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July 17, 2008

Information Quality Guidelines Staff (Mail Code 2811R)
U.S. EPA
1200 Pennsylvania Ave., NW Washington, DC 20460

Attention: Information Quality Office

Re: Amendment to Request Number 08002
Information Quality Challenge: EPA/600/R-08/046 - April 2008

- **Misrepresentation of Study Scope in Defense of Challenge**
- **Authors Acknowledge Study Limited to Chrysotile**
- **Defense Involves Undocumented "Expert Opinion"**
- **Invented Defense is Unsupported Speculation**
- **Speculation Harms Amphibole Exposure Assessment Validity**
- **Unsupported Speculation Should Not Be a Valid Defense**
- **Defense Claims Proffered by Vallero Should be Investigated**

Dear Information Quality Office:

I have challenged the information quality of the new EPA publication entitled, "Sampling and Analysis of Asbestos Fibers on Filter Media to Support Exposure Assessments: Bench-Scale Testing" claiming it does not comply with the Office of Management and Budget (OMB) "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Republication" dated February 22, 2002. The publication also does not comply with the "USEPA Information Quality Guidelines, EPA/260R-02-008," dated October 2002. Please note the following amendments to my challenge.

Study Author Presents Unsupported Speculation as Defense

At the ASTM Johnson Conference in Burlington, Vermont, Daniel A. Vallero, Ph.D. of the U.S. Environmental Protection Agency's National Exposure Research Laboratory, and author of the challenged publication presented on the above reference research document. Dr. Vallero provided a defense in response to my request for correction of his document at the conference on July 16, 2008. He claimed that chrysotile asbestos was used in the study to determine the collection efficiency of all types of asbestos minerals (including amphiboles) because:

1. **Chrysotile was a more common asbestos mineral found by testing laboratories, and;**
2. **Amphiboles are generally longer in length and thicker in diameter, thus having a better collection efficiency than chrysotile asbestos.**

Based upon these two statements, Dr. Vallero claimed it was "their expert opinion" that chrysotile asbestos presented a worst case asbestos mineral for determining collection efficiencies on the various filter media. It was his opinion that chrysotile would more easily penetrate the filters and have the least collection efficiency when compared with amphibole fibers. Therefore, it was the authors "expert opinion" that the results of the chrysotile study could be applied directly to amphibole minerals as well. This in essence is his defense for omitting chrysotile from the study title to encompass and imply that all forms of asbestos (amphiboles included) have the same collection efficiency as chrysotile. This is an unsupported defense.

I am concerned that this is the same response that the study authors and others in EPA will provided to your office in defense of my information quality challenge. This defense is deceptive and unsupported by any written evidence or third party peer reviewed studies. His defense in response to my challenge appears to be invented after the fact to cover-up for his incorporation of unsupported assumptions and speculation into an alleged scientific study.

No Written Evidence Supports the Weak Defense Offered

The USEPA document "EPA/600/R-08/046 - April 2008" misrepresents a study specific to chrysotile asbestos as being applicable to all forms of asbestos. Dr. Vallero's defense of this claim is that chrysotile was merely used as a worst case representation of the collection efficiencies of all asbestos minerals. However, there is nothing stated in their study which addresses chrysotile being used as an indicator mineral to represent the collection efficiency of all asbestos fibers (amphiboles). Actually, the document in question states, "*Studies reporting the collection efficiencies of MCE and PC membrane filters for asbestos aerosols are meager*" (page 3) and "*A literature review did not identify any study that compared the collection efficiencies of 0.45 µm and 0.8 µm pore size MCE or 0.4 µm pore size PC membrane filters for asbestos Aerosols*" (page 3). Yet Dr. Vallero stated that it was their "expert opinion" that chrysotile has a much worse collection efficiency than amphibole minerals and therefore justified the sole use of chrysotile in their study. Dr. Vallero's defense is contradicted by cited work in his own publication.

Undocumented/Unsupported Speculation is Not a Defense!

The "expert opinion" offered as a defense to my request for correction challenge is pure speculation and has no scientific basis or support. The substance of the author's defense was not documented anywhere in the study scope nor was it discussed or explained in the study findings. It appears that this defense was invented after publication to cover-up for unjustified misrepresentations of the study findings of which I have accurately identified in my challenge.

Bogus Vallero Claim Should Not be Considered as a Defense

You will be providing me with a response to my request for correction next week. I do not expect to see the undocumented and unsupported speculation presented by Dr. Vallero in Vermont as evidence or an excuse to deny my challenge. Any response by Dr. Vallero or other authors in response to my request for correction should be supported by documentation. There is nothing in their original study or the final EPA Document EPA/600/R-08/046 - April 2008, which provides evidence to back up this unsupported speculation by Dr. Vallero.

Dr. Vallero's Claims Should be Investigated by the OIG

The alleged invented defense created by Dr. Vallero (and others) after the publication of EPA/600/R-08/046 - April 2008, should be turned over to the EPA Inspector General's Office for investigation. EPA personnel should not be able to make misleading critical modifications to conclusions of scientific studies base merely on unsupported speculation. It is my "expert opinion" that the deceptive change to the document was done intentionally to cover-up for the misuse of larger pore sized filters (0.8 micron) in numerous activity-based risk assessments of amphibole asbestos by the EPA and ATSDR over the last few years. Those responsible should be held accountable.

This document I challenge should only be specifically applicable to the mineral tested; Chrysotile asbestos. Thank you for your prompt attention to this amendment to my information quality challenge. Please contact me with any questions.

Cordially,

Jeffery C. Camplin

Jeffery C. Camplin, CSP, CPEA
Concerned Citizen

cc: Chief Information Officer: Molly A. O'Neill

Studies reporting the collection efficiencies of MCE and PC membrane filters for asbestos aerosols are meager. One study investigated the collection efficiencies of 8 µm pore size MCE filters and 0.2, 0.4, and 0.8 µm pore size PC filters for aerosols of chrysotile asbestos.[13] For MCE filters with 8-µm pores, the collection efficiency at a face velocity of 3.5 cm/s fell from 100% for fibers >5 µm in length to 75% for fibers of 2 µm in length, and to 25% for fibers approximately 0.5 µm in length. For PC filters with pore diameters of 0.2, 0.4, and 0.8 µm, collection efficiencies began to drop for fiber lengths <3 µm and fiber diameters <0.2 µm. For 0.2 µm pores, the efficiencies for fibers >0.5 µm did not drop below approximately 80%, whereas for 0.8 µm pores, the efficiencies dropped to near zero for fiber lengths below 0.5 µm and diameters below 0.05 µm. This study showed that collection efficiencies decrease substantially with fiber length for both MCE and PC pore filters of larger pore size. The orientation of the airborne fibers as they approach the filter pore entrances may have an important effect on their ability to penetrate the filter.

A literature review did not identify any study that compared the collection efficiencies of 0.45 µm and 0.8 µm pore size MCE or 0.4 µm pore size PC membrane filters for asbestos aerosols.[12] Information culled from an informal survey[12] of asbestos analytical laboratories, members of the American Society for Testing and Materials (ASTM) and Environmental Information Association (EIA) revealed that MCE filters were primarily used for airborne asbestos sampling. Accordingly, it was concluded that testing of the PC filters would not be conducted in this study allowing the project to concentrate its efforts and funding on 0.45 µm and 0.8 µm pore size MCE filters that are widely used in asbestos exposure studies today.

Therefore, U.S. EPA's National Exposure Research Laboratory (NERL) conducted a study in which chrysotile asbestos (fibers both shorter and longer than 5 µm) were generated in an aerosol chamber and sampled by 25-mm diameter MCE filter media to compare the efficiency of 0.45 µm pore size versus 0.8 µ pore size filter media. In addition, the effect of plasma etching times on fiber densities was evaluated.