

HSSE Regulatory Update



Draft Guidelines on Monitoring of Airborne Chemical Hazardous to Health, 202x

Summary

The Guidelines on Monitoring of Airborne Chemical Hazardous to Health [published on 20th Sept 2002 as P.U. (A) 131] was released as a guidance to hygiene technicians to specify methods of monitoring and analysing the level of exposure of workers to airborne chemicals hazardous to health (CHTH). This is used to supplement the requirement for monitoring exposure of workers prescribed in Regulation 26 of the Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations, 2000.

The guidelines were amended to further support hygiene technicians to comply with the provisions of Part VIII of the above Regulations. In March 2021, the draft Guidelines on Monitoring of Airborne Chemical Hazardous to Health, 202x was posted online for public engagement. In the draft guidelines, it provides thorough technical details, particularly on the sampling technique, monitoring strategy, interpretation of the sampling results as well as a comprehensive guidance on the sampling procedure. The proposed draft guidelines comprise of seven main sections, as listed below:

- Section 1 - Introduction
- Section 2 - Air Monitoring Procedure
- Section 3 - Sampling Technique
- Section 4 - Monitoring Strategy
- Section 5 - Sample Management
- Section 6 - Sampling Results Management & Interpretation
- Section 7 - Report Writing

Basic Info & Links

Agency: Department of Occupational Safety and Health (DOSH)

Implementation: Yet to be Gazetted

Draft New Regulations Content for Online Public Engagement: [Download Here](#) (shared via Google Drive)

Existing Regulations: [Download Here](#)

Review/ Q&A

What are new in Draft Guidelines on Monitoring of Airborne CHTH 202x?

New additions to the guidelines include:

- *Monitoring strategy – Sources of Error in Air Monitoring*
- *Air monitoring procedure (Section 2) – Explained the procedure needed to be taken by the hygiene technician in conducting air monitoring at the workplace*
- *Terminology – The term ‘sampling’ is now referred as ‘air monitoring’ in the draft Guidelines*
- *Respirable Particulate – The draft Guidelines adopted standards from the American Conference of Governmental Industrial Hygienist (ACGIH) on aerodynamic equivalent diameter (AED) for respirable dust, where respirable dust is dust particles with AED less than 10 µm*
- *Sample management – Handling procedure should contain both sample handling and chain of custody. Reference was made to the protocols by United States Environmental Protection Agency*
- *Statistical Analysis of Sampling Result – Description on the use of Descriptive Statistics, performing a compliance test, adjustment of PEL for extended working hours, and mixed exposure*
- *Report writing – Guidance on report writing is included in Section 7 of the draft Guidelines*

What should a hygiene technician follow in conducting air monitoring at the workplace?

The draft Guidelines provides a comprehensive guidance on the procedure of air monitoring which comprises of nine steps, as listed below. A flowchart on air monitoring procedure is provided in the draft Guidelines.

1. *Preliminary survey*
2. *Identify Similar Exposure Group (SEG) and Variation of Exposure*
3. *Identify Sampling Technique*
4. *Monitoring Strategy*
5. *Conduct Air Sampling*
6. *Perform Statistical Analysis*
7. *Compliance Test*
8. *Conclusion and Recommendation*
9. *Prepare and Submit Report*

Is there a guideline on when air sampling can be discontinued?

If the monitoring results show that worker exposure is not in compliance with the PEL, the hygiene technician should advise the chemical health risk assessor/ employer for frequency of further air monitoring based on the level of exposure, i.e.:

- a) *Not more than six months for exposure at or above the permissible exposure limit; or*
- b) *Not more than twelve months for exposure at or above half of the eight-hour TWA but below the eight-hour TWA.*

The air monitoring may discontinue if the result for at least two consecutive measurements taken at least seven days apart show that the exposures are below:

- a) *Half of the eight-hour TWA;*
 - b) *Maximum exposure limit/STEL; or*
 - c) *Ceiling limit*
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