June 2009

Volume 1, Issue 4

BHSC NEWS

BERYLLIUM HEALTH & SAFETY COMMITTEE

Special points of interest:

- EPA Monitoring Beryllium in Schools
- Beryllium Research Needs List—Top 3 priorities
- New secretary and subcommittee chair

EPA Monitoring Beryllium at Schools

The Environmental Protection Agency has begun an initiative to monitor outdoor air pollutants at 62 schools around the country. Data from the first two schools have been released on EPA's web site. At one school, Ashland City (TN) Elementary, beryllium was one of the metals measured. Beryllium was detected in seven of the nine samples reported, with the highest value (in two samples) being 0.03 nanograms per cubic meter. EPA identified a "sample screening level" for each analyte as a level below what they would expect to cause health problems from short-term exposure. For beryllium, the identified level was 20 nanograms per cubic meter. By way of comparison, the national air quality standard is 10 nanograms (or 0.01 microgram) per cubic meter. For more information, visit www.epa.gov/schoolair.

Chairman's Corner

BY MIKE BRISSON

Chairman, BHSC

I want to thank Steve Jahn for the great job he did for us as BHSC Recording Secretary. Steve currently is still chairperson of the Risk Communication Subcommittee, but needed to relinquish the secretarial role. I am grateful that we have an able replacement, Dan Field from the NNSA front office.

The BeO/Digestion working group, which is part of the Sampling and Analysis Subcommittee, has issued a report on the beryllium oxide round robin that it recently completed. The report is on the BHSC home page in Sharepoint and will be sent on request to others who are interested. This round robin, involving 34 labs from across the U.S. and three other countries, is the culmination of efforts beginning five years ago. If you read the report, I think you'll agree it is a significant contribution to our knowledge on sample preparation. Tom Oatts and his team are to be commended for this effort.

I am pleased to note that the Medical/Epidemiological Subcommittee, under Paul Wambach's leadership, is moving forward on two fronts and reaching out to DOE, DoD, and AWE medical communities. I'll leave it to Paul to share the details in an upcoming subcommittee report in the newsletter.

We are working on the technical program for the fall BHSC meeting at North Las Vegas. Several ideas have already been put forward, and we will soon issue a call for presentations. If you have any suggestions, please let our new Meetings and Symposia Subcommittee chairperson, Linda Youmans-McDonald (linda.youmans-mcdonald@srs.gov) know.

(The views expressed in the Chairman's Corner are those of the chairman and are not necessarily official positions of the BHSC.)

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Analytical Performance Criteria Beryllium Research Needs *(Condensed Summary)*

Column Editor Kevin Ashley Reported by Michael McCawley Complete paper to be published in the J. Occup. Environ. Hyg. Condensed Summary by Jim Jenkins

In 2002, the Beryllium Health and Safety Committee (BHSC), through its Research Needs Subcommittee, developed a list of research needs with the goal of controlling beryllium exposure and preventing disease. The original purpose of the topics list was to provide a means of tracking improvements, breakthroughs and lingering needs, as well as to provide a list of possible research topics for future pursuit.

Since 2003, when the Research Needs list was first released, 186 papers have been published. Reoccurring topics were, adequacy of the BeLPT, skin exposure as a route of sensitization, the effect of ultrafine exposure and the metric of particle number as a predictor of disease risk and genetics.

Five years after development the first list was re-circulated for comment and prioritization. A set of four questionnaires were prepared using www.surveymonkey.com, a web-based survey tool that allowed the questions to be posted on the web, with a link that could be mailed electronically to the membership and guest list of the BHSC. The four questionnaires, based on four condensed topic areas, were: (1) Beryllium Exposure Assessment, (2) Beryllium Exposure Control, (3) Health Effects of Beryllium, and (4) Basic Research on Beryllium Health and Safety. The 27 original topics in the list were then assigned to one of those four areas. The top three priorities in each category are as follows:

Beryllium Research Needs Ranked Most Important

	Basic Research	Health Effects	Exposure Control	Exposure Assessment
1	Develop and validate improved screening and diagnostic tests, including the identification of genetic factors that relate to risk.	Determine the dose-response relationship for beryllium sensitization and disease for different exposure parameters, i.e. mass, number, size fraction, chemical form, particle surface area.	Develop improved engineering and administrative controls for maintenance, construction or demolition activities	Develop a sampling method that characterizes beryllium particle exposure by mass, number, size fraction, chemical form and surface area.
2	Identify opportunities for therapeutic interventions (pre-CBD) or specific therapies for CBD.	Determine the natural history of beryllium disease: sensitization to disease; different rates of progression; workers and public; include non-occupational exposure; risk factors (e.g. genetics, underlying disease, gender, age, smoking).	Develop a coating technology to mitigate particulate beryllium release from surfaces	Determine the types and levels of beryllium exposure that are generated by different types of activities.
3	Characterize and determine the health significance of the physiochemical properties of beryllium. Determine the bioavailability of beryllium at different locations in the body; the health impacts at those locations and the impact on remote organ systems.	Develop sampling methods to characterize and identify biomarkers of exposure such as molecules in serum that indicate exposure, sensitivity, disease.	Establish a standard reference material for beryllium alloy particulate	Develop different methods to better characterize exposure risk of beryllium exposure (e.g. real time analysis of beryllium).

BHSC Appoints New Secretary and Subcommittee Chair

Dan Field, senior industrial hygienist with NNSA in Washington, DC, has been appointed Recording Secretary, replacing Steve Jahn of SRS, who resigned due to a change in his assignment. Dan will record the minutes of BHSC meetings and Board conference calls.

Linda Youmans-McDonald, chemist for the IH radiological lab at SRS, has been appointed Chairperson of the Meetings and Symposia Subcommittee. Amy Ekechukwu was the previous chairperson until she took over the Sampling and Analysis Subcommittee. We will be working to re-constitute this subcommittee with the ultimate goal that it will organize the two BHSC meetings each year and manage the technical program for those meetings, as well as the symposium every three years.

Under the BHSC By-Laws, these positions are appointed by the Chair with the advice and consent of the Board. Both were approved by the Board in its June 17 teleconference. Congratulations to Dan and Linda in their new positions!

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BERYLLIUM HEALTH & SAFETY COMMITTEE

BHSC Board Report

MIKE BRISSON

Chairman, BHSC

The Board met by teleconference on June 17. Two of the items discussed by the Board are discussed below.

First, the Board discussed funds from the symposium that were originally earmarked for publishing a special issue of *Journal of Occupational and Environmental Hygiene* (JOEH) with the symposium proceedings. Since the journal has under-run its projected page count for 2009, our proceedings will now be published in the regular December issue, which makes the funds available for other uses. The Board is developing a written policy for use of these funds, which are currently being held for us by National Jewish Health. Once approved, the policy will be posted in Sharepoint on the BHSC home page for members to read.

Second, the Board has asked the Research Needs Subcommittee to make some changes to their draft white paper on Alternative Medical Testing Procedures for CBD Detection. Once these changes are made, the white paper will be reviewed again by the Board and, once approved, posted with the other approved white papers on the web site.

The next Board teleconference will be on July 15.

BHSC BOARD MEMBERS

Mike Brisson, Chairman
Geoffrey Braybrooke, Vice Chair
David Weitzman, Vice Chair
Dan Field, Secretary
Amy Ekechukwu
Tony Quinn
Mike McCawley
John Bishop
Tom Ford
Linda Youmans-McDonald

Conference Call Schedule—June (All times Eastern Daylight Time)

Date	Day	Start	End	Lines	Group or Purpose
07/02/09	Thu	12:00 PM	1:00 PM	10	Be by Fluorescence WG
07/08/09	Wed	12:00 PM	1:00 PM	10	Med/Epi SC
07/09/09	Thu	12:00 PM	1:00 PM	10	Risk Communication SC
07/09/09	Thu	3:00 PM	4:00 PM	10	Research Needs SC
07/14/09	Tue	12:00 PM	1:00 PM	25	Sampling/Analysis SC
07/15/09	Wed	12:00 PM	1:00 PM	15	BHSC Board
07/16/09	Thu	12:00 PM	1:00 PM	10	Accreditation WG
07/21/09	Tue	12:00 PM	1:00 PM	15	BeO/Digestion WG
07/21/09	Tue	3:00 PM	4:00 PM	10	Meetings/Symposia SC
07/28/09	Tue	12:00 PM	1:00 PM	10	Sampling WG

Conference Call Number

803-725-1403

Pass code 2227011

The **Beryllium Health and Safety Committee (BHSC)** is committed to preventing beryllium sensitization and chronic Beryllium Disease (CBD) and other adverse health effects that can be cased by workplace exposure to beryllium.

The Mission of the BHSC will be accomplished by:

- Promoting the safe use of beryllium
- Obtaining a better understanding of exposure risks
- Improving exposure monitoring
- Fostering improved controls
- Accumulating and Disseminating information concerning beryllium process best work practices, as well as, data from the health studies concerning the hazards associated with beryllium
- Training / mentoring of beryllium health professionals
- Identifying and promoting research that has the potential to enhance or improve our worker safety programs

BHSC Meetings: Fall 2009 – Spring 2010

Fall 2009: **DOE North Las Vegas complex**

Nov 3: **Board and JOWOG**

Nov 4-5: **Main BHSC Meeting**

Spring 2010: U. K. Atomic Weapons Establishment Aldermaston, Reading, U.K.

Apr 13-15: Tentative dates

Locations for the Fall 2010 and Spring 2011 meetings are now being solicited.

Fall meetings are typically in the western U.S

Spring meetings are typically in the eastern U.S. (or at AWE).

Locations typically need to be at a DOE, DoD, or AWE site.

If you would be interested in hosting a meeting, please contact Mike Brisson.

Subcommittee Report

BY Mike McCawley

Chairman

Research Needs Subcommittee

This subcommittee attempts to identify and prioritize those research topics which have utility for sampling, analysis, control and prevention of chronic beryllium disease. As part of this effort it reviews the current literature and attempts to summarize major trends in research. These summaries can take the form of presentations or white papers to be disseminated within the BHSC and made available for interested parties. White papers in work at present include a summary of the available methods for determining sensitization to beryllium and predicting a disease outcome and methods for sampling skin for beryllium contamination.

The primary output of the committee remains a list of research topics divided by area into sampling, analysis, control and prevention. These topics are one line descriptions of identified needs for information. Prioritization of those needs is then done by the membership of the BHSC on the whole. As with the white papers this list is disseminated within the BHSC and made available to interested parties.

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