



BCIT Safety Manual

REPRODUCTIVE TOXINS, SENSITIZERS AND CARCINOGENS EXPOSURE CONTROL PLAN



Contents

1. Purpose	2
2. Definitions	2
2.1 Supervisor	2
2.2 Student	2
2.3 Reproductive Toxin	2
2.4 Sensitizer.....	2
2.5 Carcinogen	2
2.6 Designated Substance	2
3. Applicable Legislation and Reference Materials.....	3
4. Roles & Responsibilities	3
4.1 BCIT	3
4.2 School & Department	3
4.3 OHS Group	4
4.4 Supervisor	4
4.6 School & Department WHMIS Coordinator Responsibilities.....	4
4.7 OH&S Committee Members.....	5
5. Risk Identification, Assessment & Control	5
5.1 Risk Assessment	5
5.2 Routes of Exposure	5
5.3 Control Measures	5
6. Education & Training	6
7. Written Work Procedures	6
7.1 Safe Work Procedure Guideline	6
8. Hygiene & Cleanup Practices.....	7
9. Health Monitoring	7
10. Documentation.....	7
11. Program Review.....	7



1. Purpose

This exposure control plan is designed to minimize (or eliminate) employee, student and visitor exposure to substances noted as Reproductive Toxins, Sensitizers and Carcinogens through prevention, control measures, and awareness.

2. Definitions

2.1 *Supervisor*

A BCIT employee who instructs, directs, and controls employees or students in the performance of their duties and activities.

2.2 *Student*

A person who enrolls in a full-time or part-time program or course in BCIT, including students in practicum and apprenticeships.

2.3 *Reproductive Toxin*

A reproductive toxin is a substance which affects the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses. Reproductive toxins are designated by WorkSafeBC substance with the letter "R" under section 5.57(1) of the WorkSafeBC Occupational Health and Safety Regulation.

2.4 *Sensitizer*

A sensitizer is a substance that has been shown to elicit an allergenic type of response in humans after an initial exposure, resulting in the development of symptoms upon subsequent exposure at much lower concentrations. Sensitizers are designated by WorkSafeBC substance with the letter "S" under section 5.57(1) of the WorkSafeBC Occupational Health and Safety Regulation.

2.5 *Carcinogen*

A carcinogen is a substance that has been shown to cause, or has the potential of causing cancer, in humans. Carcinogens are designated in section 5.57(1) of the OHS Regulation under section 5.57(1) of the WorkSafeBC Occupational Health and Safety Regulation.

2.6 *Designated Substance*

Substances that are noted by one of the following on the Table of Exposure Limits for Chemical and Biological Substances:

- (a) ACGIH A1 or A2, or IARC 1, 2A or 2B carcinogen;
- (b) ACGIH reproductive toxin;
- (c) ACGIH sensitizer;
- (d) ACGIH L endnote.



3. Applicable Legislation and Reference Materials

WorkSafeBC [OHS Regulation Guideline Part 5 - Table of Exposure Limits for Chemicals and Biological Substances](#)

WorkSafeBC [OHS Regulation Guideline Part 5 – Section 5.57](#)

BCIT [Occupational Health and Safety Manual Part 1 – Section 4](#) - Occupational First Aid Reporting Procedures

4. Roles & Responsibilities

BCIT is committed to protecting the health and well-being of employees, students, and visitors. Employees and students must be aware of the hazards and know how to protect themselves when using substances noted as Carcinogens, Sensitizers and Reproductive Toxins.

4.1 BCIT

- Make every practicable effort to eliminate, replace or minimize the use of Reproductive Toxins, Sensitizer, and Carcinogens.
- Support the implementation of the Exposure Control Plan by ensuring that safety training is available for employees and students, and that, mechanical ventilation, personal protective equipment and facilities for emergencies and decontamination are provided.

4.2 Schools & Departments

- Perform a risk assessment of areas and tasks where Reproductive Toxins, Sensitizers and Carcinogens are being (or will be) used
- Ensure that controls are in place that reduce exposures below TLVs and as low as reasonably achievable (ALARA)
- Make every effort to eliminate the hazardous substances or substitute them with less hazardous substances whenever practical
- Ensure engineering controls are available and implemented if required
- Ensure safe work procedures for the handling, storage and disposal of the chemicals are developed
- Ensure that personal protective equipment is readily available and used
- Consult OH&S Group to identify additional ways to minimize exposure to the hazards for an employee or student who has advised BCIT of pregnancy or intends to conceive a child
- Develop and maintain a system that involves supervisors and their employees or students, to ensure that everyone is aware and protected when working with designated substances



4.3 OH&S Group

- Develop and maintain an effective Exposure Control Plan
- Present a summary of known Reproductive Toxins, Sensitizers and Carcinogens on campus (Chemical information is received from the WHMIS Coordinators) to the Joint Occupational Health and Safety Committee annually
- Act as an advisory resource to identify ways for exposure minimization

4.4 Supervisor

- Develop safe work procedures for specific tasks involving Reproductive Toxins, Sensitizers, and Carcinogens
- Provide employees and students with information concerning the health hazards associated with Reproductive Toxins, Sensitizers, and Carcinogens and the operation and use of the equipment and control measures, including safe work procedures, and the safe use and disposal of personal protective equipment (PPE)
- Ensure the Exposure Control Plan is read and understood by affected employees and students.
- Ensure that employees and students have been trained in the safe use and disposal of Reproductive Toxins, Sensitizers and Carcinogens as well as in the use of PPE
- Keep records of instruction and training related to Reproductive Toxins, Sensitizers and Carcinogens per BCIT records retention policy
- Conduct inspections and maintain sufficient supervision to ensure engineering controls, safe work procedures are followed and PPE provided is used

4.5 School & Department WHMIS Coordinator

- Ensures the chemical inventory and material safety data sheets (MSDS) are available and current.
- Identify Reproductive Toxins, Sensitizers and Carcinogens from the chemical inventory and Material Safety Data Sheets (MSDS) and inform School/Department Safety Committee, Supervisors and OH&S Group of the use of these substances.
- Provide training on the Reproductive Toxins, Sensitizers and Carcinogens Exposure Control Plan to all employees, students who need to work with these substances.

4.6 BCIT Employee/Student

- Read and understand the Exposure Control Plan
- Use the installed facilities and assigned Personal Protective Equipment (PPE) to prevent exposure to the hazards
- Follow the safe work procedures required for the use, storage, and disposal of the hazards.
- Practice good personal hygiene
- Inspect and cleanup their work area daily to ensure a healthy and safe work environment.
- Report any unsafe conditions or acts to Supervisors



- If the employee or student has concerns, while pregnant or intending to conceive a child, she/he may advise BCIT of their doctor's recommendations

4.7 OH&S Committee Members

- Report any chemical handling deficiencies that are seen during the course of the monthly workplace inspections to the School and Department, the WHMIS Coordinator and OH&S Group.

5. Risk Identification, Assessment & Control

5.1 Risk Assessment

In situations where employees or students are required to work with designated substances at BCIT a risk assessment shall be performed by the supervisor responsible for the work. This risk assessment must take into account the likelihood and severity of exposure to the designated substances.

5.2 Routes of Exposure

Harmful substances can enter the body by inhalation, contact with the skin, ingestion (if employees or students do not properly wash their hands before eating, drinking, or smoking) or injection (needle prick).

5.3 Control Measures

The following hierarchy of controls shall be used to reduce exposures to designated substances to levels below the applicable exposure limits and as low as reasonably achievable.

a. Elimination & Substitution

Whenever practical, Reproductive Toxins, Sensitizers, and Carcinogens should be eliminated from the campus or substituted with less hazardous substances.

b. Engineering Controls

When elimination or substitution is impractical, engineering controls such as fume hoods, dust collectors and local exhaust ventilation will be used to control the hazards. Extraction units must be such positioned that they do not pull the substances past workers' breathing zone.

Because Reproductive Toxins, Sensitizers and Carcinogens are designated substances under section 5.57(1) of the *OHS Regulation*, the use of a general dilution ventilation system is restricted by the provisions of *OHS Reg 5.70, Table 5-1*.

c. Administrative Controls

Administrative controls include:

- Conducting regular inspections for proper storage, handling and disposal of designated



substances

- In the case of the employee or student who has advised his/her supervisor of pregnancy or the intent to conceive a child or of sensitivities to a substance, a job review will be done. For the job review, the supervisor and employee may include the Safety Representative, the BCIT OHS Group and/or the Human Resources Advisor. An employee or student may include their physician recommendations to evaluate the hazards and assess the risk level. A mutually satisfactory accommodation will be found. The accommodation may include protective re-assignment
- An effective Workplace Hazardous Information system (WHMIS) which includes labels, MSDS, and training
- Effective training in safe work procedures and appropriate control measures
- Task rotation
- Regularly cleaning up work areas

d. Personal Protective Equipment

The PPE required during work with designated substances must be available and used. PPE include, but are not limited to, respirators, goggles, gloves, and lab coats. Training on PPE use, maintenance, and limitations must be provided by the School or Department. If respirators are required, then fit tests will be part of the Respiratory Protection Program (BCIT Safety Manual Part 3- Section 42).

6. Education & Training

Supervisors will arrange training on WHMIS, work procedures, control measures, personal protective equipment, and emergency procedures for employees and students who are involved in working with Reproductive Toxins, Sensitizers and Carcinogens. Training documentation must be retained by the Supervisor following the BCIT records retention policy.

7. Written Work Procedures

The Reproductive Toxins, Sensitizers and Carcinogens Exposure Control Plan and the following written safe work guideline is available on-site for employee and student direction.

7.1 Safe Work Procedure Guideline

The following Safe Work guideline is designed to lead Supervisors through the process of developing task-specific safe work procedures:

1. Assess the work tasks, eliminate or substitute the Reproductive Toxins, Sensitizers and Carcinogenic substances, if possible.
2. All hazardous materials used in the workplace require an MSDS. Employees and students must become familiar with the potential hazards of the materials used in the workplace.
3. Participate in all safety and health education, training, and monitoring programs offered.



4. Learn about the appropriate engineering controls, effective work practices, and personal protective equipment (i.e., gloves, respirators, and personal protective clothing) that can be used to reduce exposures to hazardous substances.
5. Where necessary, store all street clothes in a separate area of the workplace to prevent contamination.
6. If chemicals contact the skin, follow directions for washing provided in the Material Safety Data Sheet (MSDS).
7. Arrange appropriate disposal of unused chemicals.
8. Store chemicals in sealed containers when they are not in use.
9. Wash hands before eating, drinking, or smoking.
10. Change out of contaminated clothing and wash with soap and water before going home. Wash the clothing separately from other laundry (at work if possible).
11. Avoid taking contaminated objects home.

8. Hygiene & Cleanup Practices

- No food and beverage consumption or storage in laboratories/workshops
- Open toe or sandal style footwear is prohibited in laboratories/workshops
- Work areas and fume hoods must be cleaned up regularly
- Employees and students must ensure they wash their hands and face upon completion of work and prior to eating, drinking or smoking
- Items contaminated by Reproductive Toxins, Sensitizers and Carcinogens must be properly handled, cleaned, or disposed of

9. Health Monitoring

Material Safety Data Sheets describe symptoms that are related to the applicable substances. Employees and students are required to promptly report any symptoms which may be linked to exposure to these substances to BCIT First Aid Attendant and their Supervisor for further investigation.

10. Documentation

The Supervisor will keep records of instruction and training related to Reproductive Toxins, Sensitizers and Carcinogens following the BCIT records retention policy.

11. Program Review

This exposure control plan will be reviewed annually for the following:

- The effectiveness of control measures and work procedures used
- First aid reports and any reported chemical exposure related health issues



British Columbia Institute of Technology
REPRODUCTIVE TOXINS, SENSITIZERS AND CARCINOGENS
EXPOSURE CONTROL PLAN

- Documentation for training and education

The annual review will be done in consultation with the Joint Occupational Health and Safety Committee.