



## Integrated Risk Information System (IRIS)

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Toxicological Review of Hexavalent Chromium (External Review Draft)

# **IRIS Toxicological Review of Hexavalent Chromium (External Review Draft)**

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### **Federal Register Notices**

FR Notice: Apr 12, 2011  
FR Notice: Nov 10, 2010  
FR Notice: Sep 30, 2010

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## **[UPDATE] New Schedule for IRIS Hexavalent Chromium Assessment**

In Feb 2012, EPA developed a new schedule for completing the IRIS hexavalent chromium assessment, which can be found in IRIS Track ([IRIS Track - hexavalent chromium](#)). Based on the recommendations of the external peer review panel, which met in May 2011 to review the draft IRIS assessment for hexavalent chromium (oral exposure only), EPA will consider the results of recently and soon to be completed peer-reviewed primary research on the chemical before finalizing the IRIS assessment. The oral assessment will be revised to address the peer review comments and combined with the inhalation assessment, which is currently in draft development. EPA anticipates that the draft assessment for hexavalent chromium (oral and inhalation) will be released for public comment and external peer review in 2013.

Hexavalent chromium has been used historically in the chrome plating of metals, as an ingredient in dyes and pigments, in the leather tanning process, and as a wood preservative. It is often released into the environment following the disposal of chromium-containing materials or as a by-product of the processes that use this metal. EPA had determined some time ago that hexavalent chromium can cause cancer in humans when they are exposed to it by breathing, but until recently, little information was available regarding its potential to cause cancer in humans when ingested.

In September 2010, EPA released a draft IRIS assessment for hexavalent chromium, for the oral route of exposure only, for peer review and public comment. An independent expert peer review panel met in May 2011 to review the draft assessment. In their final report, the peer review panel urged EPA to consider the results of research that would soon be completed and peer-reviewed that could provide relevant scientific information that may inform the findings of the assessment.

EPA takes seriously its commitment to rigorous independent expert peer review. Based on the advice of the peer review panel, EPA will review original primary research related to the health effects of hexavalent chromium that has been published since the release of the draft assessment for external peer review and will incorporate the findings as appropriate into its hexavalent chromium assessment.

### Downloads/Related Links

This download(s) is distributed solely for the purpose of pre-dissemination peer review under applicable [information quality guidelines](#). It has not been formally disseminated by EPA. It does not represent and should not be construed to represent any Agency determination or policy.

[Toxicological Review of Chromium VI: in Support of Summary Information on the Integrated Risk Information System \(IRIS\) \(PDF\)](#) (298 pp, 2 MB, [about PDF](#))  
[Charge to the External Reviewers \(PDF\)](#) (2 pp, 18 KB, [about PDF](#))  
[Consolidated Comments from the External Peer Review \(Final\) \(PDF\)](#) (228 pp, 1 MB, [about PDF](#))

### Public Comments

Comments on the assessment may be submitted and reviewed using the e-Government [Regulations.gov](#) Web site. From the site, select "Environmental Protection Agency" and the keyword "EPA-HQ-ORD-2010-0540" (for the docket ID) to comment on this report.

### Background

The draft Toxicological Review of Hexavalent Chromium provides scientific support and rationale for the hazard and dose-response assessment pertaining to chronic exposure to hexavalent chromium via ingestion.

Chromium is a naturally occurring element in the earth's crust. The three main forms of chromium found in the environment are chromium (0), chromium (III), and chromium (VI), also known as hexavalent chromium. Chromium is widely used in manufacturing processes, and it can be found in many consumer products such as wood treated with copper dichromate, leather tanned with chromic sulfate, and stainless steel cookware. Chromium is released to the environment from natural and anthropogenic sources, with the largest releases occurring from industrial sources. The general population may be exposed to chromium by inhaling ambient air, and ingesting food and drinking water containing chromium. Dermal exposure to chromium can occur from skin contact with certain consumer products or soils that contain chromium.

### History/Chronology

- Sep 1998 The [oral RfD for hexavalent chromium](#) was posted to the IRIS database. The [inhalation RfC for hexavalent chromium and the carcinogenicity assessment for hexavalent chromium](#) were also posted to the IRIS database.
- May 2010 EPA initiated an interagency science consultation to review the draft toxicological review and charge to external peer reviewers.
- Sep 2010 EPA released the external review draft for public review and comment and the [interagency science consultation review draft with comments](#). EPA also announced a public listening session to be held on November 18, 2010. [[Federal Register Sep 30, 2010](#)]
- Nov 2010 EPA extended the public comment period an additional 30-days. [[Federal Register Nov 10, 2010](#)]
- Apr 2011 EPA has announced that the peer review panel workshop on the draft assessment for Hexavalent Chromium will be held on May 12, 2011 in Arlington, VA. [[Federal Register Apr 12, 2011](#)]

Jul 2011 EPA releases the comments from the public comment period and external review workshop. [http://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=221433](http://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=221433)

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## Next Steps

Following the conclusion of the public review and comment period, public listening session, and external peer review, the draft Toxicological Review will be revised and submitted for a final Agency review and an EPA-led Interagency Science Discussion. As a last step, the final assessment will be posted on the IRIS database.

## Citation

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Detailed Report

### IRISTrack Detailed Report

#### Chromium VI Assessment Milestones and Dates

Milestone	Estimated Start Date *	Estimated End Date *
Draft Development	FY12/2nd Quarter	FY13/2nd Quarter
Agency Review	FY13/2nd Quarter	FY13/2nd Quarter
Interagency Science Consultation	FY13/2nd Quarter	FY13/3rd Quarter
External Peer Review and Public Availability	FY13/3rd Quarter	FY14/4th Quarter
Final Agency Review/ Interagency Science Discussion and Posting Final Assessment	FY14/4th Quarter	FY15/1st Quarter

\* For EPA, the Fiscal Year (FY) starts in October and ends in September of the following year. First quarter runs from October through December; the second from January through March; the third from April through June; and the fourth from July through September.