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1.0 Introduction

We are committed to promoting the health, safety and well-being of our workers, visitors and contractors, in accordance and in conjunction with Occupational Health & Safety Policy. We will strive to develop and implement best practices in occupational and environmental hygiene principles.

We have developed and implemented a comprehensive Occupational Hygiene Program (OHP) devoted to the recognition, evaluation and control of those environmental factors, arising in or from the work place that may cause illness, injury, or discomfort. To help reduce the risk of hazardous exposures, ensure regulatory compliance, and improve working conditions, appropriate occupational hygiene practices will be applied to operations in accordance with the our Occupational Health & Safety Policy.

The Occupational Hygiene Program clearly defines and stipulates the responsibilities of all workplace parties involved in its development, administration and implementation of the program. The Occupational Hygiene Program includes the following elements:

- Organizational Commitment;
- Occupational Hygiene Process;
- Roles and Responsibilities;

1.1 Purpose and Scope

The Occupational Hygiene Program provides information to departments, supervisors and workers to allow for informed decision-making regarding exposure to hazardous agents in the workplace. This program outlines how worker exposures hazards will be addressed in the workplace including the interpretation of technical data, conducting research, and assist in the development of guidelines and procedures that support workplace health and wellness.

A hazard may be chemical, biological or physical in nature:

- Chemical hazard - is any chemical capable of causing bodily injury or illness;
- Biological hazard - is any biological organism that is infectious or pathological to humans; and
- Physical hazard - arises from the interaction of matter and energy related to the science of physics such as sounds, light, vibration, and radiation that could result in an occupational injury or illness.

This program is not intended to deal with potential public exposure issues or ecological concerns.

1.2 Supporting Programs & Standards

There are a number of occupational hygiene related hazards that have specific regulatory requirements. For these hazards, additional programs or standards will be developed and will work in conjunction with this program.

These future programs or standards may include, but are not limited to the:

- Asbestos Management Program;
- Respiratory Protection Program;
- Hearing Conservation Program;
- Laser Safety Program;
- Radiation Safety Program;
- Biosafety Program;
- Laboratory Safety Program;
- Indoor Environmental Quality Program;
- Lock Out - Control of Hazardous Energy;
- Mercury Abatement Program;
- Personal Protective Equipment Program;

2.0 Occupational Hygiene Process

To ensure occupational hygiene issues are addressed in a consistent manner, concerns will follow the following process.

2.1 Hazard Assessment

2.1.1 Formal Hazard Assessment & Control Process

This Hazard Assessment and Control Process document specifies the responsibilities, procedures, and requirements for proactively completing job hazard assessments. The occupational hygiene process is engaged when a chemical, biological, or physical hazard is identified on this hazard assessment. Hazards that are not chemical, biological, or physical in nature are outside the scope of this process and will be addressed through the Occupational Health & Safety Policy and its accompanying programs and standards.

2.1.2 Reporting a Hazard

There may be reactive issues that arise outside of the hazard assessments process. This could include complaints or concerns brought forward by supervisors and workers. Issues could also arise as a response to advancements in technology, workplace incidents/accidents, regulatory change, emerging trends, or a change in industry best practices.

In these situations, the following basic steps will apply:

- Hazard Identification
- Hazard Recognition
- Hazard Evaluation
- Hazard Control

2.2 Level of Risk

A competent person must conduct the hazard assessment and include a qualitative evaluation of the risk associated with the identified occupational hygiene hazard. Hazards that pose an acceptable level of risk will not be addressed further. The criterion for determining if the risk level is acceptable is based on the potential health effects that would result from the quantities being used and the duration of exposure. If the substance/agent poses an unacceptable risk, or the risk level is unknown, further action is required.

2.3 Can Hazard be controlled?

If the hazard can be readily minimized or eliminated through the implementation of a control, the control should be implemented according to the hierarchy of controls in accordance with legislation

requirements. If controls are implemented, their effectiveness needs to be verified or monitored to complete the process.

Note: In certain situations, regulatory requirements may exclude this step. For example, there are specific regulations governing the disturbance of asbestos-containing materials.

A walkthrough survey is required when:

- A hazard cannot be controlled;
- Regulatory requirements dictate; or
- If the implemented controls are not effective in minimizing and controlling the hazard.

2.4 Walkthrough Survey

Once it has been established that the hazard requires further investigation, Environment, Health and Safety (EH&S) will conduct a walkthrough survey with the supervisor of the area. The walkthrough survey is used to more clearly identify potential health hazards. This is not a site inspection but rather a technical review of the operations, workers, and materials in the assessment

The supervisor and Environment, Health and Safety must agree to the scope of the survey before it is conducted.

The walkthrough survey should document the following:

- Name of department or process;
- Nature of operation;
- Raw materials and quantities used;
- Equipment and machinery used;
- Health hazards identified and routes of exposure;
- Controls present;
- Number of workers exposed and their position; and,
- Items for follow-up after survey.

See Sample Walkthrough Survey Checklist and Form

The walkthrough survey should also include a review of any prior walkthrough surveys, incident/accident reports, past monitoring data, and materials safety data sheets (MSDSs). Where relevant, interviews with workers and spot samples may also be included.

2.5 Exposure Assessment

2.5.1 Sampling Strategy

The information collected during the walkthrough survey will be used to determine what action is required to quantitatively determine worker exposure. A quantitative evaluation of exposure will require some degree of monitoring. The exact type of monitoring conducted will be determined by evaluating the:

- Duration of worker exposure;
- Number of exposed workers;
- Sampling methods available and their limits of detection;
- Degree of accuracy required in the results;
- Number of samples required to achieve representative results;
- Cost; and,
- Regulatory requirements.

Using these factors, Environment, Health and Safety will develop a sampling strategy outlining how, where, and the number of samples that will be collected. Environment, Health and Safety will work collaboratively with the supervisor to determine the best method for conducting the sampling. Where appropriate resources and equipment are available, internal resources may be used to

conduct the sampling. External occupational hygiene contractors and resources may be required as determined on a case-by-case basis.

2.5.2 Sampling Methodology

Before sampling is conducted, the supervisor is required to notify their workers of the pending monitoring. If personal sampling is required, the workers must also be made aware that they will be required to wear sampling equipment. The workers are required to cooperate with monitoring and not intentionally contaminate collected samples.

For sampling techniques that require the use of an external laboratory for analysis, only laboratories accredited through. may be used.

2.5.3 Sampling Results and Assessment

Where Environment, Health and Safety has conducted monitoring, the consultant will evaluate the sample results. Where the monitoring was conducted by another internal resource, Environment, Health and Safety will assist that resource in evaluating the results. When a third party is used to conduct the monitoring, the external occupational hygiene contractor will evaluate the sampling results. Environment, Health and Safety may perform a technical review and provide supplemental interpretation of reports prepared by outside contractors where warranted.

Sampling results will be made available to the supervisor within 30 days of receiving the final laboratory analysis results. The results will be made immediately available if there is an excursion of an Occupational Exposure Limit (OEL).

2.5.4 Written Documentation

The final sampling results may be made available in report or memo format depending on the extent of sampling conducted. Where Environment, Health and Safety conducted the sampling, the consultant will interpret the analysis results and provide the written report or memo.

Where another internal resource conducted the sampling, Environment, Health and Safety will assist in interpreting the results and in preparing the written report or memo. Where a contractor was used, the contractor will submit a formal report on the sampling results. Environment, Health and Safety may review reports prepared by contractor to ensure their accuracy and quality. The occupational hygiene monitoring results must be issued to both the supervisor and the Occupational Hygiene Consultant. Additional stakeholders may be included in the distribution as required. It is the supervisor's responsibility to ensure the results have been shared with the exposed workers in their area.

2.6 Determination of Exposure Level

Determining whether results from monitoring indicate an acceptable exposure level will be based on the Occupational Exposure Limits (OELs), accepted occupational hygiene practices, and professional judgement. To help guide this determination, an action level will be used. The action level is the point at which hazard controls will be recommended and will be set at 50% of the applicable OEL, where there is little historical data present. Where sufficient historical data is available, the action level will be calculated using accepted occupational hygiene practices. Where occupational exposure limits do not exist, other recognized standards and professional judgement will be used to determine at which point hazard controls are required.

Where the exposure results are below the action level, the exposure level will be deemed acceptable.

However, recommendations for controls may still be made to address worker comfort or due diligence issues. Where the exposure results are above the action level, the implementation of, or modification to, hazard controls must be made. Where an OEL has been exceeded, the affected

worker is to be informed of the nature and extent of the excess exposure and immediately protected from further excess exposures. Where the exposure results cannot be clearly interpreted, further exposure assessment will be required.

2.7 Implementation of Controls

When recommending controls for identified and assessed hazards, the hierarchy of controls will be used; preference will first be given to engineering controls, then administrative controls, and lastly personal protective equipment. It is the responsibility of the affected supervisor to implement hazard controls and to ensure their effectiveness in accordance with University policies, procedures and legislation requirements. Each supervisor is responsible for notifying the Occupational Hygiene Consultant, in writing, when the recommended controls have been implemented. The hazard assessment form must also be updated to reflect any changes in control measures.

2.8 Additional Exposure Assessments

To evaluate the effectiveness of a control, additional exposure assessments of the substance/agent may be required. If additional assessments are required, Environment, Health and Safety will develop a monitoring strategy and schedule.

Additional exposure assessment may also be required after new processes, equipment, or products are introduced.

Where additional exposure assessment is not required, no further action is necessary.

2.9 Monitoring Schedules

Monitoring schedules must be developed for substances/agents that cannot be eliminated and require additional exposure assessments. A monitoring schedule will specify the substance/agent(s) to be monitored, the frequency of monitoring, and how the monitoring is to be conducted. This schedule may specify continuous monitoring or periodic follow-up monitoring as a means to evaluate the applicable operation. The affected department/supervisor and Environment, Health and Safety will keep a copy of the monitoring schedule. The schedule may be adjusted if changes are made to the operation, resulting in a change in the hazard assessment.

3.0 Roles and Responsibilities

In order for the occupational hygiene process to work effectively, the roles and responsibilities of each stakeholder (i.e. department, supervisor, worker, Occupational Hygiene Consultant, etc.) must be clearly defined:

3.1 Management

- Ensure that the Occupational Hygiene Program and all its components are implemented, administered and enforced;
- Ensure resources are available for the implementation of this program and,
- Ensure that all potentially exposed workers are provided with appropriate controls, including personal protective equipment.

3.2 Supervisors

- Conduct hazard assessments in accordance with the Occupational Health & Safety Policy and associated Hazard Assessment and Control Process;
- Implement controls in accordance with legislation requirements;

- Be knowledgeable in the appropriate government regulations, safety standards, and prudent
- safety practices to protect workers;
- Notify Environment, Health & Safety (EH&S) of occupational hygiene issues;
- Follow any monitoring schedules that have been established;
- Provide access to their areas for walkthrough surveys and monitoring, where required;
- Forward monitoring data to the Occupational Hygiene Consultant; and,
- Inform Environment, Health and Safety when recommended hygiene controls have been implemented.

3.3 Workers

- Attend required training sessions on workplace hazards;
- Participate in personnel monitoring, audiometric testing and respiratory fit testing, where required;
- Wear personal protection equipment, where required (also applies to students, visitors and guests);
- Ensure that personal protection equipment is in a sanitary condition and proper working order by
- following proper maintenance procedures and inspections; and,
- Report workplace hazards and defective or damaged personal protective equipment to the appropriate supervisor.

This guidance and program applies to all employees of WPP.

Signed

Date