November December 2009 Volume 1, Issue 9

BHSC NEWS

BERYLLIUM HEALTH & SAFETY COMMITTEE

Special points of interest:

- SPOTLIGHT ON Reviews of Beryllium: Environmental Analysis and Monitoring
- The Real Issue with Wall Deposits—Abstract
- Call for Presentations—Spring 2010 BHSC Mtg.

SPOTLIGHT: REVIEWS— Beryllium: Environmental Analysis and Monitoring

Michael J. Brisson, Amy A. Ekechukwu (Eds.), Royal Society of Chemistry, Cambridge, UK (2009), xiii + 200 pp, £80, ISBN 978-1-84755-903-6

Contributions by Tom Datts, Paul Wambach, Geoff Braybrooke, Martin Harper, T. Mark McCleskey, Brandy Duran, Melecita Archuleta, Glenn Rondeau, Anoop Agarwal, Kevin Ashley, Nancy Grams, and Charles Davis.

As the use of beryllium grows worldwide, the need for a single source of information on this important but toxic element is of increasing importance. This comprehensive book describes all aspects of the current sampling and analysis techniques for trace-level beryllium in the workplace. It offers both a historical perspective and a description of the state-of-the-art in a single place.
It covers the challenges inherent in sampling procedures such as reproducibility, limited sample volume, surface sampling materials and collection efficiency. It also deals with the problems involved in analytical techniques including lower detection limits, identification and compensation for matrix interferences, greater sensitivity requirements and the need for more robust preparation techniques. Future trends, including development of real-time beryllium sampling and analysis equipment, are also explored. [see BHSC NEWS August 2009 Volume 1, Issue 6]

See Pg. 4 SPOTLIGHT

Purchase Cost:	India Rs.6, 160.00	Amazon $122.00	Angus & Robertson $297.95	Krisostomus 103, 90 EUR
Rental Price (1 semester)	Chegg $81.99	(Due date 5/28/10)		

Chairman's Corner

BY MIKE BRISSON

Chairman, BHSC

The fall BHSC meeting is now history, and what a meeting it was! We had nearly 40 to attend in person and a dozen or so more participating remotely. All of our main topics (the BeLPT, improvements in laser induced breakdown spectroscopy, and BeO round robin) received lots of attention and discussion. The Sampling and Analysis Subcommittee formed two new working groups at this meeting; I'll let Amy Ekechukwu share the details.

A special thanks to our hosts at the Nevada Site Office, including Tom Gran and Paula Lynch, for the arrangements and hospitality. Also, a special thanks to Linda Youmans-McDonald for shouldering much of the organizational burden of this meeting, which I had done myself in the past.

Linda is compiling the presentations from the meeting, which should soon be posted to the public-access area of the BHSC web site.

In our business session, the BHSC approved the revision to the By-Laws that allows subcommittees to have a chair and a co-chair. The chair is a voting member of the Board. The co-chair is also a Board member, but is non-voting except when the chair is absent. The BHSC also approved the Board recommendation to stagger the terms of the executive officers and at-large Board members, so that no one position is voted on at any given meeting. The revised terms are shown on page 3 (Staggering of Terms)

Please take a look at the Board report on page 3 for additional activities going forward. I anticipate that there will be some significant items for the BHSC to consider at our spring meeting. Besides the items described in the Board report, some of the things we expect to be following in 2010 include the proposed revisions to 10CFR850, developments in OSHA beryllium rulemaking, what EPA may propose regarding beryllium emissions at power plants, and of course beryllium-related activities at our various sites. While 2009 was certainly a busy year, it doesn't look like 2010 will be any less busy.

Finally, since this will be our last newsletter in 2009, I'd like to take this opportunity to wish everyone a safe and happy holiday season.

Merry Christmas and Happy New Year to all!

Inside this issue:

MEETINGS: JOWOG (US-UK Joint Working Group) - BHSC BOARD - BHSC

JOWOG Meeting: Summer 2010

Summer 2010: AWE Aldermaston United Kingdom
June 22-24

BHSC/BHSC BOARD Meeting: Spring 2010

Spring 2010: Department of Energy Washington, DC.
BHSC BOARD March 15
BHSC March 16—17

JOWOG / BHSC BOARD Meeting: Fall 2010

Fall 2010: Livermore California
November 2

BHSC Meeting: Fall 2010

Fall 2010: Livermore California
November 3-4

MEETING LOCATIONS

locations for the Spring 2011 and Fall 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.

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

NOTE: *Participation In JOWOG meetings is limited to members of the Beryllium Health and Safety Committee (BHSC) at DOE sites and HQ.*

CALL FOR PRESENTATIONS

Spring 2010 BHSC and Affiliated Meetings

March 15th-17th

Forrestal Building, Washington DC

The Beryllium Health and Safety Committee (BHSC), as a part of its technical program,

is soliciting abstracts for 20-minute oral presentations on topics related to any of the following aspects of beryllium health and safety:

- Chronic Beryllium Disease (CBD) prevention (e.g., engineering controls, safe work practices)
- Communication of risk to beryllium affected workers, management, and the general public
- Training of field industrial hygienists and beryllium affected workers
- Epidemiological studies
- Medical, genetics, or toxicological topics
- Technical standards, practices, and measures
- Research needs and priorities
- Workplace or environmental sampling (including media, methods, and strategies)
- Reference materials
- Laboratory sample preparation
- Laboratory instrumentation
- Standardization and validation of analytical methods
- Field and laboratory accreditation

Abstracts are due on **February 1, 2010**. Submit abstracts to Linda Youmans-McDonald,

Chair of the Meetings and Symposia Subcommittee, at linda.youmans-mcdonald@srs.gov.

Submitters will be notified by March 1, 2010, as to their acceptance status and, if accepted, the scheduled time for presentation.

Volume 1, Issue 9

BERYLLIUM HEALTH & SAFETY COMMITTEE

BHSC Board Report

MIKE BRISSON

Chairman, BHSC

The Board met in person on November 3 at the DOE/NNSA Nevada Site Office, and again by teleconference on November 18. The following are highlights of items discussed in these meetings:

- A group of Board members, led by John Bishop, will be preparing revisions to the BHSC Charter for consideration by the BHSC membership at the spring meeting. This group will also prepare additional guidelines/policies for the BHSC, such as antitrust guidelines.
- A group of Board members led by Amy Ekechukwu will review and propose revisions to the existing policy, adopted in 2007, for review and approval of white papers. The goal is to provide more formality to the approval process, including approval by the full membership.
- The proposal to form a separate EFCOG beryllium task group will not proceed. Instead, certain DOE-specific activities will be coordinated between the BHSC and existing task groups (such as Occupational Medicine) in the existing EFCOG ES&H Working Group.
- The Sharepoint area (members-only) of the BHSC web site was discussed due to ongoing access problems by several members. The Board will continue to monitor, but recommends no changes at this time. It was expressly noted that the BHSC owes a good bit to Melecita Archuleta since she is continuing to support the web site (both public-access and Sharepoint) even though she no longer has a beryllium-related job at Sandia.

Staggering of Terms—BHSC Officers and At-Large Board Members

Approved by the BHSC on November 5, 2009

Position	Current Incumbent	Original End of Term	New End of Term	
Chair	Mike Brisson	2010-Spring	No change	
Vice Chair	David Weitzman	2012-Spring	No change	
Vice Chair	Geoff Braybrooke	2012-Spring	2013-Spring	Extended one year
At-Large Board	Tony Quinn	2010-Spring	2010-Fall	Extended six months
At-Large Board	John Bishop	2011-Fall	2012-Fall	Extended one year
At-Large Board	Tom Ford	2011-Fall	No change	

The revised election schedule for next four years is as follows:

2010-Spring	Chair (Brisson)
2010-Fall	One At-Large (Quinn)
2011-Spring	None
2011-Fall	One At-Large (Ford)
2012-Spring	One vice chair (Weitzman)
2012-Fall	One At-Large (Bishop)
2013-Spring	One vice chair (Braybrooke)
2013-Fall	None

The three incumbents of the positions proposed for term extension are all eligible for re-election. As a reminder, the Recording Secretary serves at the pleasure of the Chair and does not have a defined term expiration.

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

Spotlight (cont.)

Reviews—Beryllium: Environmental Analysis and Monitoring

Reviewed by John G. Farmer, University of Edinburgh, Edinburgh EH9 3JN, UK

Science of the Total Environment 408 (2009) 444

One doesn't hear a great deal about beryllium, a trace constituent of the Earth's crust, in general environmental terms. Its main atmospheric input is from the combustion of coal, although it can also be released to the environment during processing of beryllium containing minerals and subsequent refining for its use, as a lightweight metal with high tensile strength, in alloys and components for the aerospace and nuclear power industries as well as in cell phones and golf clubs. There has also been the occasional significant release associated with the production of beryllium, which doesn't absorb neutrons, for use as casing in nuclear warheads.

Most concern about beryllium, however, stems from occupational rather than wider environmental exposure, most notably via the inhalation of the metal or its compounds, which can lead to berylliosis, a chronic form of pneumoconiosis of the lung This book reflects the concern over occupational exposure. Organized in nine chapters, written largely by experts from nuclear-,energy- and health-related bodies in the USA, it is an authoritative, state-of-the-art account of sampling and analysis of beryllium at ultra trace levels in the workplace environment. There are chapters on the sampling of air and surfaces, sample dissolution and analysis by ICPAES, ICP-MS and non-plasma-based techniques, the handling and quality of data, and a look ahead to possible future developments,

Reviewed by Andrew Hursthouse

Chemistry World, 2009, 6(11), p. 65

Beryllium does not often feature highly in environmental monitoring and assessment. Its presence in the Earth's crust at a few parts per million places it low down the abundance ranking.

With restricted occurrence in mineable deposits, beryllium and its compounds only find application in specialist technology applications and as trace components in alloys. So wide dispersal in the environment is not a particularly significant hazard compared to other substances. The question is why publish this book?

We are presented with compelling rationale in the serious questions surrounding the carcinogenicity of the element and its compounds and health risks in occupationally exposed workers.

The response from the editors and authors of the nine chapters is to carefully catalogue and review the exposure under occupational conditions and extend it to consider, although not detail, wider environmental problems. The material covered includes careful and detailed description of sampling for primarily occupational monitoring purposes - personal air samplers, surface contamination wipes and bulk samples.

The sample preparation and analysis description considers routine techniques as well as more specialist methods and the volume concludes with a thorough review of data quality reporting and future developments.

The volume is well written by practitioners in the field of occupational safety and health. Its detail, whilst focused on beryllium, would provide guidance on monitoring many other substances.

It should be relevant to those involved in the field as well as environmental and occupational health researchers, and serve as an excellent case study in advanced undergraduate programmes.

FULL TEXT—Chapter 1 : Overview of Beryllium Sampling and Analysis

"FREE"

http://www.rsc.org/publishing/ebooks/2009/9781847559036.asp

The Real Issue with Wall Deposits in Closed Filter Cassettes—What's the Sample?

Authors: Michael J. Brisson [a]; Melecita M. Archuleta [b]

[a] Savannah River Nuclear Solutions LLC, Aiken, South Carolina

[B] Sandia National Laboratories Albuquerque, New Mexico

Abstract

The measurement of aerosol dusts has long been utilized to assess the exposure of workers to metals. Tools used to sample and measure aerosol dusts have gone through many transitions over the past century. In particular, there have been several different techniques used to sample for beryllium, not all of which might be expected to produce the same result. Today, beryllium samples are generally collected using filters housed in holders of several different designs, some of which are expected to produce a sample that mimics the human capacity for dust inhalation. The presence of dust on the interior walls of cassettes used to hold filters during metals sampling has been discussed in the literature for a number of metals, including beryllium, with widely varying data. It appears that even in the best designs, particulates can enter the sampling cassette and deposit on the interior walls rather than on the sampling medium. The causes are not well understood but are believed to include particle bounce, electrostatic forces, particle size, particle density, and airflow turbulence. Historically, the filter catch has been considered to be the sample, but the presence of wall deposits, and the potential that the filter catch is not representative of the exposure to the worker, puts that historical position into question. This leads to a fundamental question: What is the sample? This article reviews the background behind the issue, poses the above-mentioned question, and discusses options and a possible path forward for addressing that question.

Journal of Occupational and Environmental Hygiene, Volume 6, Issue 12 December 2009

View Full Text: http://pdfserve.informaworld.com/52100_731199537_916670900.pdf

http://oeh.informaworld.com/soeh/content~db=all~content=a916670900~tab=content

Conference Call Schedule—JANUARY 2010 (All times Eastern Standard Time)

Conference Call Schedule Changes for 2010

Beginning in January 2010, BHSC conference calls currently held at noon Eastern time will begin at 11 AM Eastern time. This change is intended to benefit those in the U.K. (primarily from AWE) who participate in several of our calls. Also, to reduce the administrative burden on the Savannah River Site conferencing system, the following three subcommittee calls will be on Tuesdays at 3 PM Eastern: Research Needs (second Tuesday), Meetings/Symposia (third Tuesday), and Technical Standards (fourth Tuesday).

Date	Day	Start	End	Group or Purpose
01/07/10	Thu	11:00 AM	12:00 PM	Be by Fluorescence WG
01/12/10	Tue	11:00 AM	12:00 PM	Sampling/Analysis SC
01/12/10	Tue	3:00 AM	4:00 PM	Research Needs SC
01/13/10	Wed	11:00 AM	12:00 PM	Med/Epi SC
01/14/10	Thu	11:00 AM	12:00 PM	Risk Communication SC
01/19/10	Tue	11:00 AM	12:00 PM	BeO/Digestion WG
01/19/10	Tue	3:00 AM	4:00 PM	Meetings/Symposia SC
01/20/10	Wed	11:00 AM	12:00 PM	BHSC Board
01/21/10	Thu	11:00 AM	12:00 PM	Accreditation WG
01/26/10	Tue	3:00 AM	4:00 PM	Tech Standards SC
01/26/10	Tue	11:00 AM	12:00 PM	Sampling WG

Conference Call Number

803-725-1403

Pass code 2227011

DUE DATES FOR ABSTACTS

- January 14, 2010: **ASTM** Symposium on Surface and Dermal Sampling, San Antonio, TX
  [opportunity for presentation and/or publication; info at http://www.astm.org/d22sympl010.htm]

In Touch

Beryllium Sessions Planned for AIHce 2010

Two beryllium-specific sessions are anticipated for AIHce 2010 in May 2010 in Denver. These include a podium session with eight papers scheduled on a variety of beryllium health and safety topics, and a roundtable on beryllium oxide that will be similar to the recent BHSC meeting roundtable, but will include information on the volunteer BeO pilot to be performed by AIHA Proficiency Analytical Testing LLC. More details on both of these sessions will be provided in a future newsletter.

BHSC Members Appointed to AIHA Boards

The following BHSC members have recently been appointed to one of the AIHA Laboratory Programs Boards:

Linda Youmans-McDonald is appointed to the Proficiency Analytical Testing Programs LLC Board for a three year term (2010-12).

Mike Brisson and Kenn White are appointed to the Registry Programs LLC Board for a three year term (2010-12).

Also, a long time friend of the BHSC, Kevin Ashley, has been appointed to the Analytical Accreditation Board for a three year term (2010-12), joining BHSC member Sandra Cruz, who has two years remaining in her term. The incoming 2010 AAB chair, Dave Sandusky, has participated in a number of BHSC activities including the 2008 symposium. The BHSC will be well represented in all of AIHA's laboratory programs with these appointments.

Safer Trees and Decorations

BY JIM JENKINS

- **W**hen purchasing an artificial tree, look for the label "Fire Resistant." Although this label does not mean the tree won't catch fire, it does indicate the tree will resist burning and should extinguish quickly.
- **W**hen purchasing a live tree, check for freshness. A fresh tree is green, needles are hard to pull from branches and when bent between your fingers, needles do not break. The trunk butt of a fresh tree is sticky with resin, and when tapped on the ground, the tree should not lose many needles.
- **W**hen setting up a tree at home, place it away from fireplaces and radiators. Because heated rooms dry live trees out rapidly, be sure to keep the stand filled with water. Place the tree out of the way of traffic and do not block doorways.
- **C**ut a few inches off the trunk of your tree to expose the fresh wood. This allows for better water absorption and will help to keep your tree from drying out and becoming a fire hazard.
- **U**se only noncombustible or flame-resistant materials to trim a tree. Choose tinsel or artificial icicles of plastic or nonleaded metals. Leaded materials are hazardous if ingested by children.
- **N**ever use lighted candles on a tree or near other evergreens. Always use nonflammable holders and place candles out of children's reach.
- **T**ake special care to avoid decorations that are sharp or breakable, keep trimmings with small removable parts out of the reach of children to avoid the child swallowing or inhaling small pieces, and avoid trimmings that resemble candy or food, which may tempt a child to eat them.
- **W**ear gloves to avoid skin irritation while decorating with spun glass "angel hair." Follow container directions carefully to avoid lung irritation while decorating with artificial-snow sprays.

BERYLLIUM HEALTH & SAFETY COMMITTEE

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

I would like to join the Board in expressing appreciation for all the members and visitors who have attended meetings/conference calls, served on sub-committees/working groups and contributed to the overall success of the BHSC in 2009. May each of you have a Merry Christmas, Happy Hanukkah, and a Happy New Year.

Jim Jenkins

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

Lisa Barker

Paul Wambach

Kathleen Noonan

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