

# MIHA

Malaysian Industrial Hygiene Association

Volume 1, Issue 3

17 July 2003

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## A MATTER OF ETHICS

In 1995, the boards of the American Academy of Industrial Hygiene, American Board of Industrial Hygiene, American Industrial Hygiene Association Board of Directors and the American Conference of Governmental Industrial Hygienists adopted this joint Code of Ethics to which members of these organizations shall conform, and to which every applicant attests by signing his or her membership application.

To some of you, this might be the first time you are coming across the Code of Ethics for Industrial Hygienists. You might be wondering as to why Industrial Hygienists need a Code of Ethics?

These canons provide standards of ethical conduct for Industrial Hygienists as they practice their profession and exercise their primary mission, to protect the health and well-being of working people and the public from chemical, microbiological, and physical health hazards present at, or emanating from, the workplace.

There are six canons all together, each with interpretive guidelines. Information on the interpretive guidelines are available on the ABIH, AIHA and ACGIH websites.

### CANON 1

Industrial Hygienists shall practice their profession following recognized scientific principles with the realization that the lives, health, and well-being of people may depend upon their professional judgement and that they are obligated to protect the health and well-being of people.

### CANON 2

Industrial Hygienists shall counsel affected parties factually regarding potential health risks and precautions necessary to avoid adverse health effects.

### CANON 3

Industrial Hygienists shall keep confidential personal and business information obtained during the exercise of industrial hygiene activities, except when required by law or overriding health and safety considerations.

### CANON 4

Industrial Hygienists shall avoid circumstances where compromise of professional judgement or conflict of interest may arise.

### CANON 5

Industrial Hygienists shall perform services only in the areas of their competence.

### CANON 6

Industrial Hygienists shall act responsibly to uphold the integrity of the profession.

Source: <http://www.aiha.org>

Concern regarding occupational exposures to hexavalent chromium has been growing in recent years. This is primarily a result of epidemiologic studies that have consistently shown a link between exposure to hexavalent chromium compounds and excess lung cancers. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), the U.S. Environmental Protection Agency (EPA), and the International Agency on the Research of Cancer (IARC) have all determined that hexavalent chromium causes cancer in humans. In addition to lung cancer, hexavalent chromium compounds can also cause mucous membrane and skin ulcers and perforations of the nasal septum.

### Who is at risk?

The Occupational Safety and Health Administration (OSHA) estimates that, across all industries, approximately one million workers are exposed to hexavalent chromium on a regular basis. Workers are potentially exposed to hexavalent chromium compounds when involved in the production and/or use of chromate pigments, chromium catalysts, chromate paints and coatings, printing inks, plastic colorants, electroplating chemicals, wood preserving chemicals, leather tanning chemicals, textile dyes, and industrial water treatment products. Workers that cut or weld stainless steel or handle refractory bricks may also be exposed to hexavalent chromium.

### Current PEL and where it applies

The current OSHA Permissible Exposure Limit (PEL) listed for "chromic acids and chromates" is a ceiling value of 0.1 mg/m<sup>3</sup>. A ceiling value is a concentration that OSHA states shall not be exceeded at any time during a workday. This ceiling value applies to all forms of hexavalent chromium, which may include dusts (e.g., paints and coatings), fumes (e.g., welding stainless steel), and mists (e.g., electroplating baths). Hexavalent chromium compounds generally encountered in the occupational environment include: ammonium dichromate, barium chromate, calcium chromate, chromium trioxide (chromic acid), lead chromate, strontium chromate and zinc chromate.

### Proposed PELs

OSHA was recently issued a federal court order to develop a proposed rule for hexavalent chromium by October 2004 and a final rule by January 2006. The court order followed a long history of failed efforts by unions and public interest groups for establishment of an Emergency Temporary Standard (ETS) to reduce the PEL for hexavalent chromium. The groups that filed petitions requested that OSHA immediately reduce the PEL for hexavalent chromium to 0.0005 mg/m<sup>3</sup>, as an 8-hour time-weighted average. OSHA is considering 8-hour time-weighted average PELs ranging from 0.00025 mg/m<sup>3</sup> to 0.01 mg/m<sup>3</sup>. It is expected that the proposed PEL will be in the lower end of this range.

The exposure limits that OSHA is considering are more in line with the current American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs). ACGIH has established specific 8-hour time-weighted average TLVs for calcium chromate (0.001 mg/m<sup>3</sup>), lead chromate (0.012 mg/m<sup>3</sup>), strontium chromate (0.0005 mg/m<sup>3</sup>), zinc chromates (0.01 mg/m<sup>3</sup>) and generic TLVs for water soluble (0.05 mg/m<sup>3</sup>) and insoluble (0.01 mg/m<sup>3</sup>) forms of hexavalent chromium, all measured as chromium.

### OSHA's sampling and analytical method for measuring hexavalent chromium (OSHA ID-215)

In anticipation of a lower PEL, OSHA has developed a sampling and analytical method (OSHA ID-215) that is capable of accurately measuring hexavalent chromium at very low concentrations. In addition to better sensitivity, the OSHA ID-215 method does not require special field sample preparation, and it does not have significant interference from other metals as the commonly used, older method (NIOSH 7600) does. As with other substance specific standards (e.g., lead, arsenic, cadmium) it is expected that OSHA will have an initial monitoring requirement and periodic monitoring requirements, based on exposures. Biological monitoring requirements are not expected in the standard because current test methods cannot differentiate hexavalent chromium from other forms found in foods such as onions, broccoli, turkey legs, American cheese, potatoes, liver, brewer's yeast, oysters and wheat germ, or in dietary supplements usually taken for weight loss. Employers that use or process these compounds, or materials containing them, should review their status and ensure exposure controls are up to date. Exposure monitoring can be an important part of this assessment, by identifying areas or jobs where additional controls are needed. When feasible, use of less toxic materials should always be a consideration.

Source: Workplace Group, <http://www.workplacegroup.net/article-hexav-chromium.htm>

Contributor: Ms Chan Kah Yin

**NATIONAL INSTITUTE OF  
OCCUPATIONAL SAFETY AND HEALTH**

**7<sup>th</sup> NATIONAL CONFERENCE AND EXHIBITION ON OCCUPATIONAL SAFETY AND HEALTH**

**THEME: BEHAVIOURAL CHANGE TOWARDS OSH EXCELLENCE**

**VENUE: Sunway Convention Center**

**DATE: July 20th to 21st.**

MIHA is proud to announce that we have planned for two upcoming training courses. We believe that these courses will greatly enhance the knowledge of our industrial hygienists.

The first course is a 5 day Comprehensive Industrial Hygiene course and the second is an Advanced Practical Workshop on Local Exhaust Ventilation System Assessment. We would like to share the recent development on the first course. It was initially planned for Professor Emeritus Steven Levine to teach this course, however, he had to change his plans due to his recent illness. We would like to quote from a message sent by the professor himself:

*I had gallstone pancreatitis and other problems which, by the time they were caught and my gall bladder removed, had become a major illness with many complications.....On advice from my doctor, I have cancelled my airline tickets for Canada in July and for Malaysia in August, and will not accept any travel for the rest of the year. Other than for the aftermath of my motorcycle accident in 1998, these are the first such trips I have ever canceled.*

Prof Steve had suggested several of his colleagues who would be able to replace him and MIHA is glad to announce that we have confirmed Prof. Park Doo Yong of Hansung University, Korea as his replacement..

<b>QUICK TAKE</b>	
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Other than the instructor, everything else remain the same, even the course materials which were developed by Prof Steve Levine.

Further quotes from Professor Steven Levine about Professor Park.. *"Professor Park, who is fluent in both Korean and English, was one of the two most intelligent and hard-working students I have ever had the honor to teach during my entire career. He is an exceptional hygienist, teacher, and human being....."*

Professor Park has taught this course several times in Korea. MIHA is very grateful to Professor Park for changing his schedule in order to assist both Professor Steven and MIHA. MIHA welcomes all budding industrial hygienists and safety professionals to attend this course.

For more details on both courses, please view our brochures, which will be distributed primarily via email.


**COMPREHENSIVE  
INDUSTRIAL HYGIENE  
REVIEW COURSE**

**9—13TH AUGUST, 2004**

**SHERATON SUBANG HOTEL & TOWERS  
SUBANG JAYA, MALAYSIA**

**PROFESSOR PARK DOO YONG**

Co-sponsored by:



**PERKESO**

**ADVANCED PRACTICAL WORKSHOP ON  
LOCAL EXHAUST VENTILATION  
SYSTEM ASSESSMENT**

**CONDUCTED BY FRANK GILL**

Organised in collaboration with NIOSH

**COURSE DATES**  
29<sup>th</sup> & 30<sup>th</sup> November, 2004  
1<sup>st</sup> & 2<sup>nd</sup> December, 2004

**VENUE: NIOSH, BANGI**