



BCIT Safety Manual

WOOD DUST EXPOSURE CONTROL PLAN



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1. Purpose

BCIT is committed to protecting the health and well-being of employees, students, and visitors. This Exposure Control Plan is designed to minimize employee, student, contractor, and visitor exposure to wood dust, to eliminate fire and explosion hazards due to the accumulation of wood dust, and to ensure compliance with applicable WorkSafeBC regulations.

This Exposure Control Plan applies to any areas or tasks at BCIT where there is the potential for the generation or accumulation of wood dust. This Exposure Control Plan outlines the measures that are necessary to minimize exposure to wood dust at BCIT. The appendices to this document describe the processes that are taken and schedules that are followed in order to minimize exposures to wood dust in each of the buildings at BCIT where there is the potential for wood dust generation or accumulation.

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 Carcinogen

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.

2.3 Allergen

A substance capable of inducing allergy or specific hypersensitivity.

3. Applicable Legislation and Reference Materials

WorkSafeBC [Worker's Compensation Act Part 3 Division 3](#) - General Duties of Employers, Workers and Others

WorkSafeBC [OHS Regulation Guideline Part 4 - Work Area Requirements](#)

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

BCIT Safety Manual Part 2 Section 15 – [Contractor Safety](#)

BCIT Safety Manual Part 2 Section 21 – Safe Work Procedures



BCIT Safety Manual Part 2 Section 23 – [Training and Orientation](#)

BCIT Safety Manual Part 3 Section 42 - Personal Protective Equipment

4. Roles & Responsibilities

4.1 BCIT

- Comply with relevant federal, provincial, and WorkSafeBC Regulations and support the implementation of this Exposure Control Plan
- The Wood Dust Exposure Control Plan must be reviewed annually

4.2 Facilities Maintenance

- Ensure that engineering controls (extraction system) are effective and properly maintained
- Conduct planned maintenance (PM) following task-specific work procedures to ensure the safe removal of accumulated wood dust from machinery, equipment and building surfaces (see Appendix A)

4.3 Contractors

Contractors are responsible for ensuring the safety of their employees as indicated in BCIT Safety Manual Part 2 Section 20 – Contractor Safety.

Contractors must ensure that the employees under their supervision are trained in their work procedures and provided with the appropriate tools and equipment to ensure that they and any other people nearby are not exposed to wood dust over the course of their work. Contractors are responsible for the development of safe work procedures for any wood dust generating tasks or work being performed in the areas where there is wood dust generation.

If, at any time during their work on BCIT property, the contractor suspects that wood dust poses an exposure hazard to their employees or others they must cease work immediately and consult with their BCIT Project Contact who will consult the BCIT OHS Group. Work must not be recommenced until a risk assessment has been performed and risks of exposure have been mitigated.

4.4 BCIT Project Contact

- Ensure that the contractor follows BCIT project safety procedures
- Consult BCIT OHS Group for emerging health and safety issues when necessary
- Conduct sufficient safety inspections during projects

4.5 Advisory OHS Committee

- Consult with, or report to the OHS Group, and the Joint OHS Committee when necessary

- Conduct regular inspections to identify and correct areas of wood dust accumulation to ensure that controls are functional and to prevent the development of hazardous conditions

4.6 OH&S Group

- Review task- and area-specific Wood Dust Exposure Control Plans
- Act as an advisory resource to identify methods to minimize risks
- Provide departments with general guidelines on work procedure development
- Serve as a resource for supervisors and instructors in regard to risk assessment and gaps in health and safety training
- Set up respirator fit testing train-the-trainer sessions for instructors and supervisors when necessary

4.7 School/Department

- Ensure that instructors and employees have attended training on the hazards of working with wood (physical and biological hazards of the process and those due to exposure to wood dust)
- Ensure that instructors and supervisors have attended train-the-trainer sessions so that they can fit test their students, where necessary

4.8 Supervisor/Instructor

Supervisors are required to ensure the health and safety of all workers and/or students under their direct supervision. This includes providing employees and students the information, instruction, training and supervision necessary to ensure their health and safety in carrying out their work and to ensure the health and safety of others at the workplace.

Supervisors are responsible for ensuring that the employees and/or students under their supervision are trained in their work procedures and provided with the appropriate tools and equipment to ensure that they are not exposed to wood dust over the course of their work. Supervisors are specifically responsible for:

- Development of safe work procedures for any wood dust generating tasks
- Education of employees and students regarding: health hazards associated with wood dust, the control measures (including this Exposure Control Plan), and work procedures
- Maintenance of records of related instruction and training
- Conducting inspections and maintain sufficient supervision to ensure PPE provided is used, extraction system is effectively operated, and safe work procedures are followed
- Conduct regular inspections to identify and correct areas of wood dust accumulation to ensure that controls are functional and to prevent the development of hazardous conditions
- Supervision of the employees/students in the performance of their duties

4.9 BCIT Employee/Student

- Participate in associated training, use controls and adhere to task specific work procedures

- Report any unsafe conditions or acts to Supervisors/Instructors
- Cease work immediately and report to Supervisor/ Instructor if, at any time during their work on BCIT property, they suspect that wood dust poses an exposure hazard

5. Risk Identification, Assessment & Control

5.1 Risk Identification

Regular walk through inspections of any area where there is the potential for the generation or accumulation of wood dust is necessary.

5.2 Risk Assessment

A risk assessment shall be completed by the department, in consultation with the OH&S Group, for those areas where there is the potential for the generation or accumulation of wood dust. The degree of risk will depend on the probability, the extent, the number of people and the consequences of exposure to wood dust for specific area or task.

5.3 Control Measures

Wood dust has been classified as an ALARA substance, for which exposures must be kept as low as reasonably achievable.

The following control measures must be used to eliminate or minimize the risk of exposure to wood dust for BCIT employees, students, contractors and visitors. The use of control measures should be prioritized with Elimination and Substitution being the best control, then Engineering Controls and Administrative Controls. Personal Protective Equipment (PPE) should be used in situations where other controls are not practicable or where the other controls are not adequate in eliminating concerns of exposure to wood dust.

Elimination & Substitution

Whenever practical, more toxic wood should be substituted with less toxic wood.

Engineering Controls

When elimination or substitution is impractical, engineering controls such as local exhaust ventilation with dust collection must be used to control hazard of wood dust exposure. Extraction units must be effective in removing the dust at the source and must be positioned in such a way that they do not pull the substances past workers' breathing zone (section 7 of this document gives more information on Engineering Controls).

NOTE: The use of a general dilution ventilation system designed to re-circulate the contaminants into the work area is restricted by WorkSafeBC regulations.

Administrative Controls

Administrative controls include:

- Conducting regular inspections of areas where there is the potential for the generation or accumulation of wood dust
- Education of employees and students regarding the hazards of, and the control measures to prevent, exposure to wood dust (see section 5 of this document)
- Regularly cleaning up work areas and adhering to PM schedules (outlined in appendices)

Personal Protective Equipment

Goggles/ Safety Glasses with side shields and safety footwear must be worn for all wood processing tasks. A N95 dust mask/respirator is required when work is being performed indoors, where there is no local exhaust ventilation or the ventilation is insufficient to protect employees/students from inhaling wood dust during wood processing. Hearing protection such as ear plugs or ear muffs are mandatory when noise level is above action level (82 dBA). Other personal protective equipment (PPE) such as hard hats, aprons or coveralls may be required depending on work activities.

Training on PPE use, maintenance, and limitations must be provided by the School or Department. If respirators are required, then fit tests must be conducted following the BCIT Respiratory Protection Program (BCIT Safety Manual Part 3- Section 42).

6. Education & Training

In addition to the training that is outlined in BCIT Safety Manual Part 2 Section 23 – Training and Orientation, Supervisors are required to provide training on the hazards of wood dust, the assigned control measures, work procedures, and personal protective equipment for employees and students who are working in areas or involved in tasks that have the potential for the generation or accumulation of wood dust.

6.1 Hazards of Wood Dust

All wood dust is designated by the International Agency for Research on Cancer (IARC) as a class 1 carcinogen. IARC class 1 designations apply to substances that are confirmed human carcinogens. Exposure to several species, such as Western Red Cedar, is also known to cause asthma and allergic reactions.

Wood dust enters the body by inhalation into the lungs and respiratory tract. Hardwoods are generally considered more toxic than softwoods as the dust particles are smaller and more easily inhaled. For some kinds of wood, skin contact may lead to allergic reactions.

An excessive accumulation of wood dust can also pose fire, explosion and tripping hazards.

7. Written Work Procedures

Written work procedures shall be available for all work that is in areas or involves tasks that have the potential for the generation or accumulation of wood dust. Written procedures shall provide the employees and students with task-specific work direction that addresses both the hazards observed in the risk assessment and the necessary controls. The following elements must be included in the written work procedures:

7.1 *General Task Procedures*

General safe work procedures shall be developed to describe the steps to take to safely perform the task as indicated in Part 2- Section 21 of the BCIT Safety Manual.

7.2 *Workplace Controls*

Ventilation

Local exhaust ventilation must be installed, used and maintained for all stationary equipment that generates wood dust. Extraction units must be effective in removing the dust at the source and must be positioned in such a way that they do not pull the substances past workers' breathing zone. Air shall not be re-circulated within the work environment. Testing shall be performed to ensure that local exhaust ventilation is efficient.

Portable extraction units shall be used wherever feasible for non-stationary equipment being operated indoors.

NOTE: In order to minimize sawdust exposure pressurized air should not be used to clean dust from equipment, workshop and any PPE used unless cleanup with vacuum has proved impractical under certain circumstances.

Personal Protective Equipment

N-95 respirators shall be worn when employees or students perform tasks in or around equipment that generates wood dust without effective ventilation to protect operators from inhaling the contaminants.

Coveralls/aprons are required to protect the employees and students from contaminating their clothing with wood dust and are a requirement while working in any areas, or performing tasks, where wood dust is being generated.

The use of hard hats, work boots, safety eyewear, and other PPE needs to be addressed in the written work procedures and be assigned based upon the results of the risk assessment.

Housekeeping

Work areas must be cleaned regularly by the users of the area and through regular Planned Maintenance (PM), adequate to ensure that wood dust does not accumulate to any significant levels in machinery, equipment, building surfaces, and the ventilation systems.

Whenever feasible, vacuums, equipped with HEPA filters shall be used to clean wood dust off from surfaces. Alternatively, extraction units used to remove wood dust from the indoor environment through filter bags outside of the building may be used to clean equipment and surfaces. Wood dust may be wiped with dampened cloths or picked up with static dusters. Pressurized air shall not be used to clear dust off from any machinery or surfaces, nor shall any method that disturbs and aerosolizes the dust.

NOTE: Take electrical safety into account when wiping down wood dust from equipment

8. Hygiene

Employees, students, and contractors working in areas, or at tasks, where the hands and face may be contaminated with wood dust should wash their hands and face upon completion of work, prior to eating, drinking, smoking, and leaving. Clothing and footwear should be changed before going home. PPE must be safely and appropriately decontaminated and stored after use.

9. Health Monitoring

Employees and students are required to promptly report respiratory tract and/or dermal symptoms which can be linked to exposure to wood dust to BCIT First Aid Attendant and their Supervisor for further investigation. Health symptoms that may be attributed to exposure to wood dust include irritation (eyes, respiratory tract, and skin), allergic reactions, deficits to pulmonary function and cancer.

10. Documentation

All documentation that is related to the training, instruction and written work procedures must be maintained for a minimum of 3 years.

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 exposure related health issues.
- Documentation for training and education.



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



Appendix A- Facilities PM Schedule

See attached document.



Appendix B- Carpentry

See attached document.



Appendix C- Joinery

See attached document.