

Miller, Diane M. (CDC/NIOSH/EID)

From:

Sent: Friday, January 09, 2009 2:02 PM

To: Niemeier, Richard W. (CDC/NIOSH/EID)

Cc: NIOSH Docket Office (CDC)

Subject: RE: Peer Review Invitation for NIOSH Criteria Document Update: Occupational Exposure to Hexavalent Chromium

Attachments:

Dear Dr. Niemeier:

Attached is the review as requested and also my biography. I will fax you the conflict of interest document. If you have any questions or need additional information, please contact me. My phone number is _____ I look forward to meeting you on January 22nd.

From: Niemeier, Richard W. (CDC/NIOSH/EID) [mailto:rwn1@cdc.gov]

Sent: Friday, October 17, 2008 9:09 AM

To:

Subject: Peer Review Invitation for NIOSH Criteria Document Update: Occupational Exposure to Hexavalent Chromium

Dear _____

Thank you for agreeing to participate as an external peer reviewer of the *NIOSH* Criteria Document Update: Occupational Exposure to Hexavalent Chromium. This document has been determined by NIOSH to be a Significant Guidance document in accordance with the Office of Management and Budget (OMB) guidelines under the Federal Data Quality Act 2000 (Public Law 106-554, Section 1(a)(3)[515]). The overall goal of the peer review is to enhance the quality and credibility of Agency recommendations by ensuring that the scientific and technical work underlying these recommendations receives appropriate review by independent scientific and technical experts. The peer review charge was developed in accordance with OMB guidelines, is consistent with NIOSH peer review practice, and is meant to ensure that credible and appropriate science is used in the development of its recommendations for occupational exposure to hexavalent chromium. The Word version of the document is attached and a PDF version is posted on the NIOSH website at <http://www.cdc.gov/niosh/review/public/144/>.

The goals of this document are to describe the: (1) critical animal, human, and in vitro studies on occupational exposure to hexavalent chromium; (2) relevant quantitative risk assessments about occupational exposure to hexavalent chromium; (3) appropriate methods for sampling and analysis of hexavalent chromium compounds in the workplace; (4) basis for the NIOSH revised Recommended Exposure Limit for hexavalent chromium compounds; and (5) other NIOSH recommendations for protecting workers from occupational exposure to hexavalent chromium. The charge to the Peer Reviewers is to objectively review the document to determine whether:

- o the hazard identification is a reasonable reflection of the available scientific studies,
- o the NIOSH recommendations for protecting workers from occupational exposure to hexavalent chromium are appropriate, and
- o NIOSH has a transparent and sound basis for its revised Recommended Exposure Limit for hexavalent chromium compounds.

During your review, please address the technical content only as the document will be edited after external review comments have been considered and incorporated into the document.

To facilitate review of this document, the questions below should be considered:

1. Are the critical studies presented clearly and adequately?
2. Do all of the presented studies use scientifically valid methods and techniques?
3. Are there additional critical studies relevant to occupational exposure to hexavalent chromium compounds that should be included?
4. Does NIOSH have a transparent and sound basis for its revised Recommended Exposure Limit for hexavalent chromium compounds?
5. Is the new NIOSH policy of providing general exposure assessment recommendations instead of a specific Action Level scientifically justified?
6. Are the NIOSH recommendations for worker protection clear and justified?
7. Are there additional recommendations for worker protection that should be included?

As a reminder and mentioned in my previous communication, the public review period will occur until Friday, January 31, 2009 – see attached Federal Register Notice. A public meeting will be held on Thursday, January 22, 2009 from 9:00 a.m. to 4:00 p.m. at the NIOSH Robert A. Taft Laboratory Auditorium in Cincinnati, Ohio, as a forum for scientists and representatives of government agencies, industry, labor and other stakeholders to discuss the document. The meeting will be open to the public. You are invited to attend this meeting with expenses being paid by NIOSH. You will be contacted by a NIOSH staff member (Norma Helton, phone: (513) 533-8108 email: NHelton@cdc.gov) who will make the arrangements. Immediately following the public meeting copies of the public comments will be made available to you on CD for consideration in your comments which will be due to the NIOSH Docket Office on Friday, February 27, 2009. Please send your written comments, preferably in Word format, to the NIOSH Docket Officer at nioshdocket@cdc.gov , or NIOSH Docket Office, 4676 Columbia Parkway, MS C-34, Cincinnati, OH 45226. Within the subject line of your return email or written comments, please reference **NIOSH Docket Number 144**. If you have any questions concerning this document, feel free to contact the NIOSH Docket Officer at (513) 533-8611 or fax number (513) 533-8230.

In order to comply with the new CDC/NIOSH data quality requirements for the review of NIOSH publications, a Conflict of Interest form is attached for your review and signature. In addition, current curriculum vitae (CV) will be needed. Both can be delivered by fax, email, or regular mail to the NIOSH Docket Office. Please be aware that your name, affiliation, and CV will be posted on the NIOSH /CDC website along with a peer review report containing the peer review comments, without individual attribution, and the NIOSH response to each comment. Your review comments may be disclosed to outside parties if NIOSH is requested to provide this information under a Freedom of Information Act (FOIA) request.

We greatly appreciate your consideration to review of this document and look forward to obtaining your comments. Thank you for your assistance in this important review process.

Sincerely, Rick

Richard W. Niemeier, Ph.D.
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Associate Director for Science
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<<Cr(VI) CD Update Atch A 090408.doc>> <<conflict of interest form Cr+6.doc>> <<FR CR+6 Public Meeting Oct 17 08.pdf>>

PEER REVIEW

By

January 9, 2009

OCCUPATIONAL EXPOSURE TO HEXAVALENT
CHROMIUM

NIOSH DOCKET NUMBER 144

I have reviewed the captioned document with specific reference to the sampling and analysis of hexavalent chromium and the monitoring procedures since this is my area of expertise. In Chapter Three: Measurement of Exposure, recently developed analytical methods have it made possible to determine hexavalent chromium at lower levels than in the past i.e. 0.02 micrograms per sample. These new methods for the determination of hexavalent chromium are cited: a) NIOSH Method 7605 –Hexavent Chromium by Ion Chromatography; b) NIOSH Method 7703 – Hexavalent Chromium by Field –Portable Spectrophotometry; c) ASTM Method D6832-02 – Standard Test Method for the Determination of Hexavalent Chromium in Workplace Air by Ion Chromatography and Spectrophotometric Measurement using 1,5-diphenylcarbazide; d) International Organization for Standardization (ISO) Method 16740 – Workplace Air – Determination of Hexavalent Chromium in Airborne Particulate Matter – Method by Ion Chromatography and Spectrophotometric Measurement using Diphenylcarbazide; and d) OSHA Method ID-215.

The NISOH and OSHA methods and particularly the ASTM and ISO methods have been developed by consensus and have been tested and validated and are used routinely throughout the world. The results obtained by these methods are acceptable by the scientific community and are considered valid techniques.

The Criteria Document references and reviews these methods particularly with regard to possible interferences and precautions that are necessary to prevent loss and/or reduction of Hexavalent Chromium to Chrome(III). The referenced paper: Sampling and Analysis Considerations for the Determination of Hexavalent Chromium in Workplace Air by: Ashley, Howe, Demange and Nygren gives a comprehensive review of the analytical methods and possible interferences and precautions necessary to eliminate possible problems in the procedures. Also sampling techniques and considerations are reviewed with the various options that are available. The sampling methods suggested are the acceptable and validated procedures used routinely world-wide.

The Criteria Document delineates the various methods necessary to determine hexavalent chromium in air and workplace atmospheres. The methods referenced provide the following: 1. low limits of detection; 2. high selectivity; 3. validation; 4. ease of use; and 5. minimization of interferences. All of the mentioned procedures provide scientifically valid methods and techniques and are acceptable to the scientific community. The results from these methods should provide the necessary data for sound and transparent

recommendations that are made in the Criteria Document. The data and studies are presented clearly and adequately.