WESTERN UNIVERSITY

OCCUPATIONAL HEALTH AND SAFETY

DESIGNATED SUBSTANCES PROGRAM

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Introduction

Designated Substances are those substances designated as hazardous by the Ministry of Labour under the Occupational Health and Safety Act, Section 70 (2) 23.

The Act defines a designated substance as:
A biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled.

When a designated substance is present in the workplace, the Occupational Health and Safety Act requires the employer to review the work methods and assess the likelihood of worker exposure. When there is a likelihood of worker exposure, a control program must be instituted that includes engineering controls, work practices, hygiene practices, training record keeping and medical surveillance (if applicable).

At Western University, a comprehensive Asbestos Control Program has been in place for many years. In order to assess the amount and range of other Designated Substances present on campus, a survey is sent annually to all Departmental Chairs and Budget Unit Heads along with a Designated Substances Inventory form requiring identification, location and quantity of the designated substance. These are to be filled out by each person using the substance and returned to Occupational Health and Safety (OHS.)

Assessment

The designated substance regulations (Reg. 490/09) require that an assessment be conducted to determine the extent to which workers are exposed to the substance. If such assessments are to be thorough and accurate, it is important that they be organized in a step-by-step manner, as outlined in this document.

In conducting the assessment, the procedures used in handling the substance, the actual and potential exposure of workers to the substance and the procedures necessary to control such exposure are taken into account. Any data that have already been gathered on air quality, worker exposure and existing control measures is also included. The core of the assessment consists of information obtained from an inspection of the workplace to evaluate first-hand, the nature of worker exposure to the substance. This inspection may be supplemented by air sampling where necessary.

OHS must be consulted when planning the assessment or evaluating the data. Other experts such as occupational hygienists, engineers, designers, and Workplace Health may also be consulted.

OHS will communicate all aspects of the Designated Substances Program with the Joint Occupational Health and Safety Committee (JOHSC).

Steps to be considered in determining the need for implementing a Designated Substance Program.

1. The users must identify and familiarise themselves with the designated substances used in their workplace. The quantities of the substance used, the manner in which it is handled and the physical form (e.g. solid, liquid, dust, fume, vapour, etc.) in which it is present is to be recorded.

2. The users must familiarise themselves with existing data on processes and control measures currently used in the University. The following information, is to be recorded in the assessment if available:

    a. Engineering controls:
        i. Types of ventilation systems used;
        ii. Location of local exhaust ventilation hoods;
        iii. Measures taken to isolate or physically enclose the machine or process
    b. Work practices regarding handling, use and storage of materials
    c. Hygiene practices
    d. Housekeeping procedures
    e. Use of personal protective equipment
    f. Contingency plans for spills or equipment breakdowns
    g. Medical surveillance programs; completion of Workplace Hazard Communication Form for each worker

3. Supervisors must provide information and training on the hazards of the substances; precautions required for its handling, storage, disposal; personal hygiene practices and use of personal protective equipment to their workers.

4. The workplace is to be inspected, observing every step in the process to determine the potential for exposure of workers to the substance. Potential hazards involved in the storage and transportation of the material should be considered. Areas of consideration include:

    a. Sources of contamination
    b. Possibility of worker exposure
    c. Engineering controls
    d. Housekeeping measures
    e. Emergency equipment
        i. Respiratory equipment
        ii. Protective clothing
        iii. Emergency clean-up equipment
        iv. Showers, eyewashes
    f. Worker feedback

Review and Analysis

The data is to be reviewed to determine the actual and potential exposure of workers to the substance, the adequacy of existing control measures and any further measures necessary to control exposures. The analysis will include an evaluation of:

a. potential sources of worker exposure to the substance;
b. present hygiene practices and facilities;
c. ventilation;
d. other engineering controls;
e. protective equipment procedures;
f. work practices, including provisions for emergencies;
g. worker competency;
h. training programs;
i. administrative controls; and
j. medical surveillance programs

An assessment report including a summary of the information gathered and the analysis of these data must state whether there is actual or potential exposure of workers to the substance and whether their health may be affected. The conclusions of the assessment must indicate whether or not a control program is necessary. One of four possible conclusions may be reached:

1. Although a designated substance has been identified in the workplace, there is no need to implement a control program as it is not be possible for the workers to become exposed to the substance.

2. Although workers could potentially become exposed to a designated substance and engineering controls are in place (e.g. exhaust ventilation), there is no need to implement a control program since the health of a worker is not likely to be affected and the risk to their health would be minimal even if the engineering controls failed.

3. Existing control measures provide adequate worker protection. However, if these controls should fail or should not be maintained properly, the health of workers can be affected. If this conclusion is reached, then a control program must be developed that incorporates existing control measures and other mandatory provisions as required by the regulation.

4. Workers are exposed to the substance in a manner that can affect their health, and further control measures are needed to provide sufficient protection. If this conclusion is reached, then a control program must be developed that establishes further control measures to protect the health of workers.

The Assessment report will include one of the above conclusions. In the case of conclusion 1 or 2, the assessment will be re-evaluated if there is a change in the use of the substance that may result in the need for a control program. In the case of conclusion 3 or 4 where a control program is required, OHS will work with the department involved to ensure all the required elements are in place.

Western University Designated Substances Inventory Report

Building:	Room #:	Department:	
Supervisor:	Phone Ext:	E-mail:	Date:

Designated Substance - Complete Chemical Name	Container Size	CAS # (If Known)

List of Designated Substances	Check y/n	MSDS in Lab (y/n)	Training Provided (y/n)
Asbestos			
Benzene			
Lead and its Compounds			
Mercury and its Compounds			
Silica			
Vinyl Choride			
Acrylonitrile			
Arsenic and its Compounds			
Isocyanates			

Please return to:
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Human Resources
Occupational Health and Safety

Appendix 2

DESIGNATED SUBSTANCES CONTROL PROGRAM

INTRODUCTION:
Designated substances are prescribed under the "*Occupational Health and Safety Act*", [O. Reg 490/09]. The designated substance regulation applies to employers and workers at workplaces where two conditions are met:

- the substance is present in the workplace, and
- a worker is likely to inhale, ingest or absorb some of the substance that is present.

The designated substance regulation requires that an assessment be conducted to determine the extent to which workers are exposed to the substance. The assessment is done to determine:

- whether workers are inhaling, ingesting or absorbing the substance at present or whether they are likely to do so in the future; **and**
- whether or not the health of a worker may be affected by exposure to the substance.

This assessment covers the following details:

- the methods and procedures used in the processing, use, handling or storage of the substance;
- the actual and the potential exposure of workers to the substance; and
- the measures and procedures necessary to control such exposure by means of engineering controls, work practices, hygiene practices and facilities.

RESPONSIBILITIES:

Every person working with designated substances is responsible for following safe work practices. The Principal Investigator/supervisor is responsible for ensuring that an inventory of all designated substances is maintained, including a record of the amount used. The inventory is to be submitted to Occupational Health and Safety (OHS), Support Services Building, Room 4159. The Principal Investigator/supervisor is responsible for ensuring adequate training is provided to workers and that safety equipment is used, including appropriate personal protective equipment and adequate engineering controls e.g. fumehoods.

IDENTIFICATION AND USE:

Supervisors of Western University workers using/exposed to designated substances are to submit a Designated Substance Inventory form to OHS indicating the location and the amount used.

Designated substances are used in small quantities in various locations at Western.

EXPOSURE POTENTIAL / CONTROL MEASURES:

Exposure Potential
The amounts of designated substances used at Western are small and therefore the exposure potential is low should there be an accidental spill.

Procedures in place

- Mercury Control Program
- Lead-Based Abatement and Work Procedures
- Asbestos Type 1 Operations
- Asbestos Type 2 Operations

In order to ensure that the potential for exposure remains low:

- Only the minimum amount of a designated substance should be purchased.
- All spills must be cleaned up immediately.
- Waste must be properly collected and disposed of as hazardous waste.

Call Campus Community Police Services (CCPS) @ 911 for the Western Hazardous Material Emergency Response Team who will respond to all uncontrolled releases of hazardous materials emergencies, including designated substance spills. The team is highly trained and equipped with the proper personal protective equipment and is always on call to deal with all situations involving hazardous materials.

Control Measures

Workers handling designated substances are required to follow the procedure for handling chemicals according to the Laboratory Health and Safety Manual and the Hazardous Materials Management Handbook.

ASSESSMENT

Each location identified will be assessed depending on the amount and form of the substance used. If an assessment is required, a Designated Substance Assessment Form (Appendix 3) is to be completed. Should an assessment result in the need for a control program this will be implemented as required.

MEDICAL SURVEILLANCE

Each worker at Western is to have a Hazard Communication Form filled out by their supervisor and submitted to Workplace Health. If medical surveillance is required, Workplace Health will arrange the necessary medical tests. Should the worker decide not to participate in Western's medical surveillance program, a waiver must be signed by the worker.

TRAINING

The supervisor is responsible for ensuring all workers are trained in the proper use of the designated substance that they are handling. All training is to be documented and the records are to be kept by the supervisor.

Appendix 3

Designated Substance Assessment Form

Location _____ Principal Investigator _____

Prepared by _____ Date _____

Description of usage, include all equipment and materials	Control measures required (including controls already in place)
Conclusion:	