

HEALTH AND SAFETY FOR GREENHOUSES AND NURSERIES



voice for the BC landscape horticulture industry

WORK SAFE BC

WORKING TO MAKE A DIFFERENCE
worksafebc.com



About the BC Landscape & Nursery Association

The BC Landscape & Nursery Association (BCLNA) is a non-profit organization working to serve nursery growers, landscape professionals, retail garden centres, and the associated landscape horticulture trade in B.C. The BCLNA represents more than 700 member companies, representing nursery, landscape, retail, education, supply, service, and government organizations working in the landscape horticultural industry.

The original organization was formed in 1953 and today is a vibrant association, with chapters in the Lower Mainland, the Interior, and on Vancouver Island. The BCLNA offers member companies leadership, information, and services toward the development of more knowledgeable and responsible horticulture practices. Included in its mandate is also business development and issues management for the green industry in B.C.

About FARSHA

The Farm and Ranch Safety and Health Association (FARSHA) promotes safety and health in B.C. farming through ongoing activities around the province and through the development of commodity specific practical tools such as safety programs, training courses, and workplace reviews. FARSHA has published educational materials on a wide variety of topics and operates a website and extensive lending library.

FARSHA was launched in 1993 at the initiative of the Workers' Compensation Board of BC (now WorkSafeBC), the BC Federation of Agriculture (now the BC Agriculture Council), and the Canadian Farmworkers' Union. FARSHA's work is funded by a levy on the assessments paid to WorkSafeBC by the registered farm employers in B.C. Therefore, FARSHA's services are provided free of any additional charge to employers and workers in B.C. agriculture. FARSHA is independent of WorkSafeBC and plays no role in WorkSafeBC's regulatory enforcement, collection of insurance assessments, or the provision of workers' compensation services.

About HortEducationBC

HortEducationBC (HEBC) is the industry training organization for horticulture and agricultural trades in British Columbia. HEBC aims to provide service to the industry by coordinating the skill needs and industry standards of employers, workers, and trainees in horticulture with training and education programs and services delivered by training providers. By working closely with industry, HEBC seeks to improve training programs at both the high school and post-secondary school levels, as well as extend learning through on-the-job training, resulting in increased knowledge, professionalism, and skills for the current and future workforces. HEBC is a partner of the BC Industry Training Authority, which oversees all apprenticeship programs in B.C.

About WorkSafeBC

WorkSafeBC (the Workers' Compensation Board) is an independent provincial statutory agency governed by a Board of Directors. It is funded by insurance premiums paid by registered employers and by investment returns. In administering the *Workers Compensation Act*, WorkSafeBC remains separate and distinct from government; however, it is accountable to the public through government in its role of protecting and maintaining the overall well-being of the workers' compensation system.

WorkSafeBC was born out of a compromise between B.C.'s workers and employers in 1917 where workers gave up the right to sue their employers or fellow workers for injuries on the job in return for a no-fault insurance program fully paid for by employers. WorkSafeBC is committed to a safe and healthy workplace, and to providing return-to-work rehabilitation and legislated compensation benefits to workers injured as a result of their employment.

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WorkSafeBC publications

Many publications are available at WorkSafeBC.com. The Occupational Health and Safety Regulation and associated policies and guidelines, as well as excerpts and summaries of the *Workers Compensation Act*, are also available on the website.

Some publications are also available for purchase in print:

Tel: 604 232-9704

Toll-free: 1 866 319-9704

Fax: 604 232-9703

Toll-free fax: 1 888 232-9714

Online ordering: WorkSafeBC.com and click on Publications; follow the links for ordering

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Introduction

Health and safety is good business. A commitment to health and safety is one of the best ways for a nursery or greenhouse business to protect its greatest resource—its people. This type of commitment can:

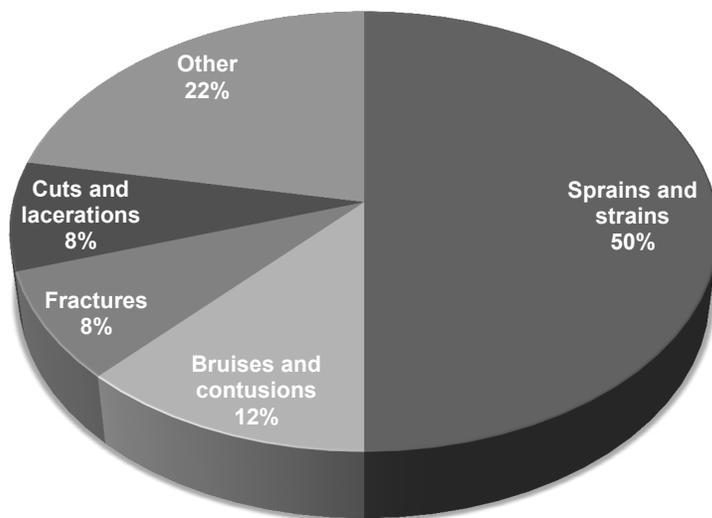
- Create a better work environment
- Boost morale
- Help retain good workers
- Prevent injuries
- Increase worker participation in decision making
- Improve productivity and enhance customer service

Can you afford to lose even one worker to serious injury?

Over a recent five-year period, Greenhouse (CU 701012) and Ornamental Nursery Maintenance (CU 701018) companies in British Columbia had an average of 290 claims and 11,400 days lost from work each year. About one in five injuries involved young workers. There were no fatalities, but there were six serious injuries during this period.

The most common injuries to greenhouse and nursery workers are sprains and strains, which account for half of all injuries.

Common injuries for greenhouse and nursery workers



How are workers being injured?

- Nearly one-quarter of injuries result from overexertion, usually when moving or lifting objects such as equipment, supplies, or debris.
- About one in five injuries results from falls. Half of these are falls on the same level (for example, injuries from slips, trips, and falls), and half are from a higher level (for example, from a ladder).
- Other injuries occur when workers are struck by objects such as falling branches, tools, or containers.
- Most injuries are to the back and fingers.

All of these injuries are costly, both in human terms and in terms of time lost from work and work disruption. The annual cost of these claims in B.C. is about \$2 million.

Workplace accidents can have a tremendous impact on injured workers, their co-workers, and their families, in terms of pain and suffering, disability, stress, and loss or change of employment. For a small greenhouse or nursery business, accidents can also be financially devastating. Direct costs may include increased insurance premiums and penalties. There are also indirect costs, which may include damage to property, the cost of finding and training temporary employees, and service interruption that could lead to loss of customers.

About this manual

This manual is meant for ornamental nurseries and smaller greenhouses that employ fewer than 20 workers. You will find this manual useful if you are an owner, employer, manager, supervisor, or worker.

Overview of health and safety practices for employers

This manual describes the eight basic components that form the backbone of an effective occupational health and safety program, including how to:

- Identify hazards and risks specific to your workplace
- Eliminate hazards or minimize their impact
- Develop specific procedures to perform tasks safely
- Respond to workplace accidents and injuries

This manual is meant to give you a basic understanding of health and safety requirements. **It does not replace the Occupational Health and Safety Regulation.** You should refer to the Regulation to be sure you are meeting your legal responsibilities for workplace health and safety. A searchable version of the Regulation and its accompanying Guidelines is available online or on a CD-ROM. Visit WorkSafeBC.com or contact the Prevention Information Line for more information. (For contact information, see the inside front cover of this manual.)

Worker training

This manual includes information on:

- How to conduct crew talks
- Crew talks on topics that include common hazards, safety tips, real-life stories, employer and worker responsibilities, and resources

The crew talks in this manual are meant as a general resource only. They are not intended to replace training but to reinforce existing training. Not all aspects of nurseries and greenhouses are covered—the manual focuses on key areas where the risk of injury can be reduced. This manual is not a regulatory document. Instead, it supports and supplements regulations and equipment manufacturer requirements by describing how to train workers in general safe work practices and procedures specific to nurseries and ornamental greenhouses.

Throughout this manual, you will find references to other useful information. You can find many of these resources at WorkSafeBC.com.

Crew talks deal with procedures for working safely, but an employer's responsibility starts with identifying hazards, assessing risks, and minimizing them through the use of risk controls.

Responsibilities

Everyone has a role to play when it comes to health and safety.

Employers

- Ensure the health and safety of your workers.
- Correct any workplace conditions that are hazardous to the health and safety of your workers.
- Inform your workers about any remaining hazards.
- Make copies of the *Workers Compensation Act* and the Regulation available to workers.
- Ensure that your workers know their rights and responsibilities under the Regulation and the Act and that they comply with them.
- Establish an occupational health and safety program. For more information, see sections 3.1–3.4 of the Regulation.
- Provide and maintain protective devices, equipment, and clothing, and ensure that workers use them.
- Provide your workers with education, supervision, and training specific to your workplace.
- Consult and co-operate with your joint health and safety committee (or worker health and safety representative).
- Co-operate with WorkSafeBC and its officers.

Due diligence

Due diligence means taking all reasonable care to protect the well-being of employees (if you are an owner or employer) and co-workers (if you are a worker). To meet the standard of due diligence, you must take all reasonable precautions in the circumstances to carry out your work and your health and safety responsibilities.

One way that employers can demonstrate due diligence is by implementing a health and safety program. Workers can demonstrate due diligence by following the requirements of that program—for example, using safety devices and safe work procedures, and wearing personal protective equipment (PPE). Demonstrating due diligence will help ensure your safety and the safety of those around you, and it can be used as a defence against penalties or prosecution when statutory requirements have allegedly been violated.

What can employers do to improve workplace safety?

Creating a safe workplace is an ongoing commitment. Employers can make the company a safe place by doing the following or ensuring that it is done (for example, by a supervisor):

- Provide regular safety training for supervisors and workers.
- Lead by example and demonstrate safe work habits.
- Regularly check that workers are following company safety procedures.
- Regularly check that workers are correctly using the protective equipment and devices provided.
- Encourage workers to report illnesses and injuries immediately.
- Encourage workers to report potential hazards.
- Keep workplace health and safety programs current.
- Stay aware of workplace hazards and how to handle them.
- Respond promptly to all health and safety concerns.

Supervisors

- Ensure the health and safety of workers under your direct supervision.
- Know the requirements of the Regulation that apply to the work you are supervising.
- Ensure that workers under your direct supervision are informed about all safety hazards in the workplace and that they comply with the Regulation.
- Consult and co-operate with the joint health and safety committee (or worker health and safety representative).
- Co-operate with WorkSafeBC and its officers.

Workers

- Take care to protect your health and safety and the health and safety of other persons who may be affected by your actions.
 - Comply with the Regulation and other legal requirements.
 - Follow established safe work procedures.
 - Use the required PPE.
 - Refrain from horseplay or similar conduct that may endanger others.
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- Ensure that your ability to work safely is not impaired by drugs or alcohol.
 - Report accidents and other incidents (including near misses) to your supervisor.
 - Report to your supervisor or employer any of the following:
 - A hazard that might endanger you or others
 - A problem with protective equipment or clothing
 - A violation of the Regulation and other legal requirements that you are aware of
 - Co-operate with your worker health and safety representative or joint health and safety committee.
 - Co-operate with WorkSafeBC and its officers.

Refuse and report unsafe work

Workers have the right to refuse unsafe work. In fact, workers must not carry out (or cause to be carried out) any task that they have reasonable cause to believe would create an undue hazard to the health and safety of any person.

When a worker discovers an unsafe condition or believes that he or she is expected to perform an unsafe act, the worker must immediately report it to the supervisor or employer. The supervisor or employer who receives the report must immediately investigate the matter. If there is an unsafe condition, it must be corrected without delay.

Sometimes the supervisor or employer may not agree that the task is dangerous. In this case, sections 3.12–3.13 of the Regulation list the steps to be followed, including notifying a WorkSafeBC officer, who must investigate the matter without undue delay and issue any orders that may be necessary.

Workers must not be disciplined for refusing to perform tasks that they have reasonable cause to believe are dangerous. The worker may be assigned other work at no loss in pay while the reported unsafe condition is being investigated.



Employer guide to occupational health and safety programs



Occupational health and safety programs

Regulation

Sections 3.1–3.4,
Occupational Health
and Safety Programs

Publication

*Effective Health and
Safety Programs:
The Key to a Safe
Workplace and Due
Diligence*

Forms and checklists

“Sample Health and
Safety Program,”
pages 99–101

Health and safety is a legal requirement. All small businesses, including nurseries and greenhouses, must have an occupational health and safety program to prevent workplace injury and disease. Health and safety programs must meet certain standards, and you must exercise due diligence in taking steps to meet those standards.

There are two general types of programs: formal and less formal (or informal). Formal programs are required in nurseries and greenhouses with 20 or more workers. This booklet focuses on the basics of a less formal program for smaller nurseries, those with fewer than 20 workers.

The scope of the program depends on the hazards at your particular workplace. Generally, a smaller company can state its health and safety policy and describe its program in a few pages. Use the “Sample Health and Safety Program” on pages 99–101 as a starting point for your program. Don’t just copy the sample, though; your health and safety program should be unique and specific to your company.

Eight components of a health and safety program

A health and safety program consists of eight basic components that will help prevent accidents and injuries from happening, as well as help deal effectively with any incidents that do occur. The eight components are:

1. Hazard identification and risk control—Determine which hazards are present in the workplace and take steps to eliminate or minimize them.
2. Safe work procedures—Describe in writing how to carry out specific tasks safely.
3. Orientation, education, training, and supervision—Prepare workers for the job and make sure they continue to work safely. This is particularly important for new and young workers.
4. Safety inspections—Identify workplace hazards so that they can be eliminated or controlled.
5. Incident investigation—Find out why an accident or injury occurred so the causes can be corrected.

6. Health and safety meetings—Provide an opportunity for workers and supervisors to communicate any concerns about health and safety.
7. First aid—Determine what level of first aid is required for your workplace, and make sure everyone knows what to do if someone is injured on the job.
8. Records and statistics—Maintain documentation to help identify recurring problems, and ensure that hazardous conditions are corrected.

Annual program review

Once you have developed processes for worker health and safety, it is important to review them at least once a year to make sure they continue to address current concerns effectively. Use the “Annual Review of Health and Safety Program” on pages 102–103 as a guide.

Regulation

Sections 3.14–3.21,
Occupational First
Aid

Forms and checklists

“Annual Review of
Health and Safety
Program,” pages
102–103



Provide workers with an orientation before they start work at a new job or location.

1. Hazard identification and risk control

Tip

Front-line workers often know and understand the hazards associated with their jobs, which makes them a good source for ideas on how to deal with specific hazards.

Some of the most common hazards faced by workers in nurseries include:

- Operating heavy equipment such as forklifts
- Operating power tools such as pruners and clippers
- Pushing and lifting heavy equipment such as loaded wheelbarrows or large containers
- Using sharp tools such as pruning shears and picking knives
- Working with pesticides

You can prevent most workplace injuries and illnesses if you identify workplace hazards and take steps to control them. Risk control involves eliminating the hazard entirely or, if that is not possible, minimizing the risks as much as possible. Ways to minimize the risks include the following:

- Select appropriate safety features when purchasing or replacing equipment.
- Modify work processes or equipment.
- Develop and implement safe work procedures for hazardous tasks.
- Ensure that workers use appropriate personal protective equipment (PPE) and follow safe work procedures.

See pages 41–95 for crew talks on the most common injuries in nurseries and how to prevent them.

2. Safe work procedures

Some tasks require a specific safe work procedure to eliminate or minimize risks.

When are written safe work procedures required?

The Regulation requires written procedures for some specific tasks or situations. Examples common to many nurseries include:

- Servicing powered equipment
- Chemical spills (such as pesticides)
- Working alone
- Handling cash
- Emergency evacuation

Not all tasks require a written procedure. To decide whether or not a written procedure is required, consider the following:

- How severe would the consequences of an accident be?
- How often is the task done?
- How complex is the task?

What kinds of tasks require safe work procedures?

In general, safe work procedures are written for:

- Hazardous tasks
- Complicated tasks, so that important steps don't get missed
- Frequently performed tasks
- Less routine tasks if reminders are needed about the hazards and the safest way to do things

For certain tasks, a written procedure may not be necessary — safety issues can be addressed verbally when the worker is being trained or instructed on the “job for the day.”

Post procedures prominently at the locations where the tasks are performed or next to the equipment used for the tasks. Supervisors and managers will find them helpful in training workers how to do their jobs safely. Workers are then responsible for following these procedures.

Regulation

Section 4.14,
Emergency
procedures

Section 4.21,
Procedures for
checking well-being
of worker

Section 10.4, Lockout
procedures

How to develop a written safe work procedure

Developing a written safe work procedure involves the following five steps:

1. Determine the overall task for which the safe work procedure is needed.
2. Break down this overall task into its basic steps.
3. Identify the hazards associated with each step.
4. Identify the actions needed to minimize the risks to workers from these hazards.
5. Prepare a list of these actions that workers must do when performing the task.

As an example, let's take a look at developing a safe work procedure for one very common hazardous activity in nurseries: manual pruning.

Sample: Safe work procedure for manual pruning

Pruners are not only at risk of injury from accidents such as cuts from blades but also from the long and repetitive use of secateurs, which can be damaging to the hand, arm, wrist, and shoulder. Damage can occur if the:

- Tool or task is badly designed
- Blades of the pruning tool are blunt
- Worker has not been instructed on how to use the tool properly and how to avoid developing overuse injuries

Before you start

1. Make sure your secateurs fit your hand well.
2. Make sure your secateurs are sharp and in good condition.
3. Consider the size of materials to be pruned, wrist angles needed to the work, the need to reach above shoulder height, and the tools required.

While you're working

1. Select a branch to prune, and hold the branch firmly.
2. Check that the hand holding the branch is away from the cutting point.
3. Cut the branch and move the pruned branch out of your way to avoid a tripping hazard.
4. When not using secateurs, store them in a sheath or holster.
5. Clean and sharpen secateurs as necessary.

After you finish

1. Clean, sharpen, and oil secateurs to prevent rusting.
2. Store secateurs in a sheath or holster.

3. Orientation, education, training, and supervision

Regulation

Sections 3.23–3.24,
Young and New
Workers

Your occupational health and safety program should describe the type of education and training you will provide to workers and when you will provide it. For example, workers should receive instruction in the safe work procedures that they must follow when performing hazardous tasks. Workers should also be trained in the use of emergency equipment and procedures.

Forms and checklists

“Sample Worker
Orientation
Checklist,” pages
104–106

Orientation and other education

Orientation is an important form of education because it provides an opportunity for the employer to establish health and safety guidelines *before* a worker starts at a new job or location, which will help prevent work-related accidents. Health and safety education should also be an ongoing process; provide instruction to workers whenever there are changes in the workplace, such as a new work process or piece of equipment.

What to include in an orientation

The following topics must be included in every orientation:

- Rights and responsibilities
- Workplace hazards
- Safe work procedures

Other typical topics include:

- Falls from elevation (including ladder safety)
- Lockout (for machinery and power tools)
- Lifting and moving objects or people (strains and sprains)
- Guarding (for machinery and power tools)
- Forklifts and other mobile equipment
- Confined spaces
- PPE
- Workplace Hazardous Materials Information System (WHMIS)
- First aid and emergency procedures
- Violence
- Working alone

Training

All workers need supervised, hands-on training in how to safely perform their tasks *before* they start a job. The following three steps describe a general procedure that supervisors can follow when training new workers.

1. Prepare the new worker.

- Explain the job in detail, including any safety precautions or required PPE.
- Encourage the worker to ask questions, and take the time to answer them fully.

2. Train the new worker.

- Demonstrate and describe specific procedures, including all safety precautions.
- Go through procedures at normal speed, then at slow speed while the worker asks questions.
- Have the worker perform the procedure until he or she can do it exactly as required.
- Answer any questions or repeat any key points the worker may have missed.
- Keep written records of training, documenting who, what, and when.

3. Check progress and observe the new worker on the job.

- Monitor the worker to ensure that safety standards are maintained.
- Make unscheduled visits.
- Correct unsafe work habits.
- Reinforce and recognize good work habits.

Tips

Use existing safe work procedures for training.

If a written safe work procedure is available, provide a copy or tell the worker where to find a copy.

Tell the worker where to get help in your absence.



Train workers in all aspects of the job. Demonstrate safe work procedures and show them how to use any required personal protective equipment.

Supervision

Supervisors are responsible for ensuring the health and safety of any workers under their supervision. Workers in nurseries may find themselves in situations where they supervise their co-workers, even if they don't have the title of supervisor. Often, they may not realize all the implications of this supervisory role, especially with regard to health and safety.

Supervision includes the following:

- Explain the hazards of the job.
- Instruct new workers in safe work procedures.
- Ensure that workers have been trained for the tasks assigned to them, including safety precautions and safe work procedures.
- Ensure that safety equipment and PPE are maintained in good working order.
- Ensure that all materials are stored and handled safely.
- Enforce health and safety requirements.
- Correct unsafe acts or conditions that you observe or that workers bring to your attention.
- Monitor worker performance and well-being.
- Set a good example by following safe work procedures and using PPE.

4. Safety inspections

Besides correcting any hazards that you observe from day to day, set aside time for regular workplace inspections, and control any hazards you find during your inspection. Because safety inspections are preventive in nature, they are an important part of your overall health and safety program.

When to inspect

You need to inspect your workplace often enough to prevent unsafe working conditions from developing. In nurseries and greenhouses, this should be at least once a month. You also need to inspect your workplace when you've added a new process or when there has been an incident (accident or near miss). Inspection is an ongoing task because the workplace is always changing.

Who should inspect

Inspections should be conducted by a supervisor and a worker. If possible, the worker health and safety representative (or members of the joint health and safety committee) should be involved.

How to inspect

During an inspection, identify unsafe conditions and acts that may cause injury so you can take corrective measures. Follow these guidelines:

- Use a checklist to ensure that your inspection is thorough and consistent with previous inspections.
- Ask yourself what hazards are associated with the job that you are observing or that would be performed in that work area.
- Observe how workers perform tasks. Are they following safe work procedures and using PPE?
- Talk to workers about what they're doing. Ask about safety concerns.
- Ask workers how they perform their tasks.
- Record any unsafe actions or conditions that you observe.

While your first inspections may seem slow and difficult, over time they will become much easier and ultimately will help make your health and safety program more effective.

Publication

*Safety Inspections
Reference Guide and
Workbook*

Forms and checklists

"Sample Inspection
Checklist," pages 109

"Sample Inspection
Report," page 111



Tip

Get to the root of the problem. For example, if you see a wet floor, ask: Why is the floor wet? Where is the water coming from? How long has it been like that?

Possible explanations include:

- A water leak
- A job process that creates the problem
- Workers who need training and education on how to clean up the hazard

Fix it right the first time and the problem shouldn't recur.

What to inspect

There are different ways of approaching safety inspections, depending on the objectives of your health and safety program. For example, you can focus on the most common tasks your workers perform or on a specific issue addressed by your program, such as ergonomics. Ensure that all areas of the facility are regularly inspected.

Here are some activities and situations that warrant inspection:

- Rarely performed, non-routine, and unusual work, which presents an increased risk because workers may not be familiar with procedures
- Non-production activities such as housekeeping, maintenance, and equipment set-up
- Sources of high energy such as electricity and flammable liquids
- Situations that may involve slipping, tripping, or falling hazards, or overhead hazards such as falling objects
- Lifting situations that pose a risk of back and muscle injuries
- Repetitive motion situations, such as work involving computers or repetitive, constant, uninterrupted motions
- Work involving contact with toxic substances such as pesticides

Check whether safe work procedures are being followed. For example, consider the following questions:

- Are workers turning off power tools before walking with them to another location?
- Are gloves being used for handling garbage and debris?
- Are safe lifting techniques being followed?
- Do workers know the procedures for working alone and handling cash?

For a list of suggested inspection topics, see pages 109–110.



After the inspection

Follow these guidelines:

- Remedy serious hazards or unsafe work practices immediately. For example, if you find a ladder with a loose or damaged rung, remove it from service immediately and repair or replace it.
- Prioritize less serious hazards and assign someone to remedy each one.
- Follow up on any action that will need time to complete (such as purchase of new equipment).
- Communicate your findings and plans to workers.

5. Incident investigation

Incident investigations help determine the causes of an incident so you can take steps to ensure that a similar incident will not occur in the future. Employers are required to investigate and document the following incidents:

- Serious incidents
- Incidents that result in injuries that require medical treatment
- Incidents that have the potential for serious injury (such as near misses)

Employers are not required to investigate motor vehicle accidents that occur on public streets or highways. The RCMP or local police generally investigate such accidents.

What is an incident?

An *incident* is an accident or other occurrence that resulted in or had the potential for causing a death, injury, occupational disease, or damage to equipment or property.

Incidents include:

- Accidents in which a worker is injured or killed
- Accidents in which no one is hurt but equipment or property is damaged
- Near misses

The terms “incident” and “accident” are often used interchangeably, but the preferred term is “incident” because it includes near misses as well as accidents.

What is a near miss?

A *near miss* is an incident in which there is no injury or damage but that could have resulted in an injury or death, or damage to equipment or property. Near misses may indicate hazardous conditions or acts that need to be corrected.

Investigation participants

Everyone in a greenhouse or nursery has a role to play in an incident investigation. Workers must report incidents to their supervisors. Owners, employers, or supervisors must initiate incident investigations promptly. If possible, investigations should include at least one employer representative and one worker representative.

Goals

As much as possible, an investigation must:

- Determine the causes of the incident
- Identify all unsafe conditions, acts, or procedures that contributed to the incident
- Find ways to prevent similar incidents

Examples of incidents requiring investigation

The following examples may be similar to incidents in your workplace that require investigation:

- A worker severs a finger while using a pruning tool.
- A clerk is held up at knifepoint while closing up.
- A worker falls off a ladder, breaking a leg.
- A worker sustains burns while refuelling an engine.
- A high shelving unit of plants overturns.
- A worker needs to see a physician after developing shoulder pain.

What recommendations would you make to prevent these types of incidents in the future?

How to conduct an investigation

Interview witnesses and the people involved in the incident even if they weren't present when it actually occurred. For example, it may be necessary to interview a supervisor who gave instructions at the start of the shift, or a trainer who previously instructed the workers involved.

Regulation

Sections 172–177
of the *Workers
Compensation Act*

Publication

*Investigation of
Accidents and
Diseases: Reference
Guide and Workbook*

Forms and checklists

“Form 52E40—
Incident Investigation
Report,” pages
112–115

Questions to ask

The investigation should answer the following questions:

- Who was involved or injured?
- Where did the incident happen?
- When did it occur?
- What were the causes?
- Why was an unsafe act or condition allowed?
- How can similar incidents be prevented?

Factors to consider

Usually there are several factors that cause or contribute to an incident. Try to identify as many causes as possible. Factors to consider when investigating an incident include:

- Unsafe or defective equipment
- Unsafe environment or conditions
- Poor housekeeping
- Physical hazards
- Poor planning
- Poor instruction
- Unsafe work practices
- Unusual or unfamiliar work conditions
- Personal factors

Filing an investigation report

After completing an investigation, the employer must prepare an incident investigation report and send copies to:

- WorkSafeBC
- The joint health and safety committee or worker health and safety representative

Reporting serious incidents

Employers must immediately report serious incidents to WorkSafeBC.

Serious incidents include:

- A fatality or serious injury
- A major release of a hazardous substance
- A major structural failure or collapse of a building, bridge, tower, crane, hoist, temporary construction support system, or excavation
- A blasting accident that causes personal injury, or any other dangerous incident involving explosives, whether or not there is an injury

To report a workplace incident, call 604 276-3100 in the Lower Mainland or 1 888 621-SAFE (621-7233) toll-free in B.C.

For the After-Hours Health and Safety Emergency Line, call 604 273-7711 in the Lower Mainland or 1 866 922-4357 (WCB-HELP) toll-free in B.C.

Reporting injuries to WorkSafeBC

To initiate a claim, employers must report any of the following injuries to WorkSafeBC within three days:

- A worker is injured and loses consciousness.
- A worker is sent for medical treatment by a first aid attendant or supervisor.
- A worker has an injury or disease that needs medical treatment.
- A worker states that he or she is going to get medical treatment or has already received medical treatment for an injury or disease.
- A worker is (or claims to be) unable to do his or her job because of an injury or disease.
- An artificial limb, eyeglasses, dentures, or hearing aid is broken in the incident.

6. Regular health and safety meetings

Publication

Joint Occupational Health and Safety Committee Workbook

Forms and checklists

“Sample Monthly Health and Safety Meeting Record,” pages 116

Good communication among employers, supervisors, and workers on health and safety issues is vital for the success of a workplace health and safety program. The following are some guidelines for successful health and safety meetings:

- Hold regular monthly meetings with workers to discuss health and safety matters.
- Focus your meetings on identifying and correcting hazardous conditions or tasks, and making health and safety a priority in your workplace.
- Post an agenda to get workers thinking about the topics to be discussed.
- Keep a record of each meeting, including what was discussed and who attended.
- Post meeting minutes for everyone to read.

Bring the following to each meeting:

- Your latest inspection report
- Any incident reports completed during the last month
- First aid and incident investigation reports
- Any new safe work procedures
- The minutes for last month’s meeting

Joint occupational health and safety committees

Joint health and safety committees help create safer work environments by recommending ways to improve workplace health and safety and promoting compliance with the Regulation and the Act.

Workplaces that regularly employ 20 or more workers must establish and maintain a joint health and safety committee. (*Regularly employed* means employed for at least one month, whether full-time or part-time.) The committee must include at least four members—usually two employer representatives and two worker representatives—and must have monthly meetings.

Worker health and safety representatives

Workplaces that regularly employ more than 9 but fewer than 20 workers are usually required to have at least one worker health and safety representative rather than a joint health and safety committee. These representatives act as advisors and work co-operatively with employers and workers to identify and resolve workplace health and safety issues. During health and safety meetings, the representative should raise any issues that workers have mentioned since the last meeting.

7. First aid

Regulation

Sections 3.14–3.21,
Occupational First
Aid

Forms and checklists

“Level 1 First Aid Kit,”
page 118

“Level 3 First Aid Kit,”
page 119

“Form 55B23—First
Aid Record,” page
120

All workplaces must meet the first aid requirements in Part 3 of the Regulation. Effective first aid treatment can reduce the severity of work-related injuries, which helps minimize the financial costs associated with extensive medical treatment or the need to replace employees who are unable to work.

All businesses must keep a first aid kit onsite, and many will also need a first aid attendant. The type of kit and the need for a first aid attendant will depend on three factors:

- The hazard rating for your business
- Number of workers
- Travel time to the nearest hospital

First aid requirements for nurseries

Most nurseries and greenhouse operations are considered moderate-risk workplaces. To determine your first aid requirements, use the following tables, which apply to moderate-risk workplaces. First aid requirements are based on the number of workers per shift, so the requirements may vary from day to evening or night shifts.

Note: Personal first aid kits are required for solo delivery drivers. A basic first aid kit is needed if someone is travelling with the driver.

20 minutes or less surface travel time to hospital

Number of workers per shift	Supplies, equipment, and facility	Level of first aid certificate for attendant	Transportation
1	Personal first aid kit	N/A	Transportation at employer's expense
2–5	Basic first aid kit	N/A	Transportation at employer's expense
6–25	Level 1 first aid kit	Level 1	Transportation at employer's expense

More than 20 minutes surface travel time to hospital

Number of workers per shift	Supplies, equipment, and facility	Level of first aid certificate for attendant	Transportation
1	Personal first aid kit	N/A	Transportation at employer's expense
2–5	Level 1 first aid kit	Level 1	Transportation at employer's expense
6–15	Level 1 first aid kit ETV* equipment	Level 1 with Transportation Endorsement	Transportation at employer's expense
16–50	Level 3 first aid kit Dressing station ETV* equipment	Level 3	ETV*

* Emergency Transportation Vehicle

First aid kits and attendants

Follow these requirements:

- Make every worker aware of where the first aid kit is located and how to call the first aid attendant if one is required.
- Post signs indicating how to access first aid.
- If a first aid attendant is required, make sure the attendant holds a first aid certificate of the level necessary for that workplace.
- If you require a first aid attendant, train backup attendants. Ensure that enough workers are trained for this responsibility to cover vacations and other absences.

Records

Maintain records of all workplace injuries and diseases.

Transportation of injured workers

Your business needs written procedures for transporting injured workers. Post these procedures in your workplace. These procedures should include:

- Whom to call for transportation
- How to call for transportation
- Prearranged routes in and out of the workplace and to the hospital

Employers are responsible for the cost of transporting an injured worker from the workplace to the nearest source of medical treatment.

Provincial Emergency Program

For more information
on emergency
planning and
preparedness, visit
www.pep.bc.ca.

Emergency response plans

Nurseries should be prepared to respond to emergencies such as fires, chemical spills, or natural disasters. If an emergency occurs, there will be a need to make quick decisions that will minimize injuries and damage. Such decisions are easier if you have already developed an emergency plan.

Follow these guidelines to develop and implement a plan:

- List all possible events (for example, serious injuries, fires, explosions, or natural disasters).
- Identify the major consequences associated with each event (for example, casualties, equipment damage, or facility damage).
- Determine the necessary measures to deal with those consequences (for example, first aid, notification of medical authorities, rescue, firefighting, or equipment evacuation).
- Determine what resources will be required (for example, medical supplies or rescue equipment).
- Store emergency equipment where it will be accessible in case of emergency.
- Ensure that workers are trained in emergency procedures and shown where equipment is stored.
- Hold periodic drills at least annually to ensure that employees will be ready to act if an emergency occurs.
- Communicate the plan to everyone involved.

Employers' Incident and Injury Report

Report injuries and other incidents by filling first aid reports and incident investigation reports online. Visit WorkSafeBC.com, and under "Claims" click "Employers: Report Injury or Illness."

First Aid Assessment Tool

This online tool will walk you through the assessment process. It includes links to specific parts of the Regulation and Guidelines that apply to first aid. Visit www2.worksafebc.com/calculator/firstaid/.

8. Records and statistics

Employers are required to keep health and safety records and statistics on file. Examples of documentation include training activities, first aid treatments, and incident investigations. Written records and statistics can help:

- Identify trends for unsafe conditions or work practices so you can take steps to correct these hazards
- Provide material for education and training
- Provide documentation in case a WorkSafeBC officer requests it, or if an incident occurs and you need to prove that you did all you could reasonably do to prevent it

Documentation

Maintain records and statistics for the following:

- Health and safety program reviews (see pages 102–103), which can help you track the progress of your program
- Worker orientation records (see pages 104–106), which can help ensure that workers are getting the education and training they need
- Inspection reports (see page 111), which can provide historical information about hazards your business has encountered and how you have dealt with them
- Monthly meeting records (see page 116), which can help monitor how promptly and how well action items have been carried out
- Incident investigation reports (see pages 112–115), which can clarify which hazards have caused incidents and how they were controlled
- First aid records (see page 120), which can provide injury statistics that will help prioritize health and safety efforts

Statistics that may be of value include the following:

- Number of incidents and injuries each year
- Number of work days lost each year
- Cost to your business from workplace injuries each year

Questions and answers

Common questions from employers

I operate a nursery. Do I need to register with WorkSafeBC?

Probably. Most nursery and ornamental greenhouse businesses in B.C. are required to register with WorkSafeBC and pay assessments (insurance premiums). For more information on registration or assessments, call the Employer Service Centre at 604 244-6181 in the Lower Mainland or 1 888 922-2768 toll-free in B.C.

Do I have to register if I am a sole proprietor of a nursery (the business is run by me and my spouse, without employees)?

No. Sole proprietors and their spouses are not considered employers and are not automatically covered for compensation benefits. You can, however, apply for Personal Optional Protection for yourself and on behalf of your spouse. This optional insurance will cover lost salary and medical expenses in cases of work-related injury or disease. For more information on voluntary coverage, call the Employer Service Centre at 604 244-6181 or 1 888 922-2768.

Note: If you do hire any employees, including temporary help, you will likely need to register with WorkSafeBC.

Do I have to pay WorkSafeBC premiums if my teenage children work for me in the business?

Yes. Children of the employer are considered workers and are automatically covered if there is an employment relationship.

We've never had an accident at our workplace. Do we still need to set up a health and safety program?

Yes. All B.C. workplaces are required to have an occupational health and safety program. A health and safety program will help you maintain an excellent safety record.

I recently hired a subcontractor. Am I responsible for the subcontractor's health and safety?

Yes. Employers hiring contractors or subcontractors should check with WorkSafeBC to determine their obligations regarding health and safety matters. It's also a good idea to check with WorkSafeBC to make sure the contractors or subcontractors you hire are registered with WorkSafeBC. If they aren't, your company could be liable for their insurance premiums if there's an injury or accident. A clearance letter will tell you whether a business, contractor, or subcontractor is

registered with WorkSafeBC and up-to-date on their payments. To get a clearance letter, visit WorkSafeBC.com—under “Insurance,” click “Get a clearance letter.”

Can I pay the medical cost of an employee’s injury to prevent increased WorkSafeBC premiums?

No. All work-related injuries must be reported to WorkSafeBC.

I only have a staff of two. Should we still hold monthly health and safety meetings, or can we meet less often?

Yes, you still need to hold regular monthly meetings so workers have an opportunity to discuss health and safety matters and to correct unsafe conditions or procedures. As an employer, you must also keep records of the meetings and the matters discussed. For a “Sample Monthly Health and Safety Meeting Record,” see page 116.

Can I or my employees smoke at work?

The owner or employer must control the exposure of workers to environmental tobacco smoke by prohibiting smoking in the workplace or restricting smoking to a designated smoking area. For more information, see sections 4.81–4.82 of the Regulation.

Common questions from workers

I only work part-time. Am I entitled to benefits if I get hurt on the job?

Yes. All workers, including young and part-time workers, are entitled to workers' compensation benefits in the event of a work-related injury or illness.

My job requires me to lift and stack heavy materials. What is the maximum allowable lifting weight?

There is no specific maximum allowable lifting weight. If you are required to lift heavy materials, however, your employer must ensure that you can do so safely. This includes training you in safe lifting techniques and providing dollies or carts if necessary.

My supervisor or employer has asked me to perform a task I believe is dangerous. What can I do?

Workers have the right to refuse work they have reasonable cause to believe is dangerous to their health or safety. The first thing you should do is tell your supervisor or employer that you think the task is dangerous. Together, you may be able to find a safe solution. If the two of you cannot find a solution, continue the discussion with a worker health and safety representative (or another worker selected by you if there is no representative). If a solution still cannot be found, you and your employer can call the WorkSafeBC Prevention Information Line at 604 276-3100 in the Lower Mainland, or 1 888 621-7233 (621-SAFE) toll-free in B.C.

I often work alone. What do I do if I'm injured?

Your employer must have a written procedure and safeguards for working alone. Your supervisor must review these procedures with you as part of your training. These safe work procedures should be included in the health and safety program for your workplace.

Contact information

BC Landscape and Nursery Association

Web: www.bclna.com

Tel: 604 574-7772

Farm and Ranch Safety and Health Association (FARSHA)

Web: www.farsha.bc.ca

Tel: 604 881-6078

Toll-free: 1 877 533-1789

HortEducationBC

Web: www.horteducationbc.com

Tel: 604 575-3239

WorkSafeBC.com

WorkSafeBC provides a number of services and materials that will help you meet your health and safety requirements. Visit WorkSafeBC.com and look for these links:

- Click “Publications” to view, download, or order publications online.
- Click “Forms” to view and download up-to-date official forms for everything from registration to incident investigation.
- Under “Quick Links” click “OHS Regulation” for a searchable version of the Regulation and its accompanying Guidelines.

WorkSafeBC Prevention Information Line

The WorkSafeBC Prevention Information Line can answer your questions about workplace health and safety, worker and employer responsibilities, and reporting a workplace accident or incident. The Prevention Information Line accepts anonymous calls.

Phone 604 276-3100 in the Lower Mainland, or call 1 888 621-7233 (621-SAFE) toll-free in British Columbia.

To report after-hours and weekend accidents and emergencies, call 604 273-7711 in the Lower Mainland, or call 1 866 922-4357 (WCB-HELP) toll-free in British Columbia.

FARSHA resources

See pages 36–38 for FARSHA resources, including publications, videos, and training programs.

WorkSafeBC resources

See pages 34–35 for key WorkSafeBC publications that you may find useful for improving health and safety in your nursery or greenhouse.

WorkSafeBC Small Business Service Centre

E-mail:
smallbiz@worksafebc.com

Phone:
604 214-6912



WorkSafeBC resources

Health and safety programs

- *Effective Health and Safety Programs: The Key to a Safe Workplace and Due Diligence*
Explains how to set up your health and safety program to meet the due diligence standard of care.
- *How to Implement a Formal Occupational Health and Safety Program*
Provides more detailed information on how to develop and maintain an effective occupational health and safety program.
- *Safety on the Job Is Everyone's Business*
Three-page brochure describes the responsibilities of employers, supervisors, and workers.
- *3 Steps to Effective Worker Education and Training*
Explains steps for providing education and training to new workers and young workers.

Registration

- *Small Business Primer: A Guide to WorkSafeBC*
Provides basic information on registering with WorkSafeBC, paying premiums, preventing injuries, investigating incidents, and reporting claims.

Prevention

- *Back Talk: An Owner's Manual for Backs*
Describes common back injuries and how to avoid them.
- *Hazards of Confined Spaces*
Describes confined space hazards and how to deal with them.
- *Understanding the Risks of Musculoskeletal Injury (MSI): An Educational Guide for Workers on Sprains, Strains, and Other MSIs*
Describes the signs and symptoms of MSI and how to identify MSI risk factors.

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- *Preventing Musculoskeletal Injury (MSI): A Guide for Employers and Joint Committees*
Provides information on preventing MSI and investigating MSIs.
 - *Lockout*
Describes what lockout is, when it is required, and how to do it.
 - *Safeguarding Machinery and Equipment: General Requirements*
Provides information on safeguarding, including hazard recognition, risk assessment, and solutions for specific machinery and equipment.
 - *Safe Operation of Lift Trucks*
Describes do's and don'ts for lift truck operators.
 - *WHMIS at Work*
Describes WHMIS, its requirements, and how to implement WHMIS in your workplace.

Claims

- *Claims Review and Appeal Guide for Employers*
Describes appeal procedures and rules governing payment of a claim during the employer's appeal process.
- *Claims Review and Appeal Guide for Workers and Dependents*
Describes the rights and obligations of claimants who wish to appeal the decision of a WorkSafeBC claims adjudicator.

FARSHA resources

FARSHA (Farm and Ranch Safety and Health Association) offers a number of health and safety resources that are useful for nursery and greenhouse operations. Visit www.farsha.bc.ca and click “Resources.”

Booklets and brochures

- *Are You New to Nursery Work?*
Tells new workers what to expect in the initial workplace orientation, as well as ongoing supervision and guidance. It also describes tasks that require special training, worker responsibilities for reporting hazards, and what to do in the case of work-related injury or illness. Also available in Spanish.
- *Dealing with Confined Spaces in Agriculture*
Describes the hazards of confined spaces in farm workplaces, such as silos, grain bins, manure pits, cisterns, sumps, and root cellars. It also describes the requirements for employers to make these spaces safer and the services FARSHA offers.
- *FARSHA Guardian Bulletin: Your Tractor—Stay on Top of It*
This booklet uses diagrams and illustrations to show tractor hazards and describes solutions such as rollover protective structures.
- *Forklift Safety Training for Agricultural Workers*
This brochure explains the importance of forklift training for competent operators.
- *Musculoskeletal Injury Prevention Safety Resource*
Lists the various MSI resources that are available, including manuals, posters, and information sheets.
- *New Workers in Your Nursery*
Describes the employer’s responsibility to new workers, including training, supervision, and assessing on-the-job competency. It uses an easy-to-read checklist format to cover all the key areas of new worker orientation. Nursery employers should also order copies of the companion brochure *Are You New to Nursery Work?* to give to new nursery workers. Also available in Spanish.

- ***Pesticide Safety for Agricultural Workers***

Describes requirements for the use of pesticides, PPE, symptoms of pesticide poisoning, and emergency response information for pesticide exposure. Also available in Punjabi.

- ***Pesticide Safety for Field Workers***

Describes pesticide safety guidelines, symptoms of pesticide poisoning, and emergency procedures for pesticide exposure. Also available in Punjabi, Spanish, and French.

- ***Safe Tractor Operation in Agricultural Work***

Promotes FARSHA's Tractor Safety training program, which is designed to help participants assess risk and understand basic tractor safety, as well as their own level of competency.

- ***Stretches and Postures at Work***

This booklet is filled with illustrated descriptions of simple stretching exercises to reduce the risk of MSI. It is aimed mainly at workers, but may also be used by employers as part of an overall MSI prevention program.

- ***WHMIS in Agricultural Work***

Explains the need for WHMIS training. The program will educate and train employees to work safely around hazardous materials.

Videos

- ***Greenhouse and Nursery Safety: The Industry in Action***

Managers who have implemented outstanding safety training programs discuss their programs and achievements.

- ***Orientation for Nursery Safety***

Looks at issues that apply to most jobs performed in a wholesale nursery, such as lifting, proper clothing, reporting injuries, and working with or around equipment.

- ***Pesticide Safety in the Greenhouse***

Describes some of the hazards associated with pesticide use in greenhouses, as well as protective equipment and safe work procedures.

Training

For more information about the following training programs, contact a FARSHA regional safety consultant (go to www.farsha.bc.ca and click “Contact us”):

- Bobcat Skid-Steer Loader Operation
- Confined Space—Controlling the Hazards on a Farm
- Equipment Lockout
- Fall Protection—Controlling the Hazards on a Farm
- Forklift Safety Awareness
- Pesticide Awareness
- Tractor Safety Awareness

Employers' Advisers

The Employers' Advisers Office is a branch of the BC Ministry of Labour, independent of WorkSafeBC. Employers' advisers are funded by employers' WorkSafeBC premiums. At no additional cost, they provide impartial advice, assistance, representation, and training to employers about workers' compensation legislation, decisions, appeals, and policies. Employers' advisers have a right to access WorkSafeBC information on your behalf; however, they cannot file reports on your behalf. Employers' advisers also conduct educational seminars for employers about topics such as occupational health and safety requirements, claims management, disability management, and assessments.

Visit the Employers' Advisers website at www.labour.gov.bc.ca/eao, or contact one of the following regional offices for help.

Abbotsford

207 – 32555 Simon Ave. V2T 4Y2
Phone: 604 870-5492
Toll-free: 1 866 870-5492
Fax: 604 870-5498

Prince George

206 – 1577 7th Ave. V2L 3P5
Phone: 250 565-4285
Toll-free: 1 888 608-8882
Fax: 250 565-4288

Kamloops

101 – 70 2nd Ave. V2C 6W2
Phone: 250 828-4397
Toll-free: 1 866 301-6688
Fax: 250 828-4563

Richmond

620 – 8100 Granville Ave. V6Y 3T6
Phone: 604 713-0303
Toll-free: 1 800 925-2233
Fax: 604 713-0345

Kelowna

102 – 1726 Dolphin Ave. V1Y 9R9
Phone: 250 717-2050
Toll-free: 1 866 855-7575
Fax: 250 717-2051

Trail

Room 2 – 1050 Eldorado St. V1R 3V7
Phone: 250 354-6139
Toll-free: 1 877 877-5524
Fax: 250 354-6138

Nanaimo

404 – 495 Dunsmuir St. V9R 6B9
Phone: 250 741-5500
Toll-free: 1 866 827-2277
Fax: 250 741-5508

Victoria

400 – 3960 Quadra St. V8X 4A8
Phone: 250 952-4821
Fax: 250 952-4822
Toll-free: 1 800 663-8783

Workers' Advisers

The Workers' Advisers Office is a branch of the BC Ministry of Labour, independent of WorkSafeBC. Workers' advisers provide workers with advice and assistance about WorkSafeBC benefits, policies, and the interpretation of the *Act*. They can provide workers with direct assistance involving claim problems with WorkSafeBC and provide representation in cases involving complex legal, medical, or policy issues. Advisers meet with senior WorkSafeBC officials to resolve claims issues and avoid unnecessary appeals. They also make recommendations to the senior executive committee and Board of Directors on policy and practice issues.

Visit the Workers' Advisers website at www.labour.gov.bc.ca/wab, or contact one of the following regional offices for help.

Abbotsford

204 – 32555 Simon Ave. V2T 4Y2
Phone: 604 870-5488
Toll-free: 1 888 295 7781

Nelson

310 Ward St. V1L 5S4
Phone: 250 354-6933
Toll-free: 1 866 354-6933

Campbell River

205 – 1040 Shoppers Row V9W 2C6
Phone: 250 830-6526
Toll-free: 1 888 643-0013

Prince George

208 – 1577 7th Ave. V2L 3P5
Phone: 250 565-4280
Toll-free: 1 800 263-6066

Kamloops

102 – 70 2nd Ave. V2C 6W2
Phone: 250 371-3860
Toll-free: 1 800 663-6695

Richmond

500 – 8100 Granville Ave. V6Y 3T6
Phone: 604 713-0360
Toll-free: 1 800 663-4261

Kelowna

101 – 1726 Dolphin Ave. V1Y 9R9
Phone: 250 717-2096
Toll-free: 1 866 881-1188

Victoria

403 – 3960 Quadra St. V8X 4A3
Phone: 250 952-4393
Toll-free: 1 800 661-4066

Nanaimo

504 – 495 Dunsmuir St. V9R 6B9
Phone: 250 741-5504
Toll-free: 1 800 668-2117



2

Crew safety talks





Crew safety talk checklist

Running effective safety meetings can be a challenge. It takes careful preparation and a real desire to involve workers in improving health and safety. Use this checklist to guide your safety talks.

Be prepared.

- Inspect your workplace for hazards related to the topic you've chosen.
- Read over the material you plan to cover.
- Review any regulations, guidelines, and company rules related to the topic.
- Review reports of recent accidents at your workplace, including near misses.
- Check WorkSafeBC.com for incidents involving similar equipment.

Get workers actively involved in the meeting.

- Talk about a real-life situation. Use an example relevant to your own work or one of the examples provided.
- Invite the workers to ask questions and make suggestions related to the topic.
- Respond to questions that you can answer. Offer to find answers that you don't know.
- Allow time at the end of the meeting for questions and suggestions on *any* safety issue.
- Ask workers for feedback about the meeting.
- Involve them in preparing for or leading future safety meetings.

Follow up with workers.

- Look into concerns and suggestions that your workers brought up.
- Report back to let them know what will be done.
- Keep good records of each safety meeting.



Record of meeting

Date of meeting: _____ Presentation by: _____

Workers present: _____

Topics covered: _____

Actions required, by whom, by when: _____

Other comments (feedback, what worked, what didn't): _____



Ergonomics—Repetitive strain

Regulation

Sections 4.46–4.53,
Ergonomics (MSI)
Requirements

Repetitive tasks and working for long periods in one position are major sources of overuse injuries and musculoskeletal injuries (MSIs) for greenhouse and nursery workers. These injuries can affect your quality of life for weeks, months, or even years, preventing you from working and doing many things you enjoy.

Common hazards

- Repetitive tasks such as pruning, loading and unloading, or de-leafing, resulting in tendinitis or carpal tunnel syndrome, especially if awkward postures are required to perform the tasks
- Poor workstation design that requires awkward sitting or standing positions to perform tasks, leading to back or neck strains

Incident examples

- A nursery worker had been transplanting seedlings for several days. She began to experience numbness in her fingers and pain in her forearm. She was diagnosed with carpal tunnel syndrome and was off work for several weeks.
- A worker experienced severe low back pain after working several busy weeks at a checkout counter that was not arranged ergonomically for his height. He required rest and medication and lost a week from work.

Safety tips

- Select and adjust tools to fit your body and work style.
- Take 10- to 15-second micro-breaks throughout the day.
- Change tasks or how you perform tasks to give your body a break.

Responsibilities

Employers

- Assess the workplace for potential hazards that could lead to MSIs or overuse injuries.
- Eliminate or minimize the risk of MSI by modifying workstations, varying worker tasks, and introducing stretching breaks.

-
- Provide instruction in recognizing the early signs and symptoms of MSI, and training for preventing MSI.
 - Provide adequate supervision at all times (before, during, and after training).

Workers

- Follow safe work procedures.
- Vary your position and tasks. Take assigned breaks.
- Report early signs and symptoms of MSI to your supervisor or employer.

Resources

Understanding the Risks of Musculoskeletal Injury: Educational guide for workers on sprains, strains and other MSIs

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/msi_workers.pdf

Back Talk: An Owner's Manual for Backs

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/back_talk.pdf

Does Your Back Hurt? A Guide to Preventing Low Back Pain

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/does_your_back_hurt.pdf

Ergonomics Commentary 1—Back Belts

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/backbelts.pdf

“Stretching in new ways to reduce MSIs.” *WorkSafe Magazine*, vol. 2, no. 6, November/December 2001.

www.worksafebc.com/publications/newsletters/worksafe_magazine/Assets/PDF/wsm_nov_dec_2001.pdf

Ergonomics — Lifting

Regulation

Sections 4.46–4.53,
Ergonomics (MSI)
Requirements

Improper handling and lifting of heavy, bulky, or awkwardly shaped objects can cause strains, sprains, neck injuries, back injuries, and hernias for greenhouse and nursery workers. Any of these injuries can affect your quality of life for weeks, months, or even years, preventing you from working or doing many things you enjoy.

Common hazards

- Lifting heavy equipment, bags, or boxes, resulting in shoulder or wrist sprains or strains
- Carrying awkward or heavy loads, resulting in back pain

Incident examples

- A greenhouse worker was moving bags of fertilizer and twisted his back when he turned quickly without moving his feet. He was off work for three weeks with back pain.
- A young nursery worker was lifting trays off the floor onto potting tables, leaning over instead of bending her knees. After several hours, she experienced back muscle spasms and was off work for three days.



Always use safe lifting technique—bend at the knees and hips, and hold the object close to your body.

Safety tips

- Assess whether you will need help from another person or whether you will need a dolly, forklift, or hoist to move heavy or awkward objects.
- Get close to the object. Avoid reaching.
- Bend at your hips and knees.
- Lift smoothly and slowly, keeping the object close to your body.
- Pivot by moving your feet instead of twisting your back.
- When carrying large items, be sure you can see where you are going.
- When storing equipment or supplies, place the heaviest items between knee and chest levels.

Responsibilities

Employers

- Provide assistive devices such as dollies or hoists if necessary, and make sure they are maintained in good condition.
- Train workers in safe lifting techniques.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Get help or use an assistive device to lift or move equipment and supplies if necessary.
- Follow safe work procedures.
- Report early signs and symptoms of musculoskeletal injury (MSI) to your supervisor or employer.

Resources

Lift/Lower Calculator

www2.worksafefbc.com/calculator/llc/default.htm

Back Talk: An Owner's Manual for Backs

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/back_talk.pdf

Does Your Back Hurt? A Guide to Preventing Low Back Pain

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/does_your_back_hurt.pdf

Ergonomics Commentary 1—Back Belts

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/backbelts.pdf

Engineering solutions such as lifting devices should be considered before any other measures.

Ergonomics—Pushing and pulling

Regulation

Sections 4.46–4.53,
Ergonomics (MSI)
Requirements

Using excessive force while pushing or pulling can result in musculoskeletal injuries (MSIs) in greenhouse and nursery workers. These injuries usually affect the arms, shoulders, or back. They can result from a single incident (for example, pulling a pallet or pushing a heavy wheelbarrow) or from repetitive tasks over a long period of time.

Common hazards

- Pushing or pulling heavy loads, resulting in shoulder or arm strain
- Dragging loads over rough floors or terrain, resulting in back strain

Safety tips

- Use a dolly or handcart to move heavy loads.
- Maintain the wheels on carts in good working order.
- Reduce the weight or size of the load.
- Push rather than pull whenever possible.
- Keep floors or the ground free of debris if possible.
- Use appropriate footwear to avoid slipping or skidding while pushing or pulling.

Responsibilities

Employers

- Provide assistive devices such as dollies or handcarts with handles, and ensure that they are maintained in good working order.
- Change the layout of the workplace if necessary, to minimize the distances that objects need to be pushed or pulled.
- Train workers to use proper body mechanics for pushing and pulling.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Get help or use an assistive device to lift or move equipment and supplies if necessary.
- Follow safe work procedures.
- Report early signs and symptoms of MSI to your supervisor or employer.

Resources

Push/Pull/Carry Calculator

www2.worksafefbc.com/ppcc/default.htm

Understanding the Risks of Musculoskeletal Injury: Educational guide for workers on sprains, strains and other MSIs

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/msi_workers.pdf

Back Talk: An Owner's Manual for Backs

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/back_talk.pdf

Does Your Back Hurt? A Guide to Preventing Low Back Pain

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/does_your_back_hurt.pdf

Ergonomics Commentary 1—Back Belts

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/backbelts.pdf



Use an assistive device such as a dolly, handcart, or wheelbarrow to cut down on the amount of carrying you do.



Slips, trips, and falls

Uneven ground, debris, tools, and wet grass are all potential causes of slips, trips, and falls for nursery and greenhouse workers. When work areas are not kept clean, the risk of slips, trips, and falls increases. These types of accidents are especially dangerous for nursery and greenhouse workers because of the risk of falling while holding a sharp blade.

Common hazards

- Uneven or slippery surfaces
- Forgotten tools, hoses, cables, and debris
- Wet floors
- Getting on and off equipment
- Loading and unloading equipment and materials

Incident examples

- A young worker was trying to reach an item on a high shelf. She slipped, fell, and fractured her skull on the concrete floor.
- A worker slipped on a wet patch on the floor, falling against the blade of his pruner and suffering a serious laceration to his arm.

Safety tips

Before you start

- Clean up debris.
- Wear non-slip footwear that fits well.
- Check worksites for uneven and slippery ground, ponds and puddles, and trenches or embankments.
- Plan for safe unloading of equipment and materials.

While working

- Don't carry more than you can safely handle.
- Be sure you can see where you are going when carrying large items.
- Slow down and move deliberately over slippery or uneven ground.

Finishing up

- ❑ Clean mud, ice, and grease from equipment such as all-terrain vehicles (ATVs).
- ❑ Clean and put away all tools and equipment in safe storage locations.

Responsibilities

Employers

- Train workers about the hazards that can cause slips, trips, and falls, including uneven or slippery surfaces, forgotten tools, debris, and equipment and vehicles.
- Train workers in how to clean up debris and navigate safely on uneven ground.
- Provide adequate supervision at all times (before, during, and after training).
- Develop and enforce a footwear policy.
- Ensure that workers are wearing appropriate, non-slip footwear.



Don't overlook things that might seem relatively harmless when you're inspecting the workplace, such as a loose hose that could pose a tripping hazard.

Workers

- Wear non-slip footwear.
- Follow safe work procedures.
- Identify and report any slip, trip, or fall hazards. Remove hazards where possible.

Resources

“Prevention of Slips, Trips and Falls”

www.ccohs.ca/oshanswers/safety_haz/falls.html

Ladders

Greenhouse and nursery workers often use ladders on uneven or slippery ground, which increases the risk of incidents. Injuries involving ladders include head injuries, fractured bones, sprains and strains, and cuts and bruises.

Regulation

Sections 13.4–13.6,
Ladders

Common hazards

- Falls from ladders
- Ladders tipping over
- Ladders collapsing
- Catching fingers in pinch points when setting up or storing ladders

Incident examples

- A worker was accessing a greenhouse gutter system at a height of approximately 4 m (14 ft.) using an aluminum ladder. When the ladder started to fall backwards, away from the gutter, the worker jumped approximately 3.5 m (11 ft.) from the ladder to a waterlogged grassy area below. He suffered soft tissue injuries.
- A young worker, carrying his tools and not holding on to the ladder, fell from the second and third steps of a 2-m (6-ft.) stepladder to the ground, fracturing his spine.

Safety tips

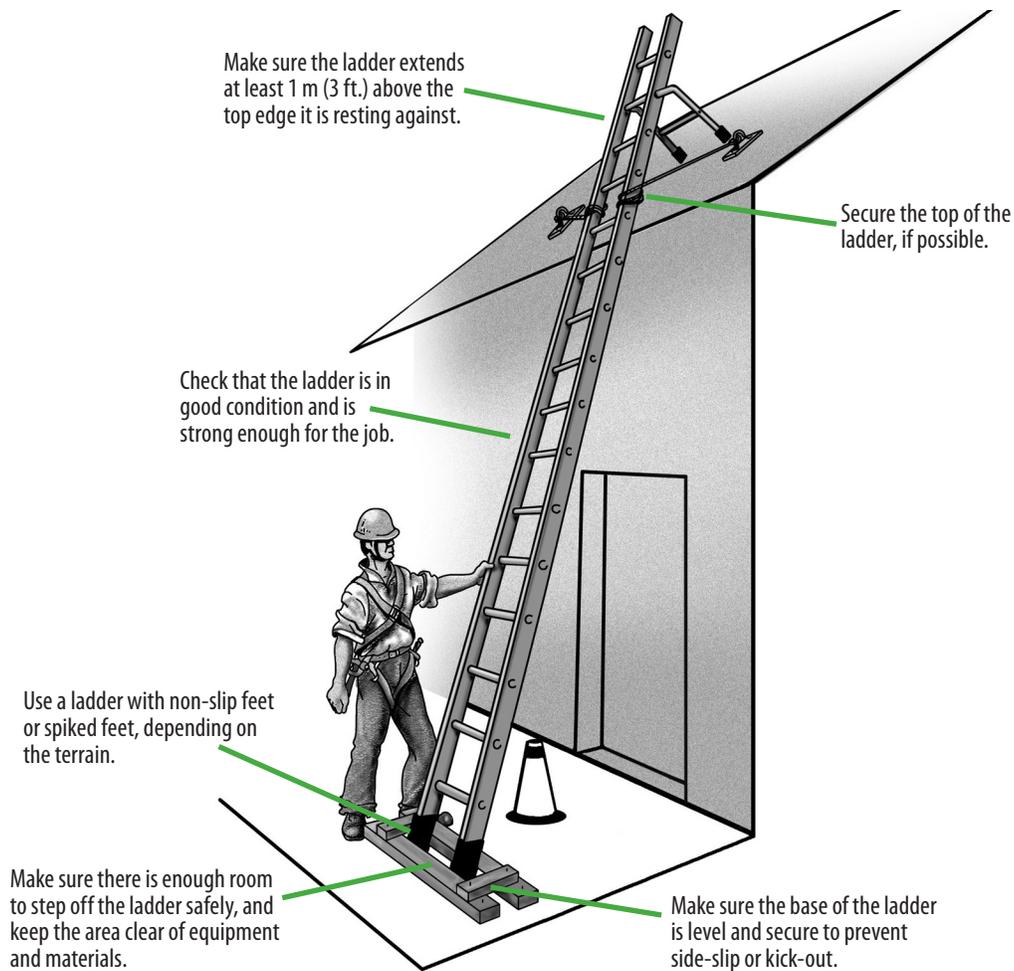
Before you start

- Choose the right type of ladder for the job. For example, use a regular ladder, extension ladder, or stepladder for repairs, maintenance, and accessing stored items; use an orchard ladder for pruning. Use a wooden or fibreglass ladder if there is a possibility of contact with electrical wires.
- Ensure that the rungs are clean and dry before using the ladder.
- Check for any defects, such as broken rungs, loose bolts, or split rails.
- Place the ladder so that the feet are on solid and level ground. Use boards under the feet to make the ladder level and provide stability if necessary.
- When using a ladder in a passageway or near a doorway, ensure that warning signs are in place for pedestrian traffic.

- Lock out any nearby door if the ladder could be struck when the door is opened.
- Secure ladders in place if possible.
- Ensure that the ladder is stable before climbing.

Using the ladder

- When climbing the ladder, always face it and maintain three-point contact (for example, one foot and two hands or two feet and one hand).
- Don't stand on the top two rungs of any ladder.
- Keep your body between the ladder rails.
- Don't carry heavy or bulky items on the ladder.
- To move a ladder, get down from it and then move it.



Responsibilities

Employers

- Maintain and repair ladders.
- Remove damaged ladders from service until they are repaired.
- Don't paint ladders or apply stickers to them — paint or stickers may cover defects or damage.
- Train workers to use ladders safely before use.
- Show workers how to inspect, set up, and use ladders, including maintaining three-point contact.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Inspect ladders before use and report any defects or necessary repairs.
- Follow safe work procedures.

Resources

Construction Safety Series: Ladders

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/safety_series_ladders.pdf

Toolbox Meeting Guides—Ladders

www2.worksafebc.com/Portals/Construction/ToolboxMeetingGuides-Topic.asp?ReportID=34365

Ladder Safety (video)

www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34544

Forklifts

Regulation

Section 16.7(j), Lift truck operator training

WorkSafeBC
Standard 13.30, Work Platforms Supported by Lift Trucks
www2.worksafebc.com/publications/OHSRegulation/WCBStandards.asp?ReportID=34864

Forklifts and pallet jacks can cause serious injuries or death if:

- The machine overturns, crushing the operator
- The bucket strikes a worker
- A worker falls off the bucket and is injured by the fall or run over by the machine

Common hazards

- Forklift overturning, resulting in crush injuries
- Forklift striking another worker, resulting in injuries that range from cuts and bruises to death
- Workers fall while standing on the forks, load, or pallet, resulting in injuries from the fall or from being run over by the forklift

Note: According to WorkSafeBC Standard 13.30, there must be a proper work platform in order for workers to be elevated using a forklift.

Incident examples

- A greenhouse worker was killed when the forklift he was driving overturned on uneven ground at the base of a ramp.
- A worker who was standing on a pallet of soil on the raised fork fell when the forklift moved suddenly. He sustained a fractured pelvis and was unable to work for six months.

Safety tips

Before starting

- Complete a mechanical check of the forklift at least once a day, before use.
- Put on the seat belt, if one is provided.
- Keep forklifts and people well separated, as much as possible.

The load

- Ensure that the load is balanced and within the capacity of the forklift.
- Ensure that attachments are appropriate for the forklift and load charts.
- Space the forks correctly to support the load safely.

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- Move only when you are sure that the load is stable.
 - Drive with the load in the lowest position, against the rack, and with the mast tilted back.

Driving

- Drive at a speed that allows safe stopping.
- Avoid sharp turns, even at low speeds.
- Maintain a safe distance from the edges of ramps, docks, and loading platforms.
- Take extra care when working or turning on a ramp or uneven or sloping ground.
- Back down grades when the forklift is loaded.
- Watch for overhead obstructions.
- Slow down and sound the horn if your vision is obstructed.
- Look toward your travel path and keep a clear view of it. Back up if the load obstructs your forward view.
- Stop when anyone crosses your route of travel. Lower the load to the ground and wait until the way is clear.
- Don't raise or lower the forks while the forklift is moving.

Lifting workers

- If the work requires you to lift workers, use work platforms that meet the requirements of sections 13.7–13.12 of the Regulation, as well as properly secured personnel work cages and full harness.
- Don't move the forklift when workers are on the platform.
- When leaving the vehicle for any reason (even for a few seconds) put the forks in the lowest position, put the controls in neutral, apply the brakes, and turn off the motor.

If the forklift starts to tip over

- Stay in the seat. Don't attempt to jump clear—most injuries occur when the operator does this.
- Hold on tightly to the steering wheel and brace yourself against the seat.
- Keep your body inside the frame of the machine and lean in the direction opposite to that of the overturn.

This crew talk is intended as a reminder for workers who have already been trained in the safe operation of a forklift. For more information, see section 16.7(j) of the Regulation.

Responsibilities

Employers

- Maintain and repair forklifts.
- Ensure that workers are trained by a qualified supervisor or instructor and that they have demonstrated to the qualified person competency in operating the forklift.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Know how to operate the forklift safely.
- Follow safe work procedures.
- Ensure that a mechanical check of the vehicle has been completed before using it.

Resources

Safe Operation of Lift Trucks

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/lift_trucks_ph36.pdf

Forklift Accident Investigation (slide show)

www2.worksafebc.com/media/fss/forklift2/slideshow.htm

Fields of Vision: Pedestrian Safety around Forklifts (video) www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34542

www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34542

Hazard Alert posters (more than 10 relevant posters) www2.worksafebc.com/publications/hazardalerts.asp

www2.worksafebc.com/publications/hazardalerts.asp

Training: Forklift Safety Awareness

The Farm and Ranch Safety and Health Association offers a training program called Forklift Safety Awareness. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).

Powered vehicles

Powered vehicles that may be used in greenhouse or nursery operations include skid-steer loaders, tractors, and all-terrain vehicles (ATVs). These vehicles can tip very easily. Workers must be well trained before operating them.

Note: This crew talk is intended as a reminder for workers who have already been trained in the safe operation of powered vehicles.

Common hazards

- Tractor or skid-steer loaders overturning, resulting in crush injuries to the operator
- Tractor or skid-steer loaders striking other workers, resulting in injuries or death
- Hydraulic failure in tractors or skid-steer loaders, resulting in a part such as a bucket falling and striking a worker
- Catching an article of clothing in the tractor's power take-off (PTO) unit or shaft, resulting in severe lacerations, broken bones, or amputation

Safety tips

Before starting

- Wear close-fitting clothes that are not frayed. Tuck in shirts and tie back long hair.
- Complete a mechanical check of the tractor or skid-steer loader at least once a day, before use.
- Do a quick check of hazards in the surrounding area (for example, slick or unstable ground, bystanders, or clutter).
- Maintain guards on power take-off units.
- If the vehicle is equipped with a rollover protective structure, securely fasten your seat belt.
- Don't start the engine while standing beside the vehicle.
- Before starting the engine, make sure no one else is near the vehicle.
- Operate controls from the vehicle seat only.
- Don't let anyone ride with you unless there is a second seat.

Regulation

Sections 16.21–16.28,
Guards

Sections 16.29–16.31,
Seat Requirements
and Rider Restrictions

Sections 16.32–16.33,
Seat Belts

Sections 16.34–
16.46, Operating
Requirements

The load

- Don't overload the vehicle.
- Don't overfill the bucket.
- Hitch trailers to drawbars and manufacturer-recommended hitch points only.
- Move only when you are sure that the load is stable.

Driving

- Drive at a speed that allows safe stopping.
- Engage the clutch slowly and smoothly. Don't pop the clutch.
- Drive with the bucket or other attachments in the lowest position.
- Don't drive so fast that the wheels bounce. This is dangerous and may cause the vehicle to tip over.
- Avoid sharp turns, even at low speeds.
- Maintain a safe distance from the edges of ramps, docks, and loading platforms.
- Take extra care when working or turning on a ramp or uneven or sloping ground.
- Try to stay away from ditches, holes, embankments, and steep slopes.
- Drive up and down slopes rather than across them.
- Drive forward in low gear when going down an incline. Try to back up when climbing up an incline.
- Keep the tractor wheels spread wide whenever possible to reduce the risk of overturning.
- Slow down and sound the horn if your vision is obstructed.
- Stop when anyone crosses your route of travel. Lower the load to the ground and wait until the way is clear.
- Go around obstacles rather than over them.
- Don't jump from a moving tractor.
- Before getting out of the vehicle, lower the bucket, turn off the engine, shift the transmission to Park, and engage the parking brake.

If the vehicle starts to tip over

- Stay in the seat. Don't attempt to jump clear — most serious injuries and fatalities occur when the operator tries to do this.
- Hold on tightly to the steering wheel and brace yourself against the seat.
- Keep your body inside the frame of the machine and lean in the direction opposite to that of the overturn.

Responsibilities

Employers

- Maintain and repair powered vehicles.
- Ensure that powered vehicles have rollover protective structures.
- Ensure that workers are trained by a qualified supervisor or instructor and that they have demonstrated to the qualified person competency in operating the vehicle.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Know how to operate the powered vehicle safely.
- Follow safe work procedures.
- Ensure that a mechanical check of the vehicle has been completed before using it.

Resources

Health and Safety Guide for Garden Centre Workers

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/garden_centre_workers.pdf

Tractor Action: A Step-by-Step Guide to Using Tractors Safely

www.hse.gov.uk/pubns/indg185.pdf

“Safe use of all-terrain vehicles (ATVs) in agriculture and forestry”
(Information Sheet)

www.hse.gov.uk/pubns/ais33.pdf

Tractor Accident Investigation (slide show)

www2.worksafebc.com/media/fss/tractor/slideshow.htm

Hazard Alert posters (more than 10 relevant posters)

www2.worksafebc.com/publications/hazardalerts.asp

FARSHA publications

FARSHA has also produced a number of booklets dealing with safety in operation of powered vehicles:

- *Agricultural Equipment Safety* (BK7)
- *FARSHA Guardian Bulletin: Your Tractor — Stay on Top of It* (BK11)
- *ATV Safety for Agricultural Workers* (BK26)
- *ATV Safety in Agricultural Work* (BK49)
www.farsha.bc.ca/online_assets/category8_item399.pdf
- *Safe Tractor Operation in Agricultural Work* (BK53)

To order the publications that are not available for download (BK7, BK11, BK26, BK53), go to www.farsha.bc.ca/resources_publications.php.

Training: Tractor Safety Awareness and Bobcat Skid-Steer Loader Operation

The Farm and Ranch Safety and Health Association offers a training program called Tractor Safety Awareness and another one called Bobcat Skid-Steer Loader Operation. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).

Powered equipment

The use of powered equipment such as gasoline-powered string trimmers and pressure washers can result in cuts, slips and falls, or musculoskeletal injuries (MSIs).

Common hazards

- Trimmer blades causing cuts
- Slips and falls on wet surfaces
- Debris dislodged by water jets or objects thrown by rotating trimmer blades striking workers
- Debris and chemicals causing eye injuries
- Losing control of the pressure washing jetting gun
- Repetitive use, lifting and carrying, or working in awkward positions, resulting in overexertion injuries
- Noise, resulting in hearing impairment
- Carbon monoxide build-up resulting from the use of gasoline-powered equipment inside greenhouses and other buildings

Safety tips

- Inspect equipment before use, and replace any damaged parts.
- Clear the work area of clutter and debris before starting work.
- Maintain good balance and footing while operating the equipment.
- Don't leave equipment running unattended.
- Use the following personal protective equipment (PPE) as necessary:
 - Gloves appropriate for the task
 - Eye and face protection
 - Hearing protection
 - Safety footwear

Regulation

Part 7: Noise, Vibration, Radiation and Temperature

Part 8: Personal Protective Clothing and Equipment

Part 12: Tools, Machinery and Equipment

String and blade trimmers

- When the trimmer is not in use, keep the cutter guard on.
- Use trimmers at ground level only.
- Turn off the engine before setting the cutter down or performing any maintenance on it.
- Maintain a safe distance from other people.

Pressure washers

- Wear safety goggles and slip-resistant footwear.
- Never point the nozzle at anyone, even if the water is turned off.
- Use both hands to operate the pressure washer. Maintain a body position that gives you the greatest control over it.
- Don't use a pressure washer while standing on a ladder.
- Don't let pressure washer spray come in contact with electrical devices or wiring.

Responsibilities

Employers

- Maintain and repair powered equipment.
- Train workers in the safe use of powered equipment before use.
- Show workers how to hold, use, and store powered equipment.
- Show workers how safety features such as guards work, and instruct them not to remove any of these features.
- Show workers how to lock out the equipment before clearing jams or performing repairs or maintenance.
- Remind workers of the appropriate PPE they are required to wear.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Follow safe work procedures.
- Wear appropriate PPE.
- Inspect powered equipment, and report any defects or necessary repairs.

Resources

High Pressure Washing: Safe Work Practices

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk123.pdf

Safety in the Landscape Industry

www.farmsafety.ca/manuals/manual_safety-landscape.pdf

Skid-Steer Loader Safety

nasdonline.org/document/20/d001638/skid-steer-loader-safety.html

Chainsaws

Regulation

Part 7: Noise, Vibration, Radiation, and Temperature

Part 9: Personal Protective Clothing and Equipment

Part 10: De-energization and Lockout

Part 12: Tools, Machinery and Equipment

Chainsaws can cause catastrophic injuries or death. Using a chainsaw for long periods can also cause overexertion injuries and hearing damage.

Common hazards

- Kickback, resulting in amputation or death
- Trees falling or breaking under pressure, resulting in crush injuries
- Falling branches, resulting in head injuries
- Branches hitting power lines, resulting in electrocution
- Hot points or refuelling hazards, resulting in burns
- Overexertion

Incident examples

- A worker suffered severe lacerations when the chainsaw he was operating kicked back, striking his leg.

Safety tips

Before you start

- Make sure you are familiar with the chainsaw and its safe use before you start working.
- Make sure you are alert. You should not be fatigued or under the influence of alcohol or drugs.
- Use personal protective equipment (PPE), including the following:
 - Chainsaw pants or chaps (made with ballistic nylon to stop moving chainsaw parts)
 - Steel-toed boots
 - A hard hat (to protect against falling branches)
 - Safety eyewear with side shields or face shield
 - Hearing protection
 - Work gloves with a grip surface
- Check for proper operation and maintenance (for example, a sharp, lubricated chain with correct tension). Ensure that the chain does not turn when the motor is idling and that the chain stops immediately when the chain brake is applied.

Planning

- Make sure you have a buddy.
- Work only in daylight.
- Plan the fall direction, cuts, and escape routes.
- Plan for first aid and access to medical care.
- Check the area for:
 - Terrain and slope
 - Widow-makers
 - Power lines
 - Buildings and vehicles
 - Bystanders in or around the site—never assume they will stay where you last saw them
 - Safe footing

Preventing kickback

Kickback occurs when the saw tip touches another object or the blade is pinched, throwing the saw back toward the user. A saw cutting at full throttle can kick back in 1/10 of a second—faster than a person can react. Follow these safety tips to help prevent kickback:

- Always know where the bar tip is.
- Make sure the nose of the blade will not strike another object.
- Use the side of the blade (not the nose) to start a cut.
- Make sure the nose of the blade does not touch the bottom or side of the kerf during reinsertion.
- Make sure the depth gauges and tooth angles of the saw chain are set according to the manufacturer's recommendations.

Limbing

- Check each limb before making a cut to make sure that cutting the limb won't bind the saw or cause the trunk to roll toward you.
 - Stand to the side of the limb so that if the saw slips or completes the cut sooner than expected, the chain will not strike your leg.
 - Hold the saw firmly with both hands.
 - Watch for twigs that could snag the chain.
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- Maintain a high saw speed when entering or leaving a cut in the wood.
 - Never straddle the limb you are cutting.
 - Keep the chain from hitting the ground.

Refuelling

- Refuel outdoors on the ground.
- Allow the engine to cool before refuelling.
- Extinguish all ignition sources, such as cigarettes or motors.
- Use an approved gasoline container in good condition.
- Keep the nozzle in contact with the fuel tank.
- If you spill fuel on your clothing, change it immediately.
- Never overfill the tank.
- Replace the cap and tighten it securely.

Responsibilities

Employer

- Maintain and repair chainsaws.
- Make sure workers are certified in the use of chainsaws before they start work.
- Show workers how to hold, use, and store chainsaws.
- Show workers how safety features such as guards, shields, and automatic releases work. Instruct them not to remove any of these features.
- Show workers how to lock out equipment before clearing any jams or performing repairs or maintenance.
- Remind workers of the PPE they are required to wear.
- Provide adequate supervision at all times (before, during, and after training).

Worker

- Follow safe work procedures.
- Wear appropriate PPE.
- Inspect chainsaws and report any defects or necessary repairs.

Resources

Chainsaw Safety

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/chainsaw_safety.pdf

Safety in the Landscape Industry: Chainsaws (pages 35–36)

www.farmsafety.ca/manuals/manual_safety-landscape.pdf

“Test your chain brake at least once per shift” (Hazard Alert poster)

www2.worksafebc.com/i/posters/1999/ha9907.html

“Look up and live!” (Hazard Alert poster)

www2.worksafebc.com/i/posters/1993/ha9311D.html

Vehicle and equipment maintenance and fuelling

Regulation

Part 10:
De-energization and
Lockout

Injuries can occur during vehicle or equipment maintenance. If equipment starts up unexpectedly during repairs or maintenance, workers may get caught in it, resulting in severed fingers, crushed limbs, or death. If electrical equipment is not de-energized and locked out, there is a risk of electrical shocks, burns, or electrocution. When vehicles are being fuelled, there is a risk of fire, explosion, or exposure to gasoline or diesel fuel.

Common hazards

- Maintaining or adjusting the power take-off (PTO) on powered equipment
- Working under hydraulically elevated machine components, resulting in crushing injuries

Safety tips

Locking out equipment

- De-energize (for example, by switching off and unplugging) and lock out equipment before doing cleanup, maintenance, or repairs.
- Follow the specific written lockout procedure for the equipment you will be working on. Each piece of equipment should have its own written lockout procedure.
- Follow these five basic steps for lockout:
 1. Identify the machinery or equipment that needs to be locked out.
 2. Shut off the machinery or equipment. Make sure that *all* moving parts have come to a complete stop.
 3. Identify and deactivate the main energy-isolating device for each energy source.
 4. Apply a personal lock to each energy-isolating device for each energy source. Ensure that all parts and attachments are secured against inadvertent movement.
 5. Make sure that all workers are in the clear and that no hazard will be created if the lockout is not effective, then test the lockout. After testing the “start” button, remember to hit the “stop” button again, or reset the equipment to “off.”

Fuelling vehicles

- ❑ Store fuel in a safe, secure location with the appropriate warning signage in place.
- ❑ Use only approved fuel containers. Protect them from impacts and other damage.
- ❑ Make sure there is a fire extinguisher nearby. Make sure it is rated for gasoline fires.
- ❑ To avoid carbon monoxide poisoning, don't run an engine inside an enclosed area.
- ❑ Turn off the vehicle and let it cool before fuelling.
- ❑ Use gloves while fuelling. If you get gasoline on your skin, wash immediately with soap and water.
- ❑ Don't smoke or operate electrical tools while fuelling the vehicle.



Use PPE such as gloves and safety glasses when fuelling equipment or vehicles.

Responsibilities

Employers

Locking out equipment

- Establish a lockout system for the worksite.
- Provide workers with written lockout procedures.
- Ensure that each worker has sufficient personal locks to perform the required lockout procedures and that each lock is marked or tagged to identify the worker who applies it. Don't use combination locks.
- Train workers in lockout procedures.

Fuelling vehicles

- Provide proper facilities for fuel storage.
- If propane fuel is used, ensure that workers are trained in changing propane cylinders.
- Provide adequate supervision at all times (before, during, and after training).

Workers

Locking out equipment

- Follow safe work procedures.
- Place a personal lock before beginning work and remove it after completing the work.
- Keep control of the keys to personal locks during the work.

Fuelling vehicles

- Wear appropriate personal protective equipment (PPE) when fuelling vehicles.

Resources

Lockout

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/lockout.pdf

Health and Safety for Small and Medium-Sized Wineries

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/wineries_h&s.pdf

“Locking out permanently connected or hard-wired equipment”
(Toolbox Meeting Guide)

www2.worksafebc.com/i/construction/Toolbox/pdfs/TG07-08_lock_out.pdf

Lockout: A Guide to Safe Work Practices (video)

www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34546

Training: Equipment Lockout

The Farm and Ranch Safety and Health Association offers a training program called Equipment Lockout. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).

Heat stress

Working in hot environments and doing heavy physical work can affect the body's cooling system and lead to heat stress. Early symptoms of heat stress (for example, excessive fatigue, lethargy, irritability, lack of coordination, and altered judgment) can result in serious accidents. Unless treated promptly, these symptoms can lead to more serious conditions, including convulsions and unconsciousness.

Regulation

Sections 7.27–7.32,
Heat Exposure

Common hazards

Factors that affect your risk of heat stress include:

- Your physical condition
- Weather conditions, especially temperature and humidity
- Environmental conditions (for example, direct sun, breezes, and shade)
- The physical demands of the work being done
- How much and the type of clothing you have on

Safety tips

- Avoid working alone in a hot environment.
- Acclimatize your body (gradually expose yourself to heat and work).
- Drink plenty of water (one glass every 20 minutes). Avoid caffeine, alcohol, and drugs.
- Wear clean, light-coloured, loose-fitting clothing made of breathable fabric.
- Take rest breaks in a cool or well-ventilated area. Take more breaks during the hottest part of the day or when doing hard physical work. Allow your body to cool down before beginning again.
- Schedule work to minimize heat exposure. Do the hardest physical work during the coolest part of the day.

Recognizing heat stress

Workers should be aware of early signs and symptoms of heat stress. If heat stress is not recognized and treated early on, more serious and even fatal conditions, such as heat exhaustion and heat stroke, may develop quickly. Early signs and symptoms include:

- Feeling unwell, headache, or nausea
- Decreased efficiency, coordination, and alertness
- Increased irritability
- Light-headedness or dizziness
- Fainting
- Swelling of hands, feet, and ankles, usually one to two days after first exposures

Treating heat stress

If a worker exhibits or reports early signs or symptoms of heat stress, take action:

- Remove the worker from the hot environment to rest in a cool place and drink cool water.
- If a worker has fainted, have the worker rest with his or her legs and feet elevated.
- Have the worker assessed by the first aid attendant, if available, or by a physician.
- Keep the worker under observation until he or she has fully recovered from the effects of the heat. If there is any doubt about the worker's condition, obtain medical advice.
- Change the work schedule or reduce the work pace before the worker returns to work.

Responsibilities

Employers

- Conduct a heat stress assessment where a worker is or may be exposed to environmental conditions that could cause heat stress.
- Develop and implement an exposure control plan for heat stress.
- Provide adequate training and education to all workers at risk for heat stress, their immediate co-workers, and their supervisors.
- Provide an adequate supply of cool drinking water.

Supervisors

- Ensure that there is adequate first aid coverage.
- Establish emergency procedures to deal with heat exhaustion and heat stroke.
- Schedule work to minimize heat exposure.
- Schedule appropriate work-rest cycles.

Workers

- Know and pay attention to signs and symptoms of heat stress.
- Follow established safe work procedures.

Resources

Preventing Heat Stress at Work

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/heat_stress.pdf

Health and Safety Guide for Garden Centre Workers

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/garden_centre_workers.pdf

“Heat exhaustion” (Toolbox Meeting Guide)

www2.worksafebc.com/i/construction/Toolbox/pdfs/TG09-09HeatExhaustion.pdf

“Heat stroke” (Toolbox Meeting Guide)

www2.worksafebc.com/i/construction/Toolbox/pdfs/TG09-10HeatStroke.pdf

Manual and electric-powered hand tools

Regulation

Part 12: Tools,
Machinery and
Equipment

Manual tools such as knives, loppers, or pruning shears and electric tools such as hedge clippers are often sources of cuts and overuse injuries.

Common hazards

- Cuts from blades
- Catching fingers, clothing, or jewellery in pinch points
- Repetitive use, resulting in overexertion injuries

Incident examples

- A young worker cut his finger while holding a branch to prune a tree. The cut required five stitches.
- A nursery worker developed an overuse injury to her wrist after several weeks of hand pruning.

Safety tips

- Choose tools that fit your hands and work style, and that work comfortably for you.
- Ensure that tools are properly sharpened.
- Use the following personal protective equipment (PPE) as necessary:
 - Gloves appropriate for the task
 - Eye protection
 - Hearing protection

Knives

- Use the right knife for the job, and make sure it is sharp.
- Use a knife with a locking blade, whenever possible, not a penknife that can close on your fingers.
- Always cut away from yourself.
- Store knives separately from other tools. Use a holster where possible.
- Cut on a flat surface or cutting board.
- Never use a knife for anything other than cutting.

-
- Hold the knife in your stronger hand.
 - When cleaning a knife, direct the edge away from you, and wipe the cloth on the dull edge of the blade.
 - Protect your hands by wearing well-fitting gloves with a good grip.

Pruners

- Lock pruners when not in use.
- Wear well-fitting gloves with a good grip.
- Watch for potential pinch points.
- Don't twist pruners while cutting.
- Use the right tool for the job. Don't try to use pruners to cut branches that are too large.
- If you are doing a repetitive task, stop to rest your hands occasionally or vary the job with something else.
- Keep pruners clean.



Use well-fitting gloves when pruning, and don't twist the pruners while cutting.

Electric-powered hand tools

- Use both hands to hold and guide the tool.
- Use a ground fault circuit interrupter (GFCI).
- Use a cord that is rated for the tool you are using and the distance from the power outlet (longer distances require a higher rating).
- Keep the cord behind you to avoid snipping it or tripping on it.

Responsibilities

Employers

- Maintain and repair electric-powered hand tools.
- Train workers in the safe use of hand tools before use.
- Show workers how to hold, use, and store hand tools.
- Show workers how the safety features (for example, guards, shields, and automatic releases) work. Instruct them not to remove any of these features.

-
- Show workers how to lock out the equipment before clearing any jams or performing repairs or maintenance.
 - Remind workers of the appropriate PPE they are required to wear.
 - Provide adequate supervision at all times (before, during, and after training).



Inspect equipment before using it to make sure it's in good working condition, and use appropriate PPE.

Workers

- Follow safe work procedures.
- Wear appropriate PPE.
- Inspect hand tools and report any defects or repairs needed.
- Store power cords properly.

Resources

“Power tools and cords” (Toolbox Meeting Guide)

www2.worksafebc.com/i/construction/Toolbox/pdfs/TG07-28_power_tools_and_cords.pdf

Fall protection

Nursery and greenhouse workers may be required to work at elevations where there is a risk of injury from a fall (for example, when cleaning, repairing, or glazing greenhouse glass). Workers must wear fall protection when working at elevations of 3 m (10 ft.) or more.

Regulation

Part 11: Fall Protection

Common hazards

- Falls from ladders
- Falls from scaffolding
- Falls from roofs

Incident examples

- A greenhouse worker slipped from a scaffold while cleaning the glass and suffered multiple fractures.

Safety tips

- If you could fall from a height of 3 m (10 ft.) or more, make sure your employer has provided a fall protection plan and appropriate fall protection before you start work:
 - Guardrails should be installed whenever possible.
 - If guardrails are not practicable, the employer needs to implement a fall restraint system such as work positioning devices that prevent workers from travelling to the edge of the building or structure.
 - If a fall restraint system is not practicable, the employer needs to implement a fall arrest system. Fall arrest systems stop workers in mid-fall, preventing them from hitting the surface below. Examples include safety nets and full-body harnesses attached by lifelines to secure anchors.
- Never wear a safety belt in a fall arrest situation (to stop your fall after you have already fallen). If you fall into a safety belt, you could still suffer severe back and abdominal injuries. Use a safety belt only as a fall restraint measure (to prevent a fall).
- Wear your personal fall protection according to the manufacturer's instructions.
- Inspect your personal fall protection before each use. If it is damaged or worn, have it repaired or replaced.

Cleaning greenhouse glass

- Avoid working at height if possible (for example, use a mechanical washing system).
- Make sure no work is being done under a roof that is being cleaned from above.
- Wear snug-fitting clothing and slip-resistant footwear.
- Never walk the length of a gutter without wearing fall protection.
- Take only essential tools and equipment onto the greenhouse roof.

Responsibilities

Employers

- Maintain and repair fall protection equipment.
- Develop and implement a written fall protection plan if workers could fall from a height of 7.5 m (25 ft.) or more.
- Train workers in the safe use of fall protection and the various types of fall restraint and protection.
- Ensure that fall protection equipment is adequately anchored (for example, on a mobile elevated work platform).
- Show workers how to inspect and put on personal fall protection.
- Show workers how to install fall restraint systems.
- Remind workers of the appropriate personal protective equipment (PPE) they are required to wear.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Inspect fall protection and restraint systems, and report any necessary defects or repairs.
- Follow safe work procedures.
- Wear appropriate PPE.

Resources

An Introduction to Personal Fall Protection Equipment

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/fall_protection.pdf

Toolbox Meeting Guides—Fall Protection

www2.worksafebc.com/Portals/Construction/ToolBoxMeetingGuides-Topic.asp?ReportID=34362

Fall Protection (video)

www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34541

“Safe working on glasshouse roofs: Advice for growers” (Information Sheet)

www.hse.gov.uk/pubns/ais12.pdf

Fall Protection—Controlling the Hazards on a Farm

The Farm and Ranch Safety and Health Association offers a training program called Fall Protection—Controlling the Hazards on a Farm. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).

Working around electricity

Regulation

Part 19: Electrical Safety

Electricity is present in almost all workplaces. When handled improperly, it can injure or kill. Injuries can range from shock to severe burns and eye injuries. Injuries and fatalities can occur with accidents involving low voltages (750 V and lower) or high voltages.

Common hazards

- Electrical shocks that cause muscles to contract, preventing a worker from releasing the energized equipment
- Electrical arcs, resulting in severe burns
- Electrical current through the heart, resulting in irregular heartbeat or a heart attack

Safety tips

- Electrical equipment must only be repaired by qualified workers.
- De-energize and lock out equipment before carrying out repair or maintenance work (see “Vehicle and Equipment Maintenance and Fuelling” on pages 70–72).
- Don’t use metal ladders, wire-reinforced wooden ladders, and other long tools or equipment such as scaffolding.
- Don’t leave extension cords unprotected on the ground, where they can be run over by vehicles or become worn or damaged. Remove damaged cords from service and repair them properly — don’t use “pigtailed” or electrical tape.
- When operating mobile equipment, make sure that no part of the equipment contacts an overhead power line.
- If you accidentally knock down a power line with a vehicle, stay in the vehicle if it is safe to do so. If you must abandon the vehicle and the power line is in contact with it, jump so that your entire body clears the vehicle and you land on your feet without stumbling. Don’t allow any part of your body to touch the vehicle while you are touching the ground.
- Don’t upend irrigation pipes near power lines.

Responsibilities

Employers

- Develop and implement a written electrical safety plan for the workplace.
- Provide workers with education and training on working safely with electricity.
- Inform workers of potential electrical hazards before allowing them to work near energized electrical conductors or equipment.

Workers

- Follow safe work procedures.
- Wear appropriate personal protective equipment (PPE).

Resources

Working Safely Around Electricity

www.worksafefbc.com/publications/health_and_safety/by_topic/assets/pdf/electricity.pdf

“Overhead high-voltage electricity” (Toolbox Meeting Guide)

www2.worksafefbc.com/i/construction/Toolbox/pdfs/TG06-03_Electrical_Hi_voltage.pdf

“Locking out plugged-in electrical equipment” (Toolbox Meeting Guide)

www2.worksafefbc.com/i/construction/Toolbox/pdfs/TG07-09_lock_out_electrical.pdf

Pesticides

Regulation

Sections 6.70–6.94,
Pesticides

Exposure to pesticides can cause minor health problems such as skin irritation, long-term health problems, or even death. Handling pesticides is not covered under the Workplace Hazardous Materials Information System (WHMIS) because it is covered by other legislation. However, you are still responsible for providing material safety data sheets (MSDSs), or an equivalent, for each pesticide used at your workplace.

Workers who handle or use moderately or very toxic pesticides must:

- Be trained
- Be at least 16 years old
- Hold a valid applicator certificate issued by the administration of the *Integrated Pest Management Act and Regulation*

This crew talk is not a replacement for training and certification. It is intended only to provide some quick reminders for trained workers about how to work safely with pesticides.

Common hazards

- Absorption of pesticides through the skin, eyes, lungs, or stomach
- Irritation of the skin or eyes
- Injury to the eyes, lungs, skin, or body organs

Incident examples

- A worker using a backpack herbicide applicator suffered mild pesticide poisoning. A faulty hose coupling allowed some of the herbicide to drip down his back and bare legs. He was not wearing protective clothing.
- A worker suffered severe headaches and blurred vision after applying an organophosphate pesticide without using appropriate personal protective equipment (PPE).

Safety tips

Before you start

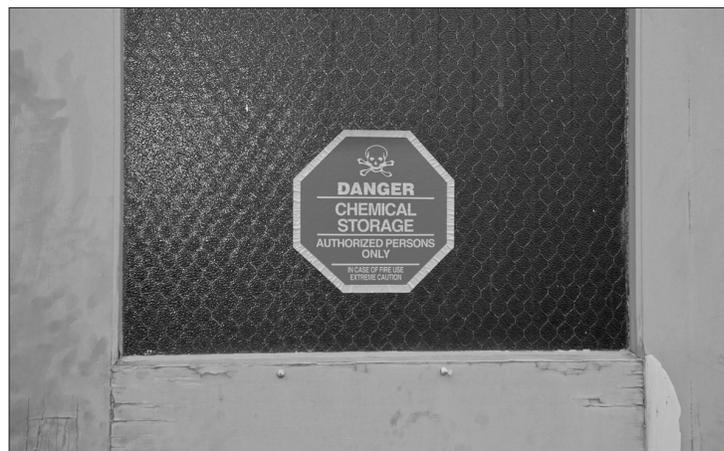
- Make sure you have been trained in the use and safe handling of the specific pesticide you will be using.
- Read the label and the MSDS that accompany the pesticide.
- Ensure that all containers are properly labelled to identify their contents.

Working with pesticides

- Use PPE such as respirators and protective clothing, as recommended by the pesticide manufacturers.
- Ensure that there are no bystanders or other workers who could be exposed to the pesticide.
- Follow safe work procedures.
- Don't spray in high wind.

Finishing up

- If you were using gloves, wash the gloves under water before removing them, and then wash your hands after removal. If you used other protective clothing, remove and wash it immediately.
- Return pesticides to their correct storage facility, and ensure that labels are visible and legible.
- Store pesticides in a ventilated, locked area, and post warning signs.



Store pesticides and other controlled products in a ventilated, locked area, and post a warning notice.

Responsibilities

Employers

- Ensure that the required warning signs for fumigants are displayed. See section 6.88 of the Regulation.
- Maintain and repair pesticide application equipment.
- Ensure that workers are trained and certified in the safe use of pesticides before use.

-
- Remind workers of the appropriate PPE they are required to wear.
 - Provide adequate supervision at all times (before, during, and after training).
 - Ensure proper signage for re-entry into sprayed area.
 - Ensure that pesticides are properly stored and inventoried.
 - Maintain records of pesticide application.

Workers

- Complete certification, if required.
- Inspect pesticide application equipment, and report any defects or necessary repairs before using the equipment.
- Follow safe work procedures.
- Wear appropriate PPE.

Resources

“Protect yourself when using pesticides!” (Hazard Alert poster)
www2.worksafebc.com/i/posters/1990/hazard9006.html

Standard Practices for Pesticide Applicators

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk35.pdf

Working Safely with OPs (Organo-phosphate Insecticides)

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/organophosphates.pdf

Pesticide Laws and Regulations (web page)

www.agf.gov.bc.ca/pesticides/i_4.htm

Pesticide Certification Information (web page)

www.env.gov.bc.ca/epd/ipmp/pest_certification/certif_main.htm

Training: Pesticide Awareness

The Farm and Ranch Safety and Health Association offers a training program called Pesticide Awareness. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).

Workplace Hazardous Materials Information System (WHMIS)

Many chemicals used by greenhouse and nursery workers are hazardous substances or dangerous goods. For example, fertilizers, solvents, and cleaners may cause conditions ranging from minor skin irritation to serious injury or death.

All B.C. workplaces that use materials identified as hazardous by the Workplace Hazardous Materials Information System (WHMIS) must follow WHMIS requirements. The system uses consistent labelling to help workers recognize hazardous materials, which are referred to as *controlled products* under WHMIS. The system and labels provide specific information on handling, storing, and disposing of controlled products. Pesticides are controlled by other regulations such as the *Pesticide Control Act*.

If you have been trained properly, you should be able to answer these four questions:

1. What are the hazards of the product you are using?
2. How do you protect yourself?
3. What should you do in case of an emergency or spill?
4. Where can you get more information on the product?

Common hazards

- Inhaling particulate matter (such as dust or mists)
- Burns from cleaning chemicals (such as muriatic acid for glass) or fertilizers and additives

Incident examples

- A worker was cleaning a greenhouse with bleach when some splashed in his eyes. The resulting burns caused permanent blindness in one eye, redness and stinging in the other eye, and burns on his face.
- A worker spreading dolomite lime inhaled the dust, resulting in lung irritation and breathing difficulty.

Regulation

Sections 5.3–5.19,
Workplace Hazardous
Materials Information
System (WHMIS)

Safety tips

- Store controlled products in a ventilated, locked area.
- Keep controlled products away from food and drink.
- Read the labels and material safety data sheets (MSDSs) that accompany controlled products.
- Use products only as directed, and follow safe work procedures.
- Use the appropriate personal protective equipment (PPE) (for example, gloves, goggles, and apron).
- Keep your hands away from your face and eyes.
- Make sure first aid is available.



Store controlled products such as gasoline in a ventilated, locked area.

Responsibilities

Employers

- Maintain records and MSDSs for controlled products.
- Tell workers where they can find WHMIS information, emergency spill equipment, and emergency numbers.
- Train workers in the safe use of controlled products. Ensure that they can answer the four WHMIS questions about each controlled product used.
- Provide safe storage facilities and workplace labels for controlled products.
- Remind workers of the appropriate PPE they are required to wear.
- Provide adequate supervision at all times (before, during, and after training).

Workers

- Follow safe work procedures for handling and storing controlled products.
- Wear appropriate PPE.
- Read and understand labels, and know the hazards of the products being used.

Resources

WHMIS at Work

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/whmis.pdf

WHMIS (video)

www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=35318

Personal protective equipment (PPE)

Regulation

Part 8: Personal Protective Clothing and Equipment

Personal protective equipment (PPE) should be the last line of defence. Before considering the use of PPE, first try to eliminate or minimize the risks through other means—for example, by using less hazardous chemicals or by modifying work processes or equipment. If PPE is required, employers must ensure that it is available to all workers who need it. Employers must also ensure that workers are trained in the use of any relevant PPE, and that they use it according to their training. The following table lists various types of PPE and their uses in nurseries and greenhouses.

PPE in nurseries and greenhouses

Body part	Type of PPE	Uses
Eyes	Safety glasses	General eye protection
	Safety goggles and face shields	Working with chemicals that may splash or where flying debris could cause injury
Ears	Hearing protection	Working around equipment
Hands	Work gloves	Working in storage areas, handling garbage, or landscaping
	Chemical-resistant gloves	Cleaning with or handling chemicals (check MSDSs for specific glove requirements)
	Cut-resistant gloves	Using chainsaws, handling glass, pruning, or cleaning equipment
Feet	Non-slip footwear	Working in and around greenhouses
	Steel-toed boots	Operating mobile equipment and working in storage areas
	Footwear with ankle support	Working outdoors
Lungs	Respirators	Protection against gas and vapour contaminants, particulate contaminants, or oxygen deficiency
Legs	Cut-resistant leggings	Working with chainsaws
Body	Fall protection equipment	Working at heights

Certain tasks require the use of more than one type of PPE. For example, workers may need to dilute concentrated, corrosive chemicals such as cleaning agents before using them. PPE for this task may include face and eye protection (face shields or goggles), as well as skin protection (gloves). For the exact type of PPE required, check the MSDS for the chemical.

Respirators

A respirator is a protective device that covers the worker's nose and mouth or the entire face and head to keep airborne contaminants out of the worker's respiratory system and provide a safe air supply. Respiratory protection must be appropriate to the hazard. Employers must supply workers with respirators approved by the US National Institute for Occupational Safety and Health (NIOSH) or with respirators that have been accepted for use by WorkSafeBC. Single-strap dust masks are not NIOSH-approved and do not meet WorkSafeBC requirements for respiratory protection.

There are two basic types of respirators: air-purifying respirators and air-supplying respirators.

Air-purifying respirators clean the air before you breathe it in by means of filters (for particulate contaminants), chemical cartridges (for some gases and vapours), or a combination of filters and cartridges. Air-purifying respirators must only be used in places where there is enough oxygen.

Air-supplying respirators such as self-contained breathing apparatus supply clean air; they do not filter or clean the surrounding air. They are generally used to protect workers from high levels of contaminants or against highly toxic air contaminants. Workers need to be well trained to use air-supplying respirators safely.

Common hazards

- Inhaling toxic gases such as carbon monoxide, ammonia, hydrogen sulfide, and methane
- Inhaling particulate matter such as dust or spores
- Inhaling chemicals such as fertilizers and pesticides
- Burns from cleaning chemicals (such as muriatic acid for glass) or fertilizers
- Cuts from blades
- Uneven or slippery surfaces
- Noise from equipment such as string trimmers

Fit testing

Workers must be fit tested for any respirator that seals with the face. For more information about respirators, see the WorkSafeBC publication *Breathe Safer*.

Incident examples

- A worker was cleaning a greenhouse with bleach when some splashed in his eyes. The resulting burns caused permanent blindness in one eye, redness and stinging in the other eye, and burns on his face.
- While spreading dolomite lime, a worker inhaled the dust, resulting in irritation to her lungs and breathing difficulty.

Safety tips

- Make sure your PPE fits properly and feels comfortable.
- Wear eye or face protection when working with hand or power tools, or if there's a danger that objects or liquids may strike or splash your face.
- Use the right kind of gloves, footwear, eye protection, and other PPE for the work you will be doing. For more specific tips on choosing appropriate footwear, see page 93.
- Inspect PPE before use. Make sure it is in good condition and will provide the necessary protection.

Responsibilities

Employers

- Develop and implement a PPE program for the workplace that includes written procedures for selecting, inspecting, using, cleaning, and maintaining the equipment.
- Conduct regular reviews of the PPE program.
- Provide workers with PPE required for the work that they are assigned.
- Conduct fit testing for respiratory protection.
- Train workers in the correct use and maintenance of equipment.

Supervisors

- Ensure that appropriate PPE is available to workers.
- Ensure that workers wear PPE when required.
- Ensure that PPE is properly cleaned, inspected, maintained, and stored.

Workers

- Use and care for PPE according to your training and instruction.
- Inspect PPE before use.
- Report any malfunction to the supervisor or employer.

Resources

Breathe Safer: How to Use Respirators Safely and Start a Respirator Program
www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/breathe_safer.pdf

Personal Protective Equipment (PPE)—various resources (web page)
www2.worksafebc.com/Topics/PPE/Home.asp

Choosing appropriate footwear—Assess the hazards

Footwear must be chosen based on the hazards that are present. Assess the workplace and work activities for:

- Materials handled or used by workers
- Risk of objects falling onto or striking the feet
- Any material or equipment that might roll over the feet
- Any sharp or pointed objects that might cut the top of the feet
- Objects that may penetrate the bottoms or sides of the feet
- Possible exposure to corrosive or irritating substances
- Possible explosive atmospheres, including the risk of static electrical discharges
- Risk of damage to sensitive electronic components or equipment due to the discharge of static electricity
- Risk of coming into contact with energized conductors of low voltage (750 V or less)

Also, evaluate the risk of:

- Ankle injury from uneven walking surfaces or rough terrain
- Foot injury resulting from exposure to extreme hot or cold
- Slips and falls on slippery walking surfaces
- Exposure to water or other liquids that may penetrate the footwear
- Exposure to rotating or abrasive machinery (for example, chainsaws or grinders)

Confined spaces

Regulation

Part 9: Confined Spaces

A confined space is any partially enclosed space that is not intended for human occupancy and that has a restricted entrance or exit. Common confined spaces in nursery and greenhouse operations include wells, sumps, and tanks. Accidents in confined spaces may be rare, but they can result in severe injury or death.

Common hazards

- Toxic gases, air contaminants, or lack of oxygen, resulting in hazardous atmospheres
- Flammable gases or vapours, resulting in fires or explosions
- Various physical hazards that result in workers being crushed, struck by falling objects, or buried in materials

Responsibilities

Employers

- Identify all confined spaces at the worksite.
- Secure any access points to confined spaces, and ensure that there is signage to warn workers of the hazard
- Develop and implement a written entry program for each confined space.
- Ensure that there is proper training and equipment for all workers who need to enter a confined space.



Resources

Hazards of Confined Spaces

www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/bk80.pdf

“Confined spaces can be deadly spaces” (Toolbox Meeting Guide)

www2.worksafebc.com/i/construction/Toolbox/pdfs/TG07-07_confined_spaces.pdf

Confined Spaces: Safe Yesterday, Deadly Today (video) www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=35168

Precious Time: The Cody McNolty Story (video)

www2.worksafebc.com/Publications/Multimedia/Videos.asp?reportid=34287

Training: Confined Space—Controlling the Hazards on a Farm

The Farm and Ranch Safety and Health Association offers a training program called Confined Space—Controlling the Hazards on a Farm. For more information, contact a FARSHA regional safety consultant (www.farsha.bc.ca/contact_us.php).





3

Forms and checklists



This section includes the following forms and checklists, which you can use to develop, implement, and maintain your health and safety program.

Sample health and safety program.....	99
Annual review of health and safety program.....	102
Sample worker orientation checklist.....	104
Typical orientation and training topics.....	107
Sample inspection checklist.....	109
Sample inspection report	111
Form 52E40— Incident investigation report.....	112
Sample monthly health and safety meeting record	116
Sample notice of pesticide spraying.....	117
Level 1 first aid kit	118
Level 3 first aid kit	119
Form 55B23— First Aid Record	120

Sample health and safety program

Use this sample as a guideline to help you prepare your written occupational health and safety program.

This is only a guideline. You should tailor it to meet the health and safety needs of your particular workplace. For example, you'll need to add specific information on written safe work procedures, state any personal protective equipment you need, list additional training and orientation topics, and provide details about first aid and emergency procedures.

HEALTH AND SAFETY POLICY

(Name of firm) _____ wants its workplace to be a healthy and safe environment. To achieve this, our firm will establish and maintain an occupational health and safety program designed to prevent injuries and disease. The employer is responsible for providing workers with adequate instruction in health and safety and for addressing unsafe situations in a timely, effective manner. All workers and service contractors are required to work safely and to know and follow our company guidelines for safe work procedures.

Signed: _____

Date: _____

Employer responsibilities include the following:

- Establish the health and safety program.
- Conduct an annual review in (month) of each year.
- Train supervisors.
- Provide a healthy and safe work environment.

Supervisor responsibilities include the following:

- Orient new workers.
- Train workers on an ongoing basis.
- Conduct regular staff safety meetings.
- Perform inspections and investigations.
- Report any health or safety hazards.
- Correct unsafe acts and conditions.

Worker responsibilities include the following:

- Learn and follow safe work procedures.
- Correct hazards or report them to supervisors.
- Participate in inspections and investigations where applicable.
- Use personal protective equipment where required.
- Help create a safe workplace by recommending ways to improve the health and safety program.

WRITTEN SAFE WORK PROCEDURES

(You need to have written procedures for high-risk or complex tasks. List these high-risk tasks here. A WorkSafeBC prevention officer may be able to advise you on procedures you need to include. For example, you may need written safe work procedures for using special equipment or working alone. Attach the procedures to this program.)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

(List any PPE required, when it must be used, and where it can be found. For example, workers may be required to wear eye protection when using certain equipment. Attach this list to this program.)

EDUCATION AND TRAINING

All workers will be given an orientation by their supervisor immediately upon hiring. The following topics will be included in the orientation:

- Supervisor name and contact information
- The worker's basic rights and responsibilities, including how to report unsafe conditions and the right to refuse to perform unsafe work

- Safe work procedures specific to the workplace
- Hazards that the worker may be exposed to
- Procedures for working alone, if the worker is required to do so
- Personal protective equipment the worker will be required to use, and how to maintain and store it
- Where and how to get first aid and report an injury
- WHMIS information for hazardous materials
- Names and contact information for joint health and safety committee members (or the worker representative)
- Other task-specific instruction, as required (for example, forklift training)
- Locations of fire alarms, fire exits, and meeting points
- Locations of fire extinguishers and how to use them

At the end of the orientation, the worker will be given a copy of this program. The employer will make sure that workers receive further training when necessary to ensure the safe performance of their duties. Staff meetings are one way to increase safety awareness.

(For higher hazard work areas and jobs, orientation in additional topics may be necessary. List them here.)

INSPECTIONS

A supervisor and a worker will conduct regular inspections to identify hazards and recommend how to eliminate or minimize the risks. Inspections will also look at how work is performed.

Serious hazards or unsafe work practices found during inspections or observed by workers, supervisors, or the employer will be dealt with immediately. Other hazards will be dealt with as soon as possible.

(State how often inspections will be performed — typically once a month or at other intervals that prevent the development of unsafe working conditions. It's useful to inspect the workplace before a staff meeting so results can be discussed with staff. You can use the "Inspection Checklist.")

HAZARDOUS MATERIALS AND SUBSTANCES

(If you use hazardous materials or substances at your workplace, list them here. Also list the location of material safety data sheets and any applicable written safe work procedures.)

FIRST AID

This workplace keeps a *(type)* _____ first aid kit in the *(location)* _____.
(Give the name of your first aid attendant if one is required. Also provide ambulance and hospital phone numbers.)

EMERGENCY PREPAREDNESS

- **Fire** — See the fire plan posted at (location).

Fire extinguishers are located at (list locations).

(Names of employees)

are trained to use them.

- **Earthquake** — An annual inspection will be conducted, focusing on objects that may pose a hazard during an earthquake. The exit and marshalling procedures are the same as for fires. *(Or, if not, note the location of earthquake procedures here.)*

- *(Note other emergency procedures, such as protection from violence.)*
- _____
- _____
- _____

INVESTIGATING INCIDENTS

A supervisor and a worker must investigate any injuries or near misses on the same day they occur. Any incident that results in an injury requiring medical treatment, or that had the potential for causing serious injury, must be investigated immediately. The purpose of an investigation is to find out what went wrong, determine if our health and safety practices were faulty, and, most importantly, recommend actions that will prevent a recurrence of the problem. *(You can use the "Sample Incident Investigation Report.")*

RECORDS AND STATISTICS

Accurate health and safety records provide an excellent gauge to determine how we are doing. The following records are maintained and will be reviewed annually:

- Claims statistics
- First aid records
- Completed inspection lists
- Occurrence investigations
- Material safety data sheets
- Any WorkSafeBC inspection reports

These records are kept at (location).

Medical or related records will be handled in a manner that respects confidentiality.

Annual review of health and safety program

Use this checklist to review the effectiveness of your occupational health and safety program.

PURPOSE

The purpose of reviewing your occupational health and safety program is to make sure it's up-to-date and effective. A program review helps you identify the strengths and weaknesses of your program and allows you to focus on the areas that need improvement. Involve employees in the review process.

HOW TO USE THIS CHECKLIST

- If you answer “no” to any of these questions, take action to correct the deficiency in your program.
- If you are unsure what a question means, read the relevant section in the guide, refer to the Occupational Health and Safety Regulation, or contact the Prevention Information Line at 604 276-3100 in the Lower Mainland or 1 888 621-7233 (621-SAFE) toll-free in British Columbia.

Company name: _____

Date of review: _____

Conducted by: _____

Written program	Yes	No
1. Do you have a written program?		
2. Do you keep a copy easily accessible?		
3. Does your program clearly state the responsibilities of:		
The employer?		
Managers and supervisors?		
Workers?		
Identifying hazards and assessing risks	Yes	No
4. Do you have a method of identifying hazards?		
5. When hazards have been identified, do you conduct a risk assessment to help determine the best way to eliminate or control the risks?		

Safe work procedures	Yes	No
6. Does your written program list all the written safe work procedures that you have developed for your business?		
7. Have you reviewed these safe work procedures in the last year?		
8. Have you posted safe work procedures near any hazardous equipment or machinery?		
9. If any employee works alone, have you developed written procedures for safeguarding the worker's well-being when working alone?		
10. Have you conducted a risk assessment and developed procedures for preventing violence in the workplace?		
11. Do you have written rules prohibiting horseplay and the use of drugs and alcohol at work?		
12. Do you keep records when you discipline workers for not following these rules?		

Education and training	Yes	No
13. Does your orientation of new workers include information and instruction on your health and safety program?		
14. Does your orientation of new workers include training on the safe work procedures used in your business?		
15. Do you inform new workers about work rules prohibiting horseplay and the use of alcohol and drugs at work?		
16. Have you observed workers to determine if they need refresher training in safe work procedures?		
17. Did you provide instruction and training for any new procedures, processes, equipment, or machinery that you introduced in the last year?		
18. Have supervisors and workers received training in how to conduct safety inspections and incident investigations?		
Safety inspections	Yes	No
19. Do you inspect your workplace regularly?		
20. Do a supervisor and a worker conduct the inspection?		
21. Do you observe workers during inspections?		
22. Do you have a method of reporting hazards between inspections?		
23. Do you have a system of rating hazards?		
24. Do you discuss the results of inspections at monthly safety meetings?		
25. Do you have a system of following up on identified hazards to ensure that they have been corrected?		
Investigating incidents	Yes	No
36. Do you have a method for workers to report accidents and near misses?		
37. Do you investigate all accidents and near misses?		
38. Do you focus on finding the root causes during incident investigations?		
39. Do you take recommended corrective action identified during investigations?		

Hazardous materials	Yes	No
26. Do you have an inventory of controlled products used in your workplace?		
27. Does each controlled product have a corresponding MSDS?		
28. Are MSDSs readily available to workers and do workers know where to get them?		
29. Do you have a way to check that new controlled products include MSDSs?		
30. Do workers understand how to read MSDSs and know what they mean?		
31. Do you check all controlled products for supplier labels when received?		
32. Are decanted products labelled?		
33. Are labels legible?		
34. Do workers know what hazardous materials are used in your business?		
35. Do workers know how to safely handle, store, and dispose of hazardous materials?		
First aid	Yes	No
40. Have you confirmed that all workers know the location of the first aid kit?		
41. Do workers know who the first aid attendant is, how to contact first aid, and how to get assistance in emergencies?		
42. Have you instructed workers to report all injuries?		
43. Do you record all injuries?		
Records and statistics	Yes	No
44. Do you keep records of the following?		
Orientation of new workers		
Education and training		
Injuries and other incidents		
Inspection reports		
Incident investigation reports		
Monthly health and safety meetings		
45. Do you review accident statistics to see if trends are developing?		
Monthly meetings	Yes	No
46. Do you hold monthly safety meetings?		
47. Do workers attend most of these meetings?		
48. Do you include an educational topic on your agenda?		

Sample worker orientation checklist

Employee name: _____

Position (tasks): _____

Date hired: _____ Date of orientation: _____

Person providing orientation (name and position): _____

Company name: _____

Topic	Initials (trainer)	Initials (worker)	Comments
1. Supervisor name: _____ Telephone #: _____			
2. Rights and responsibilities (a) General duties of employers, workers, and supervisors			
(b) Worker right to refuse unsafe work and procedure for doing so			
(c) Worker responsibility to report hazards and procedure for doing so			
3. Workplace health and safety rules a) _____ b) _____ c) _____ d) _____			
4. Known hazards and how to deal with them a) _____ b) _____ c) _____ d) _____			
5. Safe work procedures for carrying out tasks a) _____ b) _____ c) _____ d) _____			
6. Procedures for working alone or in isolation			

Topic	Initials (trainer)	Initials (worker)	Comments
7. Measures to reduce the risk of violence in the workplace and procedures for dealing with violent situations			
8. Personal protective equipment (PPE)—what to use, when to use it, where to find it, and how to care for it a) _____ b) _____ c) _____			
9. First aid (a) First aid attendant name and contact information			
(b) Locations of first aid kits and eye wash facilities			
(c) How to report an illness, injury, or other accident (including near misses)			
10. Emergency procedures (a) Locations of emergency exits and meeting points			
(b) Locations of fire extinguishers and fire alarms			
(c) How to use fire extinguishers			
(d) What to do in an emergency situation			
11. Where applicable, basic contents of the occupational health and safety program			
12. Hazardous materials and WHMIS (a) Hazardous materials (controlled products) in the workplace			
(b) Hazards of the controlled products used by the worker			
(c) Purpose and significance of hazard information on product labels			
(d) Location, purpose, and significance of material safety data sheets (MSDSs)			
(e) How to handle, use, store, and dispose of hazardous materials safely			
(f) Procedures for an emergency involving hazardous materials, including clean-up of spills			
13. Where applicable, contact information for the occupational health and safety committee or the worker health and safety representative			

How to fill out the worker orientation checklist

The orientation checklist on pages 34–35 covers the topics specified in section 3.23(2) of the Regulation. Checklist topics #3, 4, 5, and 8 include blank lines so you can add topics specific to your workplace. Once a topic has been discussed or demonstrated, the trainer and the employee should initial the item. If the topic is irrelevant, mark “N/A” in the Comments column. Also indicate in the Comments whether any follow-up is necessary. Here’s a brief explanation of each item on the checklist:

1. Provide workers with written contact information for their supervisors. If possible, introduce supervisors to workers immediately.
- 2a. Go over the responsibilities specified in sections 115–117 of the *Workers Compensation Act*. Make a copy of the *Act* and the Occupational Health and Safety Regulation available to workers, or point them to the online version at WorkSafeBC.com.
- 2b. Tell workers that it is their duty to refuse to perform work if they believe it may be dangerous to themselves or others, and that they cannot be punished for doing so. See sections 3.12–3.13 of the Regulation.
- 2c. Tell workers that hazards should be reported immediately, and identify who they should report hazards to (for example, their supervisor or a safety coordinator). See section 3.10 of the Regulation.
3. Go over general rules, which include following work procedures, using personal protective equipment, and operating equipment safely.
4. Inform workers about any known hazards that apply to them and tell them how to deal safely with these hazards. For example, tell them to wear respirators while sanding and discuss respirator care.
5. Demonstrate specific tasks (for example, cleaning equipment or using ladders) and safe work procedures (for example, locking out equipment before cleaning or repairing it).
6. Tell workers about person check procedures for working alone or in isolation. Teach them safety strategies such as keeping the back door locked. See sections 4.21–4.23 of the Regulation.
7. Warn workers about any potential for violence. Tell them how to prevent incidents (for example, remain calm with abusive customers) and how to deal with incidents (for example, do not attempt to restrain shoplifters or robbers). See sections 4.27–4.31 of the Regulation.
8. If workers need to use PPE (for example, respirators while painting), tell them what equipment to use and teach them how to use it properly. See Part 8 of the Regulation.
9. Make sure workers know what to do if they or someone else is injured. They need to know where to find first aid supplies and who to report the injury to (all injuries must be reported).
10. Explain evacuation procedures. Show workers emergency exits, meeting points, locations of fire alarms and fire extinguishers, and how to use extinguishers.
11. Explain what an occupational health and safety program is and go over it briefly with workers. Tell them where they can find a written copy of the program. See sections 3.1–3.3 of the Regulation.
12. Workers need to know about hazardous products such as paints, solvents, or cleaning products. Tell them how to handle and dispose of such products safely, and where to find more information (for example, on product labels and MSDSs). If workers are uncertain about proper procedures, they should always talk to a supervisor.
13. Where applicable, introduce workers to committee members or the worker representative and identify the location of the joint health and safety committee minutes. Tell them why there is a committee or representative, and provide them with contact information.

Typical orientation and training topics

The following table describes key orientation topics. Each topic includes examples of areas for discussion during training, as well as references that you can use for more information. This table is not comprehensive—your orientation should include topics that are specific to your workplace, which may not be described here. That’s why it’s important to do a hazard assessment in your workplace. An assessment will help you identify any other necessary health and safety topics for training.

The “Resources” column in the following table includes three types of resources. Regular text is used for references to the Occupational Health and Safety Regulation and web resources. *Italicized text* is used for references to other publications (booklets and guides). **You can find a searchable version of the Regulation and electronic versions of publications online at WorkSafeBC.com.**

Topic	Things to discuss	Resources
Worker rights and responsibilities	<ul style="list-style-type: none"> Responsibility to follow the Regulation and other health and safety rules Responsibility to use PPE when required Right to refuse unsafe work 	<ul style="list-style-type: none"> Regulation: Part 3, Rights and Responsibilities Regulation: Sections 115–117 of the <i>Workers Compensation Act</i>
Falls from elevation (including ladder safety)	<ul style="list-style-type: none"> Fall protection system being used Fall protection procedures Proper use of fall protection equipment Ladder safety Inspection and maintenance of ladders and fall protection equipment 	<ul style="list-style-type: none"> Regulation: Part 11, Fall Protection <i>An Introduction to Personal Fall Protection Equipment</i>
Lockout (for machinery and power tools)	<ul style="list-style-type: none"> Define lockout Types of lockout When to lock out Review procedures for specific equipment 	<ul style="list-style-type: none"> Regulation: Part 10, De-energization and Lockout <i>Lockout</i>
Lifting and moving objects or people (sprains and strains)	<ul style="list-style-type: none"> Demonstrate safe lifting technique Use of specialized equipment for lifting or moving materials or people Storage priorities (heavier items at lower heights and lighter items higher up) 	<ul style="list-style-type: none"> Regulation: Sections 4.46–4.53 <i>Handle With Care: Patient Handling and the Application of Ergonomics (MSI) Requirements</i> <i>Understanding the Risks of Musculoskeletal Injury (MSI): An Educational Guide for Workers on Sprains, Strains, and other MSIs</i> <i>Preventing Musculoskeletal Injury (MSI): A Guide for Employers and Joint Committees</i>
Guarding (for machinery and power tools)	<ul style="list-style-type: none"> Types and purposes of guards Inspection and use of guards Requirement to leave guards in place 	<ul style="list-style-type: none"> Regulation: Sections 12.1–12.6 <i>Safeguarding Machinery and Equipment</i> <i>Safeguarding in Manufacturing</i>

Topic	Things to discuss	Resources
Forklifts and other mobile equipment	Maintaining eye contact with equipment operator Speed limits and locations of travel lanes Equipment inspection and maintenance Load limits and procedures for safe operation Operators must demonstrate competency in using equipment	<ul style="list-style-type: none"> Regulation: Part 16, Mobile Equipment <i>Safe Operation of Lift Trucks</i>
Confined spaces (for example, working in tanks, silos, vats, rail cars, hoppers, or sewers)	Location of any confined spaces in the workplace, and the hazards they pose Who may or may not enter a confined space Procedures workers must follow if they are required to enter a confined space	<ul style="list-style-type: none"> Regulation: Part 9, Confined Spaces <i>Hazards of Confined Spaces</i> <i>Confined Space Entry Program: A Reference Manual</i>
Personal protective equipment (PPE)	When and how to use specific PPE Where to find PPE Limitations of protection Storage, maintenance, and inspection	<ul style="list-style-type: none"> Regulation: Part 8, Personal Protective Clothing and Equipment
WHMIS	Reading and understanding labels Reading and understanding MSDSs Location of MSDSs Hazards of products being used Control measures and appropriate PPE	<ul style="list-style-type: none"> Regulation: Sections 5.3–5.19 OHS Guidelines: G5.3-1–G5.15 <i>WHMIS: The Basics</i>
First aid and emergency procedures	Names and locations of first aid attendants Locations of first aid kits Locations of fire exits Locations of fire extinguishers and how to use them	<ul style="list-style-type: none"> Regulation: Sections 3.14–3.21 Online First Aid Assessment Tool www2.worksafefbc.com/calculator/firstaid/
Violence	Procedures for identifying and dealing with aggressive customers, clients, or patients Procedures for preventing and dealing with shoplifting and robbery incidents Procedures for handling money Procedures for opening and closing	<ul style="list-style-type: none"> Regulation: Sections 4.27–4.31 <i>Preventing Violence, Robbery, and Theft</i> <i>Preventing Violence in Health Care</i> <i>Home and Community Health Worker Handbook</i> <i>Take Care</i>
Working alone	Procedures for person checks Work activities that may place workers at risk of injury, and which should not be performed when working alone Procedures for late-night work (10:00 p.m. to 6:00 a.m.) Procedures described under “Violence” (see previous topic)	<ul style="list-style-type: none"> Regulation: Sections 4.20.1–4.23 OHS Guidelines: G4.20.1–G4.22.2 <i>Handbook for Employers: Working Alone, Late Night Retail, and Prepayment of Fuel</i>

Sample inspection checklist

Use this checklist when conducting your regular safety inspections.

Go over every aspect of your workplace to identify possible hazards. Use blank lines to add items specific to your workplace.

Equipment and Machinery	Yes	No
Are equipment and machinery kept clean?		
Is equipment in good working order and regularly maintained?		
<input type="checkbox"/> Mowers		
<input type="checkbox"/> Chainsaws		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
Are operators trained properly?		
Are controls clearly marked?		
Is machinery adequately guarded?		
Are there lockout procedures in place?		
Mobile Equipment	Yes	No
Is mobile equipment kept in good working order and regularly maintained?		
Are operators trained properly?		
Are controls clearly marked?		
Are there lockout procedures in place?		
Vehicles	Yes	No
Are vehicles regularly maintained?		
Is there a seat belt for each passenger?		
Are guards maintained on power take-offs (PTOs)?		
Is storage in truck beds clean and secure?		

Ladders	Yes	No
Do you have the appropriate types of ladders for your work?		
Are ladders safe and in good condition (no loose or damaged rungs, steps, or rails)?		
Are ladders clean and free of slippery material such as debris, ice, and oil?		
Are spreaders on stepladders sturdy, and can they be locked in place?		
Are ropes and pulleys on extension ladders in good repair and free-moving?		
Do ladders have anti-slip treads?		
Storage	Yes	No
Are supplies and materials stored properly on shelves?		
Does your storage layout minimize lifting problems?		
Are floors around shelves clear of obstacles?		
Are racks and shelves secured to the floor or wall and in good condition?		
Are storage areas well lit to allow safe access to contents?		
Are tools stored safely?		

Fire Safety and Security	Yes	No
Are fire extinguishers clearly marked?		
Have fire extinguishers been inspected within the last year?		
Are workers trained to use fire extinguishers?		
Are flammable liquids stored properly?		
Are emergency phone numbers posted where they can be found?		
First Aid	Yes	No
Are first aid kits accessible and clearly labelled?		
Are first aid kits adequate and complete?		
Are first aid kits clean and dry?		
Are emergency numbers displayed?		
Are injury report forms readily available (Form 7)?		
Personal Protective Equipment (PPE)	Yes	No
Is all necessary PPE available to workers?		
Is all PPE clean and maintained properly?		
Do workers know where to find PPE?		
Do workers know how to use PPE?		
Do workers use PPE according to their training?		
<input type="checkbox"/> Eye and face protection		
<input type="checkbox"/> Safety headgear (hard hats)		
<input type="checkbox"/> Gloves		
<input type="checkbox"/> Protective clothing		
<input type="checkbox"/> Respirators		
<input type="checkbox"/>		
<input type="checkbox"/>		

Safe Work Practices	Yes	No
Do workers use safe lifting techniques?		
Are wastes disposed of properly?		
Do workers know how to deal with violent customers?		
Do workers know the procedures for working alone?		
Do workers know how to work safely in hot, cold, and wet conditions?		
Do workers know how to work safely around insects and dangerous plants?		
Do workers know how to check a site for dangers such as electrical wires (overhead and underground), debris, potholes, and steep slopes?		
Hazardous Materials	Yes	No
Are material safety data sheets (MSDSs) provided for all hazardous materials?		
Are containers clearly labelled?		
Are hazardous materials stored properly?		
Are hazardous materials disposed of properly?		
General Worker Questions	Yes	No
Do workers know where to go and whom to call for first aid assistance?		
Do workers know where to find MSDSs for chemical products?		

INCIDENT INVESTIGATION REPORT

Worker and Employer Services Division

This form is provided to employers for the purpose of documenting the employer's investigation into a workplace incident. Please attach a separate sheet if necessary.

Employer name	Employer number
Employer head office address	

Incident occurred *ref: s. 3.4(a) Occupational Health and Safety Regulation (OHS Regulation)*

Address where incident occurred (including nearest city)	
Date <small>yyyy-mm-dd</small>	Time a.m. <input type="checkbox"/> p.m. <input type="checkbox"/>

Injured person(s) *ref: s. 3.4(b) OHS Regulation*

Last name	First name	Job title	Age	Length of experience with this employer	Length of experience at this task/job
1)					
2)					

Nature of injury/injuries

1)	
2)	

Witnesses *ref: s. 174(4) WCA and s. 3.4(c) OHS Regulation*

Last name	First name	Address	Telephone
1)			()
2)			()
3)			()

Incident description *ref: s. 3.4(d)-(e) OHS Regulation*

Briefly describe what happened, including the sequence of events preceding the incident.

Statement of causes *ref: s. 174(2)(a)-(b) WCA and s. 3.4(f) OHS Regulation*

List any unsafe conditions, acts, or procedures that in any manner contributed to the incident.

Recommendations *ref: s. 174(2)(c) WCA and s. 3.4(g) OHS Regulation*

Identify any corrective actions that have been taken and any recommended actions to prevent similar incidents.

Recommended corrective action	Action by whom	Action by date
1)		
2)		
3)		
4)		

Persons conducting investigation *ref: s. 3.4(h) OHS Regulation*

Name	Signature	Type of representative			Date
		Employer <input type="checkbox"/>	Worker <input type="checkbox"/>	Other <input type="checkbox"/>	
		Employer <input type="checkbox"/>	Worker <input type="checkbox"/>	Other <input type="checkbox"/>	
		Employer <input type="checkbox"/>	Worker <input type="checkbox"/>	Other <input type="checkbox"/>	

For additional information on WorkSafeBC (Workers' Compensation Board of B.C.) and on the requirements for incident investigations, please refer to WorkSafeBC's web site: WorkSafeBC.com

Mailing address WorkSafeBC
PO Box 5350 Stn Terminal
Vancouver BC V6B 5L5

Fax number: 604 276-3247

Telephone information

Call centre: 604 276-3100 or toll free within B.C. 1 888 621-SAFE (7233)

After hours health and safety emergency: 604 273-7711 or toll free 1 866 922-4357 (WCB-HELP)



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A GUIDE TO INCIDENT INVESTIGATION

Use this guide in conjunction with the requirements of the *Workers Compensation Act (WCA)*, Part 3 Division 10, and the Occupational Health and Safety Regulation (OHS Regulation), section 3.4.

When is an investigation required?

Employers are required to immediately undertake an investigation into any accident or other incident that:

- Is required to be reported under section 172 of the *Workers Compensation Act*, or
- Resulted in injury requiring medical treatment, or
- Did not involve injury to a worker or involve a minor injury that did not require medical treatment but had the potential for causing serious injury, or
- Was an incident required by regulation to be investigated.

Who should conduct the investigation?

- Incidents must be investigated by people knowledgeable about the type of work involved at the time of the incident.
- If reasonably available, investigations must be carried out with the participation of one employer representative and one worker representative.

What is the purpose of an investigation?

The purpose of an investigation is to determine the cause or causes of the incident, to identify any unsafe conditions, acts, or procedures that contributed to the incident, and to recommend corrective action to prevent similar incidents.

Who receives copies of the report?

Incident investigation reports required by the *WCA* must be provided to the joint health and safety committee or worker representative as applicable, and to WorkSafeBC.

What follow-up action is required after an incident investigation?

After an investigation, the employer must without undue delay undertake any corrective action required to prevent recurrence of similar incidents and must prepare a report of the action taken. The report must be provided to the joint health and safety committee or worker representative as applicable. The follow-up report does not have to be provided to WorkSafeBC unless requested by a WorkSafeBC officer.

What information should be included in the investigation report?

An incident investigation report should answer the **WHO, WHERE, WHEN, WHAT, WHY, and HOW** questions with regard to the incident.

- WHO** Employer, injured person(s), other person(s) involved in the incident, witnesses, and persons carrying out the investigation
- WHERE** Place, location where incident occurred
- WHEN** Date and time of the incident
- WHAT** A brief description of the incident, including the sequence of events that preceded the incident
- Before the incident occurred:*
- What were the events that led up to the incident?
 - What process(es) was/were occurring immediately prior to the incident?
 - What was/were the worker(s) doing immediately prior to the incident?
 - What was the last event before the incident occurred?
- At the time of the incident:*
- What happened at the time of the incident?
 - What process(es) was/were occurring at the time of the incident?
 - What was/were the worker(s) doing at the time of the incident?

- What hazard(s) was/were the worker(s) exposed to?
- What hazards may have contributed to the incident occurring?
- What hazards did the worker(s) encounter?
- What personal factors may have contributed to the incident occurring?

Other information:

- Other observations
- Other related information

WHY From the answers to “what,” identify any unsafe conditions, acts, or procedures that in any manner contributed to the incident. Why did the unsafe conditions, acts, or procedures occur? Why were the personal factors not identified and/or addressed before the incident occurred?

HOW An investigation report should recommend corrective actions to prevent similar incidents from occurring. Once it is known why an incident occurred, determine how to prevent recurrence. For example:

- Improve workplace inspection and maintenance programs
- Repair or replace equipment/building
- Install safeguards
- Establish or revise safe work procedures
- Train/retrain person(s)
- Improve supervision

Additional information for determining why an incident happened

To determine the most probable cause(s) of an incident, consider all details of the investigation, including witness statements and, where possible, the injured worker’s statement.

Determine if the incident was due to an unsafe act, an unsafe condition, unsafe or inadequate procedures, or a combination of these. Consider whether the accepted/current procedures adequately address safety concerns associated with the activity that was taking place when the incident happened. Consider training, supervision, equipment controls, safeguards, and lock-out.

Unsafe acts – An unsafe act is a specific action or lack of action by an individual that is under the individual’s control. Examples of unsafe acts include: knowingly not following established rules, knowingly not following established procedures, knowingly disregarding a hazard, willful misconduct, abusing equipment, knowingly using equipment incorrectly, choosing not to use personal protective equipment, and not locking out when required. Generally, violating a safety rule, not following a safe work procedure, or disregarding a hazard are considered unsafe acts.

Unsafe conditions – Examples include poor housekeeping, congested areas, deficient equipment, equipment lacking safeguarding or having ineffective safeguarding, lack of personal protective equipment, poor visibility, poor weather conditions, and lack of or inadequate training. Inadequate training should be considered an unsafe condition as opposed to a deficiency in skill or ability (personal factors).

Inadequate procedures – Indications that procedures are inadequate include:

- Procedures are not available in written form
- Procedures do not identify inherent hazards
- Procedures do not identify hazard control methods
- Procedures do not identify safeguards that must be in place
- Procedures do not address pre-operation inspection requirements
- Procedures do not address lock-out requirements
- Procedures direct improper use of equipment or tools

Personal factors – A personal factor is a deficiency in skill or ability, a physical condition, or a mental attitude. It is a factor inherent in an individual at the time of the incident. Examples include work fatigue due to manual exertion, distress due to emotional problems, the influence of alcohol or drugs, or illness. A condition causing an allergic reaction in some but not most workers should be considered a personal factor, not an unsafe condition.

Sample monthly health and safety meeting record

Use this sheet to record what has been discussed at your monthly health and safety meetings.

Company name: _____ Date: _____

Participants: _____

1. Accidents and other incidents

List all accidents and other incidents that have occurred since your last meeting. Or attach copies of incident reports to this record.

	Year to date	Previous year
Number of accidents		
Number of near misses		
Number of WorkSafeBC claims		

2. Results of monthly inspection

List all hazards in the table below. Or attach a copy of your inspection report to this record.

Type of hazard (critical, urgent, or important)	Describe hazard and precise location	Recommended corrective action	Person responsible	Date remedied

3. Education and training

List new safe work procedures and other matters discussed.

4. Other concerns

List other health and safety concerns discussed.

5. Next meeting

Date and time of next meeting: _____

List any matters that need to be followed up at the next meeting: _____

Sample notice of pesticide spraying

Important Notice to all Staff
Pesticide Spraying

On _____ we will be spraying the _____
in the _____ with _____

The spraying will take place at approximately _____ a.m. / p.m.

If you have any questions or concerns, please see
_____ before pesticide spraying takes place.

The area can be re-entered at _____ a.m. / p.m.
on _____

Signature: _____

Level 1 first aid kit

These items must be kept clean and dry and must be ready to take to the scene of an accident. A weatherproof container is recommended for all items except the blankets. Blankets should be readily available to the first aid attendant.

3	blankets
24	14 cm x 19 cm wound cleaning towelettes, individually packaged
60	hand cleansing towelettes, individually packaged
100	sterile adhesive dressings, assorted sizes, individually packaged
12	10 cm x 10 cm sterile gauze dressings, individually packaged
4	10 cm x 16.5 cm sterile pressure dressings with crepe ties
2	7.5 cm x 4.5 m crepe roller bandages
1	2.5 cm x 4.5 m adhesive tape
4	20 cm x 25 cm sterile abdominal dressings, individually packaged
6	cotton triangular bandages, minimum length of base 1.25 m
4	safety pins
1	14 cm stainless steel bandage scissors or universal scissors
1	11.5 cm stainless steel sliver forceps
12	cotton tip applicators
1	pocket mask with a one-way valve and oxygen inlet
6	pairs of medical gloves (preferably non-latex)
	first aid records and pen

Level 3 first aid kit

These items must be kept clean and dry and must be ready to take to the scene of an accident. A weatherproof container is recommended for all items except the blankets. Blankets should be readily available to the first aid attendant.

Note: The Level 3 first aid kit is the same as the Level 2 kit except for the recommended addition of a portable suction unit.

3	blankets
24	14 cm x 19 cm wound cleaning towelettes, individually packaged
150	sterile adhesive dressings, assorted sizes, individually packaged
12	10 cm x 10 cm sterile gauze dressings, individually packaged
4	10 cm x 16.5 cm sterile pressure dressings with crepe ties
10	20 cm x 25 cm sterile abdominal dressings, individually packaged
12	cotton triangular bandages, minimum length of base 1.25 m
2	2.5 cm x 4.5 m rolls of adhesive tape
2	5 cm x 4.5 m rolls of adhesive tape
6	7.5 cm x 4.5 m crepe roller bandages
1	500 ml sterile 0.9% sodium chloride solution (saline) in unbreakable container
1	60 ml of liquid antibacterial soap in unbreakable container
1	universal scissors
1	11.5 cm stainless steel sliver forceps
1	penlight or flashlight with batteries
1	7.5 cm x 4.5 m esmarch gum rubber bandage
6	pairs of medical gloves (preferably non-latex)
1	portable oxygen therapy unit consisting of a cylinder (or cylinders) containing compressed oxygen, a pressure regulator, a pressure gauge, a flow meter and a non-rebreathing mask (may be kept in a separate container from the other supplies)
1	oropharyngeal airway kit (may accompany the portable oxygen therapy unit)
1	manually operated self-inflating bag-valve mask unit with an oxygen reservoir (may accompany the portable oxygen therapy unit)
6	patient assessment charts
1	pocket mask with a one-way valve and oxygen inlet
1	portable suction unit (recommended for Level 3 first aid kit)
	first aid records and pen



FIRST AID RECORD

This record must be kept by the employer for three (3) years. This form must be kept at the employer's workplace. Do **NOT** submit to WorkSafeBC unless requested by a WorkSafeBC officer (fax 604 233-9777; toll-free 1 888 922-8807).

Sequence number

Name	Occupation
Date of injury or illness (yyyy-mm-dd)	Time of injury or illness (hh:mm) a.m. <input type="checkbox"/> p.m. <input type="checkbox"/>
Initial reporting date and time (yyyy-mm-dd) a.m. <input type="checkbox"/> p.m. <input type="checkbox"/>	Follow-up report date and time (yyyy-mm-dd) a.m. <input type="checkbox"/> p.m. <input type="checkbox"/>
Initial report sequence number	Subsequent report sequence number(s)

Description of how the injury, exposure, or illness occurred (What happened?)

Description of the nature of the injury, exposure, or illness (What you see — signs and symptoms)

Description of the treatment given (What did you do?)

Name of witnesses

1.	2.
----	----

Arrangements made relating to the worker (return to work/medical aid/ambulance/follow-up)

Provided worker handout	Yes <input type="checkbox"/> No <input type="checkbox"/>	A form to assist in return to work and follow-up was sent with the worker to medical aid	Yes <input type="checkbox"/> No <input type="checkbox"/>
Alternate duty options were discussed	Yes <input type="checkbox"/> No <input type="checkbox"/>		
First aid attendant's name (please print)	First aid attendant's signature		
Patient's signature			

55B23

WorkSafeBC offices

Visit our website at WorkSafeBC.com.

Abbotsford

2774 Trethewey Street V2T 3R1

Phone: 604 276-3100

Toll-free: 1 800 292-2219

Fax: 604 556-2077

Burnaby

450 – 6450 Roberts Street V5G 4E1

Phone: 604 276-3100

Toll-free: 1 888 621-7233

Fax: 604 232-5950

Coquitlam

104 – 3020 Lincoln Avenue V3B 6B4

Phone: 604 276-3100

Toll-free: 1 888 967-5377

Fax: 604 232-1946

Courtenay

801 30th Street V9N 8G6

Phone: 250 334-8765

Toll-free: 1 800 663-7921

Fax: 250 334-8757

Kamloops

321 Battle Street V2C 6P1

Phone: 250 371-6003

Toll-free: 1 800 663-3935

Fax: 250 371-6031

Kelowna

110 – 2045 Enterprise Way V1Y 9T5

Phone: 250 717-4313

Toll-free: 1 888 922-4466

Fax: 250 717-4380

Nanaimo

4980 Wills Road V9T 6C6

Phone: 250 751-8040

Toll-free: 1 800 663-7382

Fax: 250 751-8046

Nelson

524 Kootenay Street V1L 6B4

Phone: 250 352-2824

Toll-free: 1 800 663-4962

Fax: 250 352-1816

North Vancouver

400 – 224 Esplanade Ave. W. V7M 1A4

Phone: 604 276-3100

Toll-free: 1 888 875-6999

Fax: 604 232-1558

Prince George

1066 Vancouver Street V2L 5M4

Phone: 250 561-3700

Toll-free: 1 800 663-6623

Fax: 250 561-3710

Surrey

100 – 5500 152 Street V3S 5J9

Phone: 604 276-3100

Toll-free: 1 888 621-7233

Fax: 604 232-7077

Terrace

4450 Lakelse Avenue V8G 1P2

Phone: 250 615-6605

Toll-free: 1 800 663-3871

Fax: 250 615-6633

Victoria

4514 Chatterton Way V8X 5H2

Phone: 250 881-3418

Toll-free: 1 800 663-7593

Fax: 250 881-3482

Head Office / Richmond

Prevention Information Line:

Phone: 604 276-3100

Toll-free: 1 888 621-7233 (621-SAFE)

Administration:

6951 Westminster Highway

Phone: 604 273-2266

Mailing Address:

PO Box 5350 Stn Terminal

Vancouver BC V6B 5L5

After Hours Health and Safety Emergency

Phone: 604 273-7711

Toll-free: 1 866 922-4357 (WCB-HELP)

R06/06

