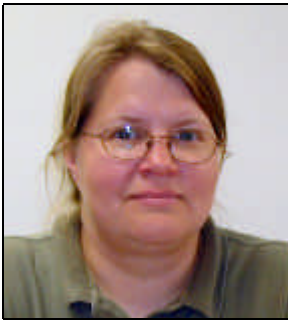


## MIHS PRESIDENT'S MESSAGE

Lisa Quiggle, CAIH



I would like to thank everyone for their help with the Frankenmuth PDC and the November Mini-Conference. Both events were fairly well attended though we always welcome more members. We are trying to plan a tour of the new Rouge facility sometime in the spring and have run into a few snags trying to get dates for a meeting room and space in the factory tour. We are also looking at a tour of the Marathon refinery and ASSE is interested in a joint meeting at a wind tunnel facility. Also remember the Michigan Safety Conference in April where we will have a booth to pass out information.

MIHS was able to make a \$1,000 donation to the American Industrial Hygiene Foundation (AIHF) Scholarship Fund. AIHF is a nonprofit organization formed by the American Industrial Hygiene Association. The scholarship funds students to complete their graduate education in industrial hygiene.

It's getting to be that time of year again; we are looking for volunteers who would like to be on the MIHS Board for 2005. Remember you

receive ABIH points for serving on the elected Board positions. Anyone who is interested please contact Jerry Plattenberg or myself.

We are also looking for volunteers to review articles from the Journal of Occupational and Environmental Hygiene. MIHS presents a best paper award at the AIHce meeting in May. The review process involves reading the articles for one month of the journal and filling out a short review form for each article. We have the forms and a written procedure; we just need a few volunteers to help out. If you are interested please email and we can get you started.

If you are a few certification points short this year, AIHA is having a sale until January 7 on some of their distance learning courses. They are available for .5 to 1 CM point. The sale offers \$100 to \$150 off each course for members and even more for non-members.

Also for those of you who may not be aware, OSHA has proposed a revised rule on Hexavalent Chromium. They are seeking comment on three standards for general industry, construction and shipyards. The comment period ends on January 3, 2005.

# MICHIGAN ERGONOMICS REGULATION UPDATE

by John Bavin



The regulatory spotlight is on Michigan to see if the MIOSHA standards process results in the second mandatory ergonomics regulation in the country. The Congressional Review Act removed the OSHA final rulemaking on ergonomics in April 2003, before the first compliance deadline. Late last year voters in Washington State struck down their ergonomics regulation a few months before the effective date. Currently, the only ergonomic standard being enforced in the country is in California.

In the fall of 2003, MIOSHA was directed by a Joint Steering Committee of the General Industry and Occupational Health Standards Commissions to create an Ergonomics Advisory Committee. The Advisory Committee has been meeting approximately monthly for the past year to develop language for a proposed ergonomics standard in Michigan.

The Ergonomics Advisory Committee is much larger than the typical standards advisory committee. Currently there are five Labor representatives, six Management representatives, two Public representatives and two Technical Advisors, and a Safety Standards Commissioner acting as liaison to both standards commissions. John Bavin, Industrial Hygienist with Consumers Energy is a member of the Advisory Committee.

Discussions during the first few meetings of the Ergonomics Advisory Committee included other options besides a mandatory standard, including outreach or voluntary ergonomics guidelines. In January of 2004 both of the Standards Commissions clarified the direction to the Advisory Committee, which is to develop a mandatory standard, not guidelines or outreach. For a proposed standard to continue through the process beyond the Advisory Committee, there must be a consensus among Committee members, not a majority vote of Committee members.

The standards promulgation process in Michigan involves 30 steps. Step #3 is the drafting of rules by an Advisory Committee, which is where the process has been for the last 12 months. This is not an overnight process. Assuming the Advisory Committee reaches consensus on proposed language for a standard, there are numerous legislative hurdles and formal reviews before a proposed standard goes to public hearing.

The draft language developed so far by the Advisory Committee is listed below. I urge you to review the draft as

well as future revisions, which will be posted on the MIOSHA web site. [Go to [www.michigan.gov/cis/](http://www.michigan.gov/cis/) then click on "MIOSHA", then click on "Standards and Regulations".] Also posted are dates of future Advisory Committee meetings and minutes of those past. Advisory Committee meetings are open to the public. Anyone attending a meeting is welcome to express their views to the committee. Please get involved in the process by attending an Advisory Committee meeting and voicing your views, or email John Bavin with your comments or concerns.

John P Bavin  
Corporate Industrial Hygienist  
Consumers Energy  
jpbavin@cmsenergy.com

## DRAFT ELEMENTS OF A MINIMAL PROCESS Ergonomics Advisory Committee September 22, 2004

### Training

1. All general industry employees shall be given ergonomic awareness training that covers:
  - a. What are ergonomic hazards, risk factors, and injuries.
  - b. The process for communicating that an ergonomic hazard has been recognized.
  - c. What to do when an ergonomic hazard is recognized and how to avoid an ergonomic injury.
2. Records to document training shall be kept.

### Exposure Assessment

1. An employer shall have ergonomic risk factor assessment mechanism and it shall be kept current.

### Employer and Employee Involvement

1. Employers and employees should be involved in the overall ergonomic process.
2. There shall be no discrimination for reporting a hazard. [tentative until researched]

### Risk Reduction

1. There shall be a process to control or, where feasible, reduce ergonomic hazard.

## Matching Grants to Universities Program

Through its Matching Grants to Universities Program, the Michigan Industrial Hygiene Society (MIHS) encourages individual financial support of higher education to include institutions which have performed a valuable service to both the member and the community.

### Eligible Contributors

All current individual members (including Honorary, Life, Full, Associate, and Student) may have their gifts matched by MIHS to eligible institutions. Contributors are not required to have attended or received a degree from eligible institutions.

### Eligible Institutions

Graduate and undergraduate schools with industrial hygiene programs which are in the boundaries of MIHS are eligible to receive matching grants. Madonna

University, University of Michigan, Oakland University and Wayne State University.

### Eligible Gifts

The minimum gift matched by MIHS is \$25 and the maximum amount matched is \$200 for each contributor. Gifts will be matched at the rate of \$1 for each \$1 contributed up to \$200. In the case of multiple gifts made by an eligible individual, MIHS applies the match to the gifts in the order received. The maximum amount matched per eligible institution is \$1250.

### Would you like to make a Matching Grant contribution?

To learn more, go to [www.MIHSweb.org](http://www.MIHSweb.org), and click on "Matching Grants", on the left-hand sidebar link.

## Introducing New Board Member, Andy Crause, CIH



I'm filling the seat left by Nancy McClellan, and I'm looking forward to serving on the MIHS Board. I've been an industrial hygiene consultant for over 17 years, and I've been an on-and-off member of MIHS, but I've never served, so this should be fun. I've been at Clayton Group Services for 16 years, and I've been a CIH for 8 years. I graduated from MSU in 1985 without a clue in the world as to what I wanted to do. I fell into industrial hygiene, and have been trying to claw my way out ever since!

I'm pretty much an industrial hygiene generalist, in terms of the types of projects I have performed. The beauty of consulting is that you get to see a variety of industries, processes, and IH issues, and you get to help diagnose all sorts of occupational exposure issues. The drawback would be that you don't usually get to become an expert at any particular aspect of hygiene, as the scenery is always changing.

I look forward to meeting those of you that I don't already know at future events.

## WSUIHSA

The Wayne State University Industrial Hygiene Student Association invited MIHS to present on October 4, 2004 at one of their student chapter meetings. The requested presentations on "real world" industrial hygiene, and what to expect after graduation. Lisa Quiggle, MIHS President, gave a presentation on industrial hygiene activities at an educational facility, MSU, where she works. Laura Randall, MIHS Communications Chairperson, made a presentation from a consultant's perspective. This was an excellent opportunity for MIHS to reach out to new and upcoming members in the profession! Thank you to Nicole Ivers, the WSUIHSA and to Dr. Bonita Taffe for coordinating these efforts.

## MIHS Membership Dues

Membership dues for 2005 are payable between September 1 - November 30 for current members. To update your membership, please go to [www.MIHSweb.org](http://www.MIHSweb.org) and click on "Member Dues" in the upper right-hand corner.

## Looking for new job opportunities?

Be sure to frequently check the job-posting page on the MIHS website.

Go to [www.MIHSweb.org](http://www.MIHSweb.org), click on "Informational & Support Links", then click on "IH Job Postings". New postings have been added.

## AIHce 2005

The premier conference and exposition for OEHS professionals

Celebrating Innovation  
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Anaheim, CA

For registration and information: [www.aiha.org](http://www.aiha.org)

## Comprehensive Industrial Hygiene Review

A four and one-half day course that provides an intensive, high-level review of a wide range of industrial hygiene topics. This program is offered twice annually in Ann Arbor and has gained the reputation of being one of the premier programs for people needing to broaden or refresh their industrial hygiene knowledge base or to focus their efforts on professional certification. Attendees benefit from interaction with more than a dozen experts covering the industrial hygiene topics. The next offering will be September April 4-8, 2005. This program is co-sponsored by the American Industrial Hygiene Association (AIHA) and the Michigan Industrial Hygiene Society and registration is handled through the AIHA. For more information, refer to the following link on the AIHA web page:

<http://www.aiha.org/MeetingsEducation/html/CIH.htm>



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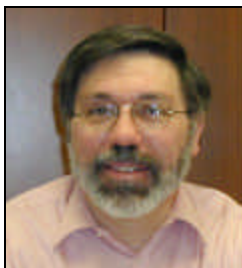
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## NIOSH Publishes Alert on Preventing Healthcare Worker Exposures to Hazardous Drugs

by Pier-George Zanoni, CIH, MIHS Board



In September 2004, the National Institute for Occupational Safety and Health (NIOSH) finalized and published their draft document entitled "**Preventing Occupational Exposures to Antineoplastic and Other Hazardous Drugs in Health Care Settings.**"

Hazardous drugs include those used for cancer chemotherapy, antiviral drugs, hormones, some bioengineered drugs, and other miscellaneous drugs. As mentioned in this alert, "Although antineoplastic drugs remain the prime focus of the NIOSH alert, other drugs are also considered hazardous because they are potent (small quantities produce a physiological effect) or cause irreversible effects."

NIOSH wants to raise the level of awareness that healthcare workers are still being exposed to hazardous drugs and are experiencing serious health effects despite current work practice guidelines. Evidence for this can be seen in 14 studies that have found widespread hazardous drug contamination on work surfaces in pharmacies and patient areas and 11 studies identifying concentrations of these hazardous drugs in the urine of healthcare workers even after typical current safety practices are put in place. NIOSH therefore recommends that workers follow a standard precautions or universal precautions approach to handling all hazardous drugs along with any recommendations included in the manufacturer's Material Safety Data Sheet (MSDS).

The NIOSH document urges employers and editors of trade journals to spread the word and bring the recommendations of the Alert to the attention of all workers who are at risk. Those health care workers potentially exposed to these harmful drugs include: pharmacists & pharmacy techs, nursing staff, operating room personnel, physicians, environmental services workers, and shipping and receiving personnel.

The main routes of exposure are inhalation, skin contact, and unintentional ingestion. Exposures can occur from breathing contaminated air during the preparation or administration of these drugs and from contact with contaminated equipment, work surfaces, clothes, or patient excreta (if the patient has taken the drugs within the past 48 hours - or even within the last 7 days for certain drugs).

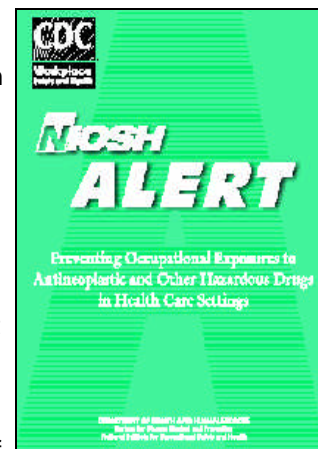
NIOSH has revised the American Society of Health System Pharmacists (ASHP) 1990 definition of hazardous

drugs to include those that exhibit one or more of the following six characteristics in humans or animals: 1) carcinogenicity, 2) teratogenicity or other developmental toxicity, 3) reproductive toxicity, 4) organ toxicity at low doses, 5) genotoxicity and 6) structure and toxicity of new drugs that mimic existing drugs determined hazardous by the above criteria. The NIOSH Alert contains a sample list of 136 drugs that should be handled as hazardous. They plan to post this sample hazardous drug list on their website and update it on a regular basis. See [www.cdc.gov/niosh](http://www.cdc.gov/niosh) and look under "Hazardous Drug Exposures in Health Care." NIOSH recommends that organizations maintain their own inventory of hazardous drugs and they provide suggestions in the Alert on how to generate your own list.

It should also be noted that the EPA lists 9 antineoplastic drugs as hazardous and thus must be handled as hazardous waste. Arsenic trioxide is a P-listed hazardous waste. Chlorambucil, cyclophosphamide, daunorubicin HCl, diethylstilbestrol, melphalan, mitomycin, streptozocin, and uracil mustard are U-listed hazardous wastes. See EPA regulations 40 CFR 261.33. Many other drugs might also fall into the EPA classification as hazardous if they display any of the standard characteristics for hazardous chemicals (i.e. corrosive, toxic, reactive, or ignitable). Trace amounts (i.e. less than 3% by weight of the original quantity of hazardous drug) do not need to be considered hazardous waste but should be disposed of in yellow chemotherapy waste containers.

The Alert provides recommendations for:

- receiving and storage
- drug preparation
- ventilated cabinets
- cleaning and decontaminating
- housekeeping
- waste disposal
- spill control
- medical surveillance



*Some Recommended **Work Practices** include:*

- Transport materials in sealed containers. Always prepare IV's under a hood. Note: The NIOSH glossary provides good explanations of the various classifications of ventilated biological safety cabinets.
- Prime IV tubing in pharmacy inside a ventilated cabinet
- Seal the final drug product in a plastic bag before taking it out of the ventilated cabinet where it is prepared.
- Change gloves at least every 30 minutes or whenever they are soiled or damaged.
- Wash hands before & after gloving and when leaving drug administration site.
- When handling spills, be aware that the size of the spill may dictate additional spill response procedures requiring specially trained personnel and OSHA approved respiratory protection.

*Some Recommended **Engineering Controls** include:*

- Since cytotoxic drugs can be vaporized, hoods should be 100% exhausted to the outside with no recirculation of even HEPA filtered air into the room.
- Use devices such as closed-system transfer devices, glove bags, and needle-less systems for added protection.

*Recommended **Personal Protective Equipment (PPE)** includes:*

- Double glove for all activities involving hazardous drugs.
- Use goggles when administering hazardous drugs (or face shields during clean up if splashing is possible).
- Use gowns made of polyethylene-coated material instead of polypropylene-based material since polypropylene materials provide inadequate protection against many commonly used antineoplastic drugs.
- For drug preparation, use disposable, low-lint gowns that close in front, have tight fitting cuffs at the wrists (outer glove must extend over cuff).
- Use disposable sleeve covers (for drug preparation).
- Do not use surgical masks; they do not provide adequate protection.

**Medical Surveillance:**

- Medical surveillance is recommended for all workers handling hazardous drugs.
- NIOSH Alert references OSHA Tech Manual Sect VI Chapter 2 1999
- Complete physical emphasizing skin, mucous membranes, cardiopulmonary, & lymphatic systems, & liver
- CBC w/ differential, liver function, blood urea nitrogen, creatinine, urine dipstick
- Reproductive issues

- NIOSH Alert adds recommendation for baseline lab tests that include CBC with differential and reticulocyte count and checking for presence of blood in urine.

A full copy of the Alert can be found on the NIOSH website at <http://www.cdc.gov/niosh/docs/2004-165/>

Note: The OSHA Technical Manual Section VI Chapter 2 entitled "Controlling Occupational Exposures to hazardous Drugs (1999) also provides specific guidance information.

[http://www.osha.gov/dts/osta/otm/otm\\_vi/otm\\_vi\\_2.html](http://www.osha.gov/dts/osta/otm/otm_vi/otm_vi_2.html)

The following is an edited excerpt directly from the NIOSH Alert. [Note from NIOSH: This document is in the public domain and may be freely copied or reprinted.]

## Summary of NIOSH Recommended Procedures

**1. Assess the hazards in the workplace.**

- Evaluate the workplace to identify and assess hazards before anyone begins work with hazardous drugs.
- Regularly review the current inventory of hazardous drugs, equipment, and practices, seeking input from affected workers.
- Conduct regular training reviews with all potentially exposed workers in workplaces where hazardous drugs are used.

**2. Handle drugs safely.**

- Implement a program for safely handling hazardous drugs at work and review this program annually on the basis of the workplace evaluation.
- Establish procedures and provide training for handling hazardous drugs safely, cleaning up spills, and using all equipment and PPE properly.
- Establish work practices related to both drug manipulation techniques and to general hygiene practices- such as not permitting eating or drinking in areas where drugs are handled, such as the pharmacy or the clinic.

**3. Use and maintain equipment properly.**

- Develop workplace procedures for using and maintaining all equipment that functions to reduce exposure- such as ventilated cabinets, closed system drug-transfer devices, needleless systems, and PPE.

## MIHS Mini-Conference

The annual, full day, MIHS Mini-Conference was held on October 12, 2004 at the MSU Management Education Center in Troy, Michigan. It was well attended and was worth 1.0 ABIH CM points. (Approval number 04-2526; IH Rubric area.) The following speakers and topics were presented.



"Perspectives on Integrating LEV Design and Maintenance " was presented by Gary Q. Johnson P.E., from The Health & Environmental Safety Alliance, Inc. Gary Johnson is a member of the ACGIH ventilation committee. This presentation discussed particle momentum and hood design for dust control. He also discussed the necessary LEV maintenance procedures to keep the systems in proper working order.



"Reducing Healthcare Industry Exposures to Antineoplastic & Other Hazardous Drugs" was presented by Pier-George Zanoni, CIH from Michigan Department of Community Health (and an MIHS Board member). This presentation provided a summary of the Sept 2004 NIOSH Alert on hazardous drugs and related elements of the new US Pharmacopoeia Chapter 797 standards on sterile compounding. It covered health and safety issues related to hazardous drugs, engineering controls (i.e. ventilated cabinets), work practice controls, recommended PPE and medical surveillance. (Please see Pier-George's article in this newsletter.)



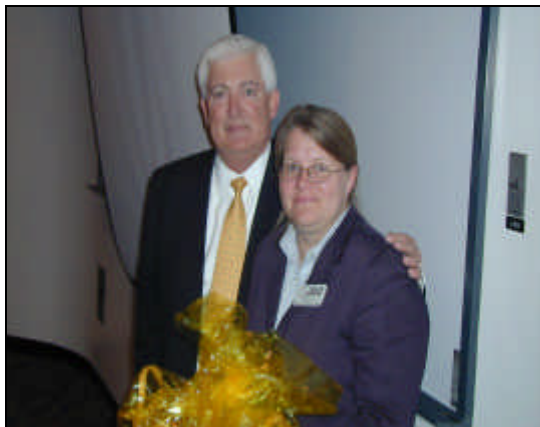
"AIHA Updates" was presented by Cynthia A. Ostrowski, CIH from AIHA Board of Directors. Cindy updated us on the AIHA with a personal perspective on her involvement in AIHA and MIHS. She gave a very encouraging and energetic talk about the benefits and cooperative efforts of AIHA. She also spoke about new and upcoming programs, one of which included a large effort to promote the IH profession. This would involve a multi-media package that could be distributed to engineering and science undergraduates, career counselors, and high school students. Also, a Future Leaders Program was discussed, which would be a 2-day program to help develop new leaders. It would be open to potential candidates of less than 35 years old with less than 15 years experience.



"Michigan Ergonomics Standard Advisory Committee" was presented by John Bavin from Consumers Energy and Michigan Chamber of Commerce. The Michigan Ergonomics Advisory Committee is still meeting and discussing the Ergonomics Standard. He provided an enlightening review of the Committee's history, their current work, and why companies should participate. (Please see John's article in this newsletter. Also, further updates on this will be provided in future newsletters.)



"Current Issues and New Technologies in Hearing Protection" was presented by Lee Hager of Sonomax, Inc. Hearing protection devices (HPD) have become the primary tools used to achieve both compliance with 29CFR1910.95 and hearing loss prevention in the noise-exposed workforce. While laboratory tests indicate that hearing loss prevention should be attainable with most commercial devices, the on-going hearing loss accrued by noise-exposed workers may indicate otherwise. New HPD technologies, designs, and approaches may move closer to the desired goal, but barriers to application and use persist. Lee's presentation described some of the barriers to effective use, approaches for addressing the problems inherent with some HPD, and new technologies intended to promote hearing loss prevention.



"Behavioral Risk Improvement" was presented by Michael Johnson of Marsh Risk Consulting. He works in the Behavioral Services Group, Workforce Strategies department. BRI is a health and safety management system that is based on scientifically derived principles of human behavior. Use of this system enables managers, supervisors, and hourly employees to manage their own, and others behaviors, that are contributing to accidents, injuries and near miss events. The process also includes methods to build management safety support behaviors, such as discussing data at meetings, asking people about their efforts to work more safely, and delivering appropriate consequences. The BRI system enables organizations to identify and address changes needed in workplace design, equipment, procedures and employee behavior to improve health and safety results.

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