Feidhmeannacht na Seirbhíse Sláinte Health Service Executive	**Safety Advisory/ Guidance Note**				Work Well
Ref: 009:03	**RE: Occupational Hygiene Monitoring in the Workplace**				
Issue date:	August 2017	**Revised Date:**	October 2018	**Review date:**	October 2020
Author(s):	NHSF – Information & Advisory Team.				
Note:	*The information provided is for general guidance only, should you require more specific advice please contact the Health & Safety Help Desk. The management of any occupational safety and health issue(s) remains the responsibility of local management.*				

This guidance note provides a brief summary of the work undertaken by an occupational hygienist and identifies examples of when a manager may require their specialist services in the context of chemicals & noise monitoring.

Occupational Hygiene:

Occupational Hygiene (OH) uses science and engineering to prevent ill health caused by workplace environments and practices.

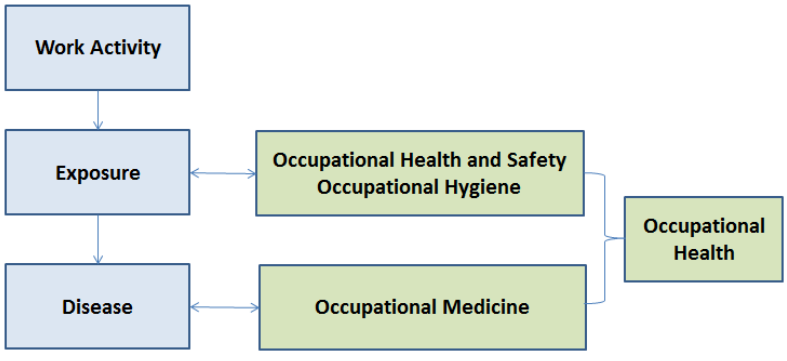
Occupational hygienist:

The role of an Occupational hygienist is to assist employers and employees improve workplace conditions and work practices by:

- quantifying exposure levels and assessing the risk to employees,
- recommending control measures to minimise exposure in accordance with legislation.

Occupational hygienists usually operate as part of a multi-disciplinary team that can include managers, safety professionals, occupational health professionals and employees, see diagram 1 below. Occupational hygienists may also be known as industrial hygienists.

Diagram 1. Interconnectivity within the workplace:



The routine work of a hygienist is to identify potential risks within an employees' environement that may cause ill health and that levels of exposure are in compliance with the statutory Occupational Exposure Limits (OELs) for chemical and physical agents. Occupational hygienists are primarily concerned with the working environment and focus on factors in the workplace, which may affect the comfort, well-being and health of the employees, rather than the medical effect on employees.

Competence: The Occupational hygienist undertaking monitoring must be competent in the:

- use of appropriate methods of monitoring and
- the equipment to be used that ensures compliance with the requirements of current legislation.

Managers Role:

Managers should liaise with professionals in order to determine the suitable locations and intervals of monitoring and are responsible for ensuring the measurements being planned;

- are completed by competent professional (s)
- are representative of the daily exposure to employee(s) to chemicals and/or noise
- that recommendations made are implemented in full
- following results liaise with Occupational Health Professionals, safety professional as appropriate

The Manager is responsible for ensuring that immediate specified actions are taken to reduce exposure to noise and other chemicals as identified in the Occupatioanl Hygiene report. Once recommendations have been implemented then repeat monitoring may be required to ensure that the recommendations have been effective, as advised by the Occupational Hygienist.

What to expect from Occupational Hygiene Reports:

Once the work has been completed and the results verified by a UKAS approved Lab then the report will be issued to the person who organised the monitoring. The information in the report is vitally important and it will relate the exposure rates of employees through certain job tasks and environments. It will clearly enable a Manager to identify areas of overexposure and will make recommendations to reduce the exposure levels as low as is reasonably practitiable. For full guide click on the link in the further information section titled, HSA Information Sheet Occupational Hygiene Report Writing, 2014.

Physical Hazards in the Workplace:

1. Chemicals in the Workplace:

Legislation:

The Safety, Health & Welfare at Work (Chemical Agents) Regulations 2001, requires the Employer to:

- determine whether any hazardous chemical agents are present at the workplace
- assess any risk to the safety and health of employees arising from the presence of those chemical agents.

Managers are required to ensure that exposure limit values are not exceeded. They must ensure that the monitoring is conducted on a regular basis, or as prescribed, and when any change occurs in the working environment or work practices. such changes may affect employee's exposure to the

hazardous chemicals unless it can be demonstrated that adequate prevention and protection measures have been taken to prevent risk.

Note: *Please refer to Appendix 1 attached for sample of chemical/physical agents which may be subject to Occupational Hygiene Monitoring and Appendix 2 for definitions.*

2. Noise:

Legislation
The Safety, Health & Welfare at Work (General Application) Regulations 2007, Chapter 1 of part 5: Control of Noise at Work requires the employer to undertake noise risk assessments where employees are liable to be exposed to excessive noise at work.

Guide – to indicate if noise exposure could be an issue in your area, see if you can talk to someone about two metres away without shouting. If you can't be heard this may highlight a requirement to monitor noise levels in your workplace. It must be emphasised that if there are any doubts you must ensure measurements are taken to clarify the situation.

If it is necessary to measure the levels of noise to which employees are exposed, the services of an occupational hygienist will be required.

Note: *Please refer to Appendix 2 for definitions.*

Further information:

2018 Code of Practice for the Chemical Agents Regulations.

HSA Information Sheet on Controlling Waste Anaesthetic gases in Healthcare settings 2014.

HSA Information Sheet Occupational Hygiene Report Writing 2014.

Visit our website www.hse.ie/safetyandwellbeing.

Health and Safety Authority Website www.hsa.ie.

Frequently Asked Questions:

Chemical Safety.

Occupational Noise Exposure.

Personal Protective Equipment.

You can also **contact the helpdesk as detailed below:**

Please log your health & safety request at:
http://www.hse.ie/safetyandwellbeing or go to:
http://pndchssdweb02.healthirl.net/Health.WebAccess/ss
Alternatively contact the National Health & Safety Helpdesk on 1850 420 420 between 10:30-12:00 and 14:00 – 15.30 Hrs Monday to Friday.

References:

Safety, Health & Welfare at Work (Chemical Agents) Regulations, 2001.

2018 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.

HSA Information Sheet 2014, Controlling Waste Anaesthetic Gases in Healthcare Settings.

Occupational Hygiene Society of Ireland (OHSI).

Appendix 1

Examples of Chemical/Physical Agents which may be subject to Occupational Hygiene Monitoring

(Please note this is a non -exhaustive list)

Theatres	Maternity/Midwifery Led Unit/ Early Pregnancy room	Laboratory	Fracture Clinic	Dental	Mortuary	X-ray	Catering
Nitrous Oxide	Entonox	Formaldehyde	Isocyanates	Nitrous Oxide	Formaldehyde	Hydroquinone	Noise
Sevoflurane	O-phthalaldehyde	Xylene		Sevoflurane	Methanol	O-phthalaldehyde	
Isoflurane		Methanol		Desflurane	Hydrogen Peroxide		
Desflurane		Ethanol		Halothane			
Halothane				Enflurane			
Enflurane				Acetic acid			
Bone Cement (Methyl Methacrylate) (Orthopaedic Theatre)							
Formaldehyde							

Examples of Chemical/Physical Agents which may be subject to Occupational Hygiene Monitoring

(Please note this is a non -exhaustive list)

Endoscopy	Pulmonary Function labs	ENT Clinic	Laundry	CSSD	Pharmacy	Emergency Department (ED)
Nu Cidex	Acetic Acid	O-phthalaldehyde	Sodium Hydroxide	Hydroquinone	Ethanol	Entonox
Cytolote			Noise Levels	Nu Cidex		
Acetic acid			Lint /Dust Levels	Hydrogen Peroxide		
O-phthalaldehyde						

Appendix 2

Chemical Safety Definitions:

Occupational Exposure Limit Values (OELV):
OELV, is defined as a concentration of a specific substance in the air which employees can be exposed to repeatedly without expected adverse reaction. In practice exposure should be kept at a level as low as is reasonably achievable. It is averaged over 8 hours and is measured in mg/m^3 or ppm.

Short Term Exposure Limit (STEL):
STEL is defined as the concentration to which employees can be exposed for short periods of time, usually 15 minutes, 4 times per day, without suffering adverse health effects (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

Time-Weighted Average (TWA):
TWA is defined as the time weighted average concentration for a conventional 8 hour day/ 40 hour week (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

Noise Safety Definitions:

Daily noise exposure level, ($L_{EX,\ 8h}$)(dB) (A) re:20 uPa) means the time weighted average of the noise exposure level for a nominal eight hour working day as defined by international standard ISO 1999:1990, point 3.6, covering all noises present at work, including impulsive noise.

Exposure action value, is the level of daily noise exposure or peak pressure level which, if exceeded, requires specified action to be taken to reduce risk

Exposure limit value is the level of daily noise exposure or peak sound pressure which must be exceeded.