

Maximum Contaminant Limit

• Enforceable drinking water standards set under the Safe Drinking Water Act

• Not purely health- or risk- based
  • Health-based MCL Goals are modified to account for the practicability & cost of treating to meet MCL
  • often less stringent

• MCLs are ARARs
  • Applicable or Relevant & Appropriate
  • $F$ cleanups must meet ARARs (at least)