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KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI (MOSTI)

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- Code of Practice on Indoor Air Quality
- 8 years of OSH Bulletin
- Industrial Hygiene Analysis in Kimia Malaysia
- Baseline Examination, Inspection and Testing of The Laboratory Fume Hood System
- Kursus Keselamatan dan Kesihatan Pekerjaan untuk Pembantu Makmal



CODE OF PRACTICE ON INDOOR AIR QUALITY

INTRODUCTION

Good indoor air quality (IAQ) is required for a healthy indoor work environment. Poor indoor air quality can cause a variety of short term and long term health problems which include allergic reactions, respiratory problems, eye irritation, sinusitis, bronchitis and pneumonia. IAQ problems occur in buildings that are served by a common ventilation and/or air conditioning system. It can be due to indoor air pollutants or inadequate ventilation.

Department of Occupational Safety & Health (DOSH) has recently implemented Code of Practice on Indoor Air Quality. The purpose of this Code of Practice is to set minimum standards that will protect the health of employees and other occupants of an indoor or enclosed environment. This Code will apply to all non-industrial places of work in industries as well as in hotels, restaurants, entertainment outlets etc.

ASSESSMENT AND CONTROL OF INDOOR AIR QUALITY

Every employer should assess the risks arising from the indoor air quality at the place of work to the health of his employees. The assessment should be carried out during normal business activity and must take into consideration the following:

- (a) The sources of indoor air contaminants;
- (b) Employees' exposure to environmental tobacco smoke;
- (c) Employees' exposure to air contaminants, either from indoor or outdoor sources;
- (d) The prescribed activities;
- (e) The adequacy of mechanical ventilation at the place of work;
- (f) The necessity to monitor an employee's exposure; and

(g) The necessary actions to be taken to improve the indoor air quality at the place of work

The assessment must include the measurement of the indoor air contaminants listed in Table 1.

An employer should ensure that his employees or any other occupants at the place of work are not exposed to any of the contaminants listed in Table 1 exceeding the corresponding maximum limits. Where the assessment report indicates that the indoor air quality is unacceptable, an employer should initiate action to improve the indoor air quality.

Table 1: List of Indoor Air Contaminants and the Maximum Limits

Indoor Air Contaminants	Eight-hour Time-Weighted Average (TWA) airborne concentration	
	ppm	mg/m ³
Carbon Dioxide	1000	
Cabon Monoxide	10	
Formaldehyde	0.1	
Respirable particulates		0.15
Total volatile organic compounds	3	



8 Years of OSH Bulletin

KIMIA MALAYSIA's OSH Bulletin is into its 8th year of publication. The Bulletin acts as a channel to disseminate information and update of OSH activities to the staff of KIMIA MALAYSIA. The Bulletins are available in KIMIA MALAYSIA website at www.kimia.gov.my.

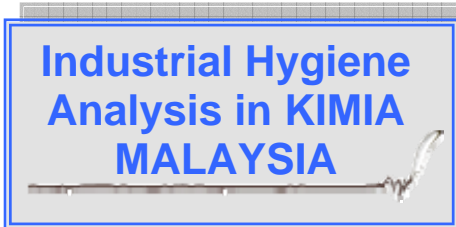
The following summarises the feature articles published in the Bulletin. Suggestion of topics and submission of articles for future publications are most welcome.



ISU NO.	FEATURES ARTICLES
Bil. 1/1998	Recorded Cases of Explosion as a result of Incompatibility of Chemicals.
Bil. 2/1998	Safety and Emergency Response Equipment
Bil. 3/1998	Material Safety Data Sheet (MSDS)
Bil. 4/1998	Fume Cupboards
Bil. 1/1999	Chemical Carcinogens
Bil. 2/1999	Occupational Safety and Health Act 1994 & Occupational safety and Health Master Plan of the Department of Chemistry Malaysia
Bil. 3/1999	The Neutralization and Destruction of Hazardous Chemicals in the laboratory
Bil. 4/1999	Treatment/Antidotes for Poisoning by some of the commonly used chemicals in the Department of Chemistry, Malaysia
Bil. 1/2000	Corrosive Materials and their Hazards
Bil. 2/2000	Fire Safety and Fire Extinguishers in a chemistry laboratory
Bil. 3/2000	Hepatitis B



ISU NO	FEATURES ARTICLES
Bil. 4/2000	Kegunaan peralatan keselamatan diri
Bil. 1/2001	Chemical Health Risk Assessment
Bil. 2/2001	Compressed Gases
Bil. 3/2001	Health Hazards
Bil. 4/2001	Organic Solvents - Safe handling and use in chemical laboratories
Bil. 1/2002	Biological Hazards - Safe handling of biological hazards in the laboratory
Bil. 2/2002	Pertolongan cemas di tempat kerja
Bil. 3/2002	Ergonomics in the office for computer users
Bil. 4/2002	Laboratory Ergonomics
Bil. 1/2003	Accident/Incident Investigation
Bil. 2/2003	Safety of Laboratory Chemicals
Bil. 3/2003	Guidelines on the disposal of Chemical Wastes from laboratories
Bil. 4/2003	Safety Precautions and hazards in the use of X-ray Analytical Instrument
Bil. 1/2004	Cryogenic Liquids and their Hazards
Bil. 2/2004	1) Ruang Terkurung 2) Ruang Terkurung dan Pemeriksaan Kapal
Bil. 3/2004	1) Occupational safety & Health (Use & Standard of Exposure of Chemicals hazardous to Health, USECHH) - Regulation 2000 - The laboratory perspective 2) Using Steam (Sterilizing) Autoclave
Bil. 4/2004	Safety and Health (Notification of Accident, Dangerous Occurance, Occupational Poisoning and Occupational Disease) (NADOPOD) Regulations 2004
Bil. 1/2005	1) Perlindungan mata - kanta lekap 2) Occupational Asthma
Bil. 2/2005	Standard Safety Practices In the Microbiology Laboratory



In 2004, the Industry and Trade Tariff Classification Division at the Headquarters Laboratory increased its analytical capabilities by introducing industrial hygiene testing services.

This service is to assist the Department of Occupational Safety and Health (DOSH) to enforce Regulations to protect the safety and health of workers in the workplace.

Various types of industrial hygiene samples were analysed using the NIOSH Method of Analysis. These were methods to determine airborne contaminants, including total dust, formaldehyde, lead, nicotine, and volatile hydrocarbons. The Department obtained ISO 17025 accreditation from the Department of Standard Malaysia for these methods in July 2005. From June 2004 until September 2005, a total 395 samples were analysed for these new parameters as shown in the following table.

Analysis	Number of Samples	
	2004	2005
Total dust	93	20
Lead in air	8	4
Formaldehyde and nicotine	-	202
Hydrocarbon in air	46	22



BASELINE EXAMINATION, INSPECTION AND TESTING OF THE LABORATORY FUME HOOD SYSTEM

The examination, inspection and testing of laboratory fume hood system in KIMIA MALAYSIA was conducted in stages to comply with the requirements of the Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

The objectives of this exercise are:

- (i) To examine the physical condition of the components in the system.
- (ii) To measure any related pressure, velocity and volumetric flow rate of the system.
- (iii) To determine the hood, duct, air filter devices and fan performance and effectiveness.
- (iv) To establish a baseline data for system.
- (v) To give recommendations to the end user to optimise the performance and effectiveness of the system, if necessary.
- (vi) To identify the maintenance need.

En. Mohd. Nasri Abdul Ghani from KIMIA MALAYSIA, Johor is a registered Hygiene Technician II. He was given the task of conducting the inspection and testing of all the laboratory fume hood system in KIMIA MALAYSIA. He completed the baseline measurements for the Johor branch in August 2005 and the Forensic Services Block at the Headquarters,



Petaling Jaya in September 2005.

The condition and performance of all fume hood systems were found, thus far, to be in good and efficient working order.



Kursus Keselamatan Dan Kesihatan Pekerjaan Untuk Pembantu Makmal Kanan

Kursus Keselamatan dan Kesihatan Pekerjaan untuk Pembantu-pembantu Makmal Kanan telah diadakan pada 8-10 Ogos 2005 bertempat di Cawangan Perak dan telah dihadiri oleh seramai 26 orang peserta dari semua makmal KIMIA MALAYSIA. Kursus selama tiga hari ini padat dengan pelbagai program di antaranya ialah ceramah berkenaan dengan OHSAS 1800, keselamatan dalam makmal, HIRARC (*Hazard Identification, Risk Assessment and Risk Control*), dan pengurusan bahan kimia buangan. Penceramah-penceramah terdiri daripada En. Chang Yit Fong dan En Raja Subramaniam daripada Unit OSH serta En. Mohd Zaini bin Abdul Rahman dari KIMIA MALAYSIA, Cawangan Perak. Selain daripada itu, ceramah mengenai alat perlindungan diri (PPE) dan demonstrasi penggunaan alat respirator telah diberi oleh Syarikat 3M Sdn. Bhd.

Temuramah dengan para peserta mendapati bahawa mereka amat berterima kasih kepada pihak pengurusan kerana telah memberi peluang kepada mereka untuk menambah ilmu pengetahuan di samping dapat bertemu dengan rakan-rakan dari makmal lain.

