

# Reactions

The newsletter of the Wisconsin Occupational Health Laboratory, the industrial hygiene arm of the Wisconsin State Laboratory of Hygiene

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2601 Agriculture Drive, Madison WI, 53718 • 800-446-0403 • WOHLservice@mail.slh.wisc.edu

www.wohlab.com

## WOHL Microbiologist Certified as Spore Analyst



Paul Eglsaer

Paul Eglsaer, a WOHL Senior Microbiologist in the Bioaerosol Unit, has been certified as a Spore Analyst (Level I).

Paul earned his new Analyst designation from the Pan American Aerobiology Certification Board's spore certification program.

Level I certification involves practical approaches to fungal spore trap sample analysis, identification of

commonly encountered spores, and the calculation of concentrations of various spore types from raw counts.

These raw counts are derived from the microscopic examination of spore traps (gel coated slides).

The certification process involved a course of individual study and workshops over the period of a year, passing (a score of 85% or above) a preliminary qualifying exam, and, finally, passing (88% or above) the Level I certification exam.

## Special Notice Related to Silica Results

Recently the National Institute of Standards & Technology (NIST) reevaluated the Standard Reference Material's® (SRM) for both Respirable Alpha Quartz (SRM 1878a) and Respirable Cristobalite (SRM 1879a) and issued new Certificates of Analysis.

The previous Certificate of Analysis dated August 31, 1999, for Respirable Alpha Quartz (SRM 1878a) listed the certified value as  $100 \% \pm 0.21 \%$ . The Certificate of Analysis dated September 21, 2005, lists the value as  $93.7 \% \pm 0.21\%$ . The previous Certificate of Analysis dated August 31, 1999, for Respirable Cristobalite (SRM 1879a) listed the value as  $95.6 \% \pm 0.4 \%$ . The Certificate of Analysis dated September 21, 2005, lists the value as  $88.2 \% \pm 0.4 \%$ .

The Wisconsin Occupational Health Laboratory (WOHL) was just recently made aware of these new certified values. WOHL will be using these new values to calculate results of all samples received on or after October 24, 2005.

These new certified values will lower your crystalline silica results (previous results were reported higher than their true values).

All American Industrial Hygiene Association (AIHA) accredited laboratories are required to use the NIST SRM's for silica analysis and should also be adjusting for the new certified purities.

If you have any questions please don't hesitate to call the Laboratory at (800) 446-0403.

## WOHL Staff Updates

**Dan Omilianowski**, PhD, CIH, a long time WOHL organic chemist retired at the end of July. Dan's expertise and devotion to the field of Industrial Hygiene Chemistry will be missed. Please direct questions related to mini-can and EPA Method 24 analysis to **Shari Schwabe**.

**Barb Woerhl** has joined the WOHL staff as Supervisor of the Customer Service department. Barb brings a wealth of knowledge and experience in customer service and shipping issues.

**Crystal Hoffman**, BS Chemistry, has joined the metals staff replacing **Jason Loughrin** who left WOHL earlier this year.

WOHL is very proud of its talented and professional staff of chemists, microbiologists, geologists, information systems staff, laboratory technicians and customer service specialists who average more than 12 years of experience with WOHL and have a cumulative 450 years of experience in the field of Industrial Hygiene analysis.

### More WOHL News Inside:

- ❖ WOHL's Accreditation Renewed by AIHA2 .....Page 2
- ❖ Bioaerosol Laboratory Adds Spore Trap Analysis to Accreditation .....Page 2
- ❖ WOHL Gains New Capabilities .....Page 3
- ❖ Microscopic Particle Identification 101 .....Page 3

# WOHL's Accreditation Renewed by AIHA

WOHL has recently been re-accredited by the American Industrial Hygiene Association (AIHA).

AIHA accreditation is in compliance with the ISO/IEC 17025 standard for laboratory accreditation.

As part of this program the laboratory is visited every two years to evaluate the policies and procedures that WOHL uses and to ensure compliance with AIHA and ISO/IEC 17025 policies.

There was a change in accreditation this year. Instead of accrediting by broad categories, we are now accredited by method.

The practical result of this is that our certificate which used to be one page long is now 13 pages long. It still breaks down by the broad categories but also lists all of

the methods that we had accredited during our visit.

This also means that for analytes where we need to develop a method there may be some additional delay in reporting results.

The choice would be to flag the results as not being accredited or to wait until AIHA expands our accreditation to cover this new method. That process shouldn't take too long.

Also during our visit, the laboratory received accreditation for direct exam of spores. This accreditation recently became available after a proficiency testing program and specific AIHA policies were developed.

See the following article for more information on this Accreditation. We also obtained



accreditation for Beryllium. Again this became available after a specific proficiency testing program became available.

## Bioaerosol Laboratory Adds Spore Trap Analysis to Its AIHA Accreditation

The Bioaerosol Laboratory of the Wisconsin Occupational Health Laboratory has added Spore Trap Analysis to its list of American Industrial Hygiene Association (AIHA) accreditations.

AIHA completed guidelines for this field of testing and added it to their roster of accreditations for environmental microbiological laboratories earlier this year.

Since 2000, the laboratory has been accredited by AIHA for environmental microbiology methods for identifying environmental fungi and bacteria from air, bulk and wipe samples.

Accreditation by AIHA means the environmental microbiology laboratory has demonstrated competence in analysis, quality control and assurance, and proficiency in the AIHA EMPAT program. Laboratories accredited by AIHA are in compliance with International Standard ISO/IEC 17025.

## E-mailing and Faxing of Reports

As many of you have noticed, WOHL has been e-mailing and/or faxing your reports when they are available along with mailing the final report.

In order to reduce unnecessary duplication, effective *January 1, 2006*, we will only e-mail your reports. We will continue to mail the final report.

Many of you have already requested that we do this. If you do not have e-mail or would like to continue to receive both faxed and e-mailed copies of the report, please contact WOHL at (800) 446-0403.

# WOHL Gains New Capabilities

WOHL's parent organization, the Wisconsin State Laboratory of Hygiene, has recently acquired several pieces of cutting edge high-tech equipment.

These include an HPLC/MS/MS, a high resolution GC/MS and a high resolution ICP/MS.

This equipment was acquired through federal funding for Chemical Terrorism preparedness and will be primarily dedicated to that mission.

However, to develop and maintain staff expertise with

the instruments and to expand analytical capabilities, WOHL will make some non-emergency services available to its customers.

WOHL will be developing methods for low level analysis of pharmaceuticals and mycotoxins.

Other Wisconsin State Laboratory of Hygiene staff will be developing methods for endocrine disrupting compounds, organo-metallic compounds and biomonitoring (measuring low levels of contaminants in human blood and urine).

Check out WOHL's updated  
**Sampling Guide 2006!**

The guide has been mailed to you with an updated fee schedule. Additional copies of the 2006 Sampling Guide are available upon request or online at [www.wohlab.com](http://www.wohlab.com).

The ICP/MS/MS brings the capability of measuring metals at extremely low concentrations.

All these capabilities will eventually be made available to WOHL clients.

## Microscopic Particle Identification 101

Microscopic Particle Identification is useful for characterizing various components in settled dust or loose settled sediments in water, or for dust collected on furnace filters or from HVAC systems, to mention a few.

A few of the various particles that can be confidently identified by this technique include:

- Cotton fibers and other natural textile fibers
- Synthetic textile fibers
- Mineral grains such as quartz, calcite, various feldspars, clay and other micaceous minerals
- Coal flyash, oil soot flyash and soot in general
- Coal particles
- Animal hair
- Dog dander
- Human epidermal skin flakes
- Feather barbules
- Certain chemical compounds such as urea, Calcium carbonate, Boric acid crystals and Sodium chloride, etc.
- Starch grains (corn or wheat starch)
- Efflorescent mineral growths
- Insect parts
- Dust mites
- Rubber tire fragments
- Trichomes (plant hairs)
- Asbestos
- Fibrous glass
- Perlite
- Generic identification of mold and pollen grains

This is just a short list of the various possibilities. The most frequently employed tool for this analysis is the Polarized Light Microscope.

This technique allows for the observation of a variety of optical characteristics such as refractive indices, birefringence, optical sign, and other characters by which many substances can be identified.

Sometimes in cases in which Polarized Light Microscopy is not fully adequate, or for which additional diagnostic criteria is helpful for confirming an identification, Scanning Electron Microscopy (SEM), and Energy Dispersive X-ray Analysis (EDXA) may be used to identify the elemental constituents of a substance.

Another, newer technique also employed is FTIR Microspectroscopy. Some substances which are not appropriate for this analysis include: Stains on clothing, liquids (unless they are water samples and have visible, solid, settled particles in them which can be removed and examined separately), sludge, sewage, oils, solvents, and bodily fluids.

Contact the lab for a collection technique which best suits your situation, since most situations can vary greatly. Call us at 608-224-6222 or toll-free at 800-446-0403.

# WOHL Staff Directory

## ADMINISTRATION

### WOHL Director

Terry Burk  
(608) 224-6215  
tb@mail.slh.wisc.edu

### Customer Service

Kathy Loehr-Lishka  
(608) 224-6210  
loehrlka@mail.slh.wisc.edu

Dee Ann McGary

(608) 224-6210  
dam@mail.slh.wisc.edu

### Information Tech.

Eric Maly  
(608) 224-6236  
malyec@mail.slh.wisc.edu

Dave Schleis

(608) 224-6227  
dave@mail.slh.wisc.edu

### Quality Control

Donna Johnson  
(608) 224-6298  
drjohnse@mail.slh.wisc.edu

Derek Popp  
(608) 224-6298  
dp@mail.slh.wisc.edu

### Shipping

Larry Yonash  
(608) 224-6214  
ly@mail.slh.wisc.edu

## BIOAEROSOLS

### Bioaerosols Tech. Chief

Christine Powell  
(608) 224-6261  
powellcj@mail.slh.wisc.edu

### Molds, Spores, Bacteria

Paul Eglsaer  
(608) 224-6261  
pce@mail.slh.wisc.edu

Curtis Hedman

(608) 224-6261  
hedmancj@mail.slh.wisc.edu

Terri Ellinger

(608) 224-6261  
ellingt@mail.slh.wisc.edu

## INORGANICS

### Inorganics Supervisor

Lyle Reichmann  
(608) 224-6216  
lr@mail.slh.wisc.edu

### Asbestos

Dick Kittel  
(608) 224-6222  
rlk@mail.slh.wisc.edu

John Knight

(608) 224-6222  
jk@mail.slh.wisc.edu

Bill Steele

(608) 224-6222  
ws@mail.slh.wisc.edu

### Chromatography

LeRoy Dobson  
(608) 224-6223  
ld@mail.slh.wisc.edu

John Glowacki

(608) 224-6224  
jglow@mail.slh.wisc.edu

Pam Skaar

(608) 224-6224  
skaarp@mail.slh.wisc.edu

### Metals

Shakker Amer  
(608) 224-6225  
saa@mail.slh.wisc.edu

Mike Grochowksi

(608) 224-6226  
mg@mail.slh.wisc.edu

Crystal Hoffmann

(608) 224-6226  
hoffmaer@mail.slh.wisc.edu

Doug Smieja

(608) 224-6225  
ds@mail.slh.wisc.edu

### Weights

John Draeger  
(608) 224-6297  
draeger@mail.slh.wisc.edu

## ORGANICS

### Organics Supervisor

Steve Strebel  
(608) 224-6216  
ss@mail.slh.wisc.edu

### Mass Spectrometry

Mark Mieritz  
(608) 224-6218  
mm@mail.slh.wisc.edu

### Non-routine

Alan Cormack  
(608) 224-6218  
abc@mail.slh.wisc.edu

### Pesticides

Mark Hudziak  
(608) 224-6218  
mh@mail.slh.wisc.edu

### Solvents

Adam Bednarek  
(608) 224-6219  
ab@mail.slh.wisc.edu

Jim Blair

(608) 224-6219  
jeb@mail.slh.wisc.edu

Michael Jager

(608) 224-6219  
jagermj@mail.slh.wisc.edu

Cheri Johnson

(608) 224-6218  
cj@mail.slh.wisc.edu

Tony Liebig

(608) 224-6219  
al@mail.slh.wisc.edu

Kathleen Reihbandt

(608) 224-6220  
kr@mail.slh.wisc.edu

Patrick Rieley

(608) 224-6218  
rieleypk@mail.slh.wisc.edu

Shari Schwabe

(608) 224-6218  
sls@mail.slh.wisc.edu

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# WOHL

Wisconsin Occupational Health Laboratory  
Wisconsin State Laboratory of Hygiene  
2601 Agriculture Drive  
Madison, WI 53718

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