

Workplace Rights and Responsibilities  
What Students Need to Know  
**A Resource for Teachers**

## **Topic 4: Personal Safety**

### **Specific curriculum Outcomes**

**3:10 identify commonly implemented safe practices in the home, school, community, and workplace; and demonstrate an understanding of the importance of maintaining these safe practices. (4.401)**

### **Suggested Teaching and Learning Strategies**

#### **Teacher Preparation**

**Teachers need a copy of the Occupational Health and Safety Act, which can be downloaded from the OHS website. Teachers need to highlight the terms and sections that will be needed for their lesson plans.**

#### **Introduction of Topic: Lesson 1 -Duration 1 period**

Brain storm and discussion what students' prior knowledge might be regarding the Occupational Health and Safety Act. (i.e. what is Occupational Health and Safety? Why do workers need it? How does this Act affect the workplace?). Where did the students receive their knowledge (i.e. parents, friends, and employers)? If discussion is going well continue on because students will be willing to give examples of what their perceptions are regarding workplace safety issues. This gathering of prior knowledge will be fundamental because we as teachers need to encourage and set standards for a safe working environment within our classrooms. At this juncture you may use your own classroom as an example of the importance of setting safety practices which will carryover into a work place environment. For example, leaving book bags in the middle of an aisle where other students or a teacher may trip and fall is a safety issue. Throwing pencils, etc. which can hit someone in the eye or using heavy scented products when others maybe allergic are also safety issues, which may arise in a classroom setting. All this issues deal with a safe working environment and as a class, teachers and students need to be fully aware of the rights and responsibilities of all members of the classroom.

Once the discussion and comments are noted it will be time to restate the importance of a safe working environment and how can workers and employers ensure safety. This will be a good place to finish lesson 1.

**Evaluation:** Have students put work in journal entry, which reflects on their beliefs of safety in the workplace.

### **Lesson: 2 -Duration 1 period**

Teachers will review the ideas generated in the last lesson and here they will introduce the OHS ACT. Listed below are terms students will need to know to complete the activity. Definitions found in Appendix A

#### **Define the following terms:**

Occupational Health and Safety Act	Occupational Health and Safety Regulations				
Worker	Hazard	Ergonomics	Incident	Risk	OH&S Committee
Due Diligence	Audit	Internal Responsibility System			
Direct Cause	Root Cause	Indirect Cause	Accident Report		

#### **Activity**

In groups of 7-8 (depending on class size) of 3-4 students (use a grouping method from co-operative learning or your own method) have students define the above terms by assigning each group with 2-3 terms. After teacher input and verification each group will be responsible to teach their definitions to the rest of the class. Each group is responsible to ensure all students have copied down the terms and definitions. Another discussion may arise from these mini definition lessons and if this is the case use these opportunities to model a positive safe classroom environment. Have the groups give an example of where the term maybe used and how these examples could be a negative or positive

experience. After all the terms have been defined teachers will review the lesson and assign the topics of the Act that will be taught in Lesson 3.

**Evaluation:** Create a game similar to Jeopardy to assess the students' knowledge of the terms. After this activity is completed have students put their terms and examples in their portfolios for evaluation at a later date.

**Attached in Appendix A is a list of definitions.**

### **Lesson 3 Duration- 1 Period**

To cover the following topics a copy of the specific regulations of the OCH Act will be attached. A video, which explains these topics, is available from the OHS resource. You may wish to use this valuable resource. OHS Centre 1-877-957-2667

#### **Topic 1 Workers' rights**

- a. The right to know, The right to participate and assist, the right to refuse

#### **Topic 2 Workers'/Employers' Responsibilities**

- a. Workers' responsibilities, employers' responsibilities, OHS responsibilities
- b. Reporting injuries

#### **Topic 1 Rights**

Teachers will explain what is meant by a right to know. Workers have a right under law to know that their work place is a safe working environment in that students are made aware of all potential hazards and the ways to prevent being injured. The right to participate and assist means that workers should be involved in the process of identifying and resolving workplace safety issues. The right to refuse work is defined in the act as follows: workers may refuse work that they believe is dangerous to their health or safety, or the health or safety of fellow workers; a.) until action has been taken by the employer to the worker's satisfaction, b.)until the OH&S committee or worker health and safety

representative has investigated the matter and advised the worker to return-to-work; or c.) until an officer has investigated the matter and has advised the worker to return-to-work.

## **Topic 2 Responsibilities**

### **Activity**

Have students brain storm and generate a list of employers and workers' responsibilities for a safe working environment. After discussion teachers will explain what is meant by responsibilities of employers and workers based on the following tenets of the OHS Act.

### **Employers Responsibilities:**

- 1.) Employers are responsible to provide and maintain a workplace and the necessary equipment, systems, and tools that are safe and without risk to the health of their workers.
- 2.) Employers are responsible to provide the information, instruction, training, supervision, and facilities that are necessary to ensure the health, safety and welfare of their workers.

### **Workers' responsibilities**

- 1.) Workers are responsible to protect their own health and safety and that of others workers at or near the workplace.
- 2.) Workers are responsible to cooperate with their employers and with other workers in the workplace to protect a.) their own health and safety, b.) the health and safety of other workers engaged in the work of the employer, c.) the health and safety of other workers or person not engaged in the work place of the employer but present at or near the workplace.

- 3.) Workers are responsible to use devices and equipment provided for their protection in accordance with the instructions for use and training provided with the respect to the devices and equipment.
- 4.) Workers are responsible to consult and cooperate with the occupational health and safety committee (if there is one at the workplace) or the worker responsible for health and safety at the workplace.
- 5.) Workers are responsible to cooperate with the person at the workplace who is exercising a duty imposed by the Act or Regulations.

### **Activity**

Have students generate a list of possible workers right to know. What do workers have a right to know regarding a safe working environment? Inform students that a worker's right is to ask questions and find out what safety procedures are available for the workplace. If workers have any doubts or concerns, ***they cannot just accept that they will be all right; and they go ahead and do the job.*** By law workers must and should be trained in the hazards, and if they are not, they have to take responsibility by asking the employer what is going to be done to make sure the workplace is safe. Students, if feeling uncertain or unsafe about their workplace must talk to their parents, teachers or other adult and they must understand that they have a right to ask questions and have answers to their safety questions. Questions such as: What do workers have to do to expose potential hazards found in a workplace? Have students give examples of the workers' and employers' responsibilities. What should workers do to be safe? What should employers do to make their workplace safe? These questions should generate a working list for the activity. Divide students into groups of four students (use a co-

operative learning method or any other method for forming a group). Assign each student a group role: a worker, a supervisor, an employer, and an occupational health and safety committee member. If groups have uneven numbers assign an outside observer i.e. customer or other workers. Have each group develop a scenario that focuses on a potential safety hazard. These hazards will be taken from the prior discussion or from a safety issue in the classroom discussed in Lesson 1. Ask students to develop a process for reporting an unsafe hazard found in a workplace. Have students include in their reporting process: who takes the action, to whom does the person report, how does this person report the hazard, is it verbal or written? What are the responsibilities of each member in the group? This should take the rest of the period. The most important lesson in this activity is to ensure that students are aware that the first step of safety is to report a hazard to their immediate supervisor, or some other worker. The aim of OHS is to ensure that the first level of action is for the worker and employer to address the safety issue and have it resolved within the workplace. If this is not the case then an OHS procedure is put in place. Proper communication and processes are very important and necessary for the health and safety of workers.

**Evaluation:** Have students pass to the teacher a written copy of the group's reporting process. The teacher will grade the reports and return them to the groups. The evaluation comments will generate the discussion for the next lesson.

#### **Lesson 4- Duration 1 period**

The purpose of this lesson is to give students an introduction of the types of possible hazards in a workplace, how to prevent injuries by being aware of these hazards and how

to report potential hazards they find in the workplace. Before teaching, have students generate a list of hazards that may be found in the workplace. What kinds of hazards are there in a workplace? What are some of the injuries that maybe suffered because of potential hazards? How can injuries affect a student's future? From the students, look for specific examples of injuries and their repercussions on a worker.

### **Categories of Hazards**

There are two categories of hazards found in the workplace one is a health hazard and the other is a safety hazard. Each category also has many types of health and safety hazards.

### **Types of Health Hazards**

The first type is known as chemical hazard. A chemical hazard refers to a substance that can be a risk to workers who come in contact with it or who are required to handle it.

Some of the chemical agents are:

- gases (e.g. carbon monoxide)
- vapours (e.g. gasoline)
- dust (e.g. asbestos)
- solvents (e.g. cleaning agents)
- fumes (e.g. welding)
- smoke (e.g. tobacco)
- mists (e.g. pesticides)

The second health hazard is the physical type. This physical hazard exists when levels exceed established safe guidelines. These physical hazards include:

- noise
- temperature
- radiation
- vibration
- indoor air quality
- illumination



The third health hazard is the biological type and this includes any living organism which can cause adverse health effects in humans they include:

- viruses
- blood borne pathogens
- bacteria
- fungus/molds
- parasites

The final types of health hazards that may be found in a workplace are ergonomic hazards. In Newfoundland & Labrador sixty-six percent (66%) of all injuries in the workplace are soft tissue injuries. It has been researched that soft tissue injuries are often caused by ergonomic. Most workers fit into work however it has been proposed that due to ergonomics, the work and work placement should fit the worker. For example, both a tall and a short student are worker at a fast food outlet. The cash register is a fixed height. When the tall student is on the cash, that student has to bend over, in an uncomfortable position to do the work. However when the short student is working the cash, that student has to reach up in an awkward position to do the same work. If the human factor of a work place had been considered during the design phase of the particular workstation, the accommodations could have been made for both workers and their different heights. The following hazards all deal with the human factor of work safety.

The ergonomic hazards consist of:

- excessive force
- tasks which require repetitive movements
- awkward positions
- duration-time on task performed

## **Types of Safety Hazards**

More workers are familiar with the safety hazards than the health hazards that are found in a workplace. There are five types of safety hazards. The first one is machine hazards and these would include

- all moving parts
- hot parts,
- absence of machine guards
- poor maintenance of machinery

The second type of safety hazard deals with energy and its associated source. Examples are:

- electricity (e.g. overloaded circuits)
- steam (e.g. boiling water, pipes)
- heat (e.g. hot pipe, hot tools)
- pressure (e.g. valves, boiler)
- gravity (e.g. falling objects, scaffolding)
- mechanical (e.g. moving parts)
- chemical (e.g. mixing gases)
- kinetic (e.g. slip, fall)
- potential (e.g. hydraulic lift)

The third type of safety hazard deals with confined spaces. Confined space areas are:

- not intended for human occupancy
- restricted entry or exit
- where hazardous atmospheres exist (e.g. a tank that was filled with gas that may still have fumes)

A fourth type of safety hazard would be the handling of materials. These may include:

- lifting, lowering, carrying, pushing, pulling, and shoveling heavy items
- handling flammable, reactive, explosive, and /or corrosive substances

The final type of safety hazard that may be potentially found in a workplace is work practice. These may include:

- failure to develop or follow workplace practices/procedures
- poor housekeeping at work

All these hazards are causes for serious injuries and students should be able to identify the factors that contribute to all workplace health and safety.

### **Factors that contribute to workplace health and safety**

The four factors that contribute to the health and safety of a workplace are: people, equipment, materials and environment or (PEME). Explain to the students how these four factors can affect a workplace.

**Evaluation:** Have students give examples of each factor and put these examples on the board or overhead. Have students place examples in their working portfolios.

### **Activity**

Using the case studies provided in Appendix B arrange students into groups (at least 4 members) Give each student their worksheets and ensure that all students complete the worksheets. It would be recommended that one of your school's occupational health and safety committee members come and talk to your class regarding the health and safety of your school. For example the Science Labs, or the Industrial Arts workshop.

**Evaluation:** Have students file their completed worksheets in their working portfolios.

The portfolios will be collected at a later to be graded.

**Alternate assessment:** Students go tour the school to find potential hazards that would cause injuries.

## Conclusion

These activities and discussions are meant to be an introduction into the Occupational Health and Safety Act and Regulations that will guide the students to find a workplace that is safe and to be aware of potential hazards in a workplace. There are various other components that elaborate on the many issues found in these introductory activities.

Listed below are resources that you can avail upon for guidance when completing this section of the course.

## Resources:

Occupational Health and Safety Compensation Commission  
146-148 Forest Road  
P.O. Box 9000 St. John's, NL. AIA 3B8  
(709) 778-1552;  
1-800-563-9000  
Resource Centre: 778-1523; 1-877-957-2667

For a copy of the Occupational Health and Safety Act and Regulations contact:

The Office of the Queen's printer  
Ground Floor Confederation Bldg.  
St. John's, NL. AIB 4J6; 709-729-3649  
Or website: <http://www.gs.gov.nl.ca/ohs/legislation.stm>

Canadian Centre for Occupational Health and Safety  
[www.ccohs.ca](http://www.ccohs.ca)

The following are some of the hazards students find themselves faced with in summer or part-time jobs. Go to:

<http://www.gs.gov.nl.ca/OHS/>

1. Click on "Safety Guidelines and Information" here you will find information regarding issues such as:
  - working alone
  - prevention of soft tissue injury
  - heat stress
2. Click on "safety Bulletins" here you will find information regarding
  - Hazards of carbon monoxide in ice rinks
  - Occupational driving operations

## **Appendix A**

### **Terms**

## Basic health and safety terms

Occupational health and safety has its own set of terms which OH&S committees/WH&S representatives may want to become familiar with in order to increase their confidence in dealing with occupational health and safety issues. The following is a list of some of the more common terms:

**Accident** – an undesired event that results in a personal injury or illness, damage to or loss of property, process or environment.

**Audit** – a regular and comprehensive examination of a function and/or a business/organization to verify and assure adequacy (usually conducted to ensure businesses/organizations are carrying out the minimum standards required by the *OH&S Act* and Regulations).

**Basic (Root) Cause** – the real cause(s) of an accident/incident and the reasons why it occurred; for example, inadequate design, lack of knowledge or skill, physical and physiological stress etc. The basic (root) cause is often not evident immediately. Some investigation is usually required to get at the root cause.

**Canada Labour Code** – legislation applicable to employers and workers where operations fall within federal jurisdiction. Depending on the kind of operation, a business/organization may fall within provincial jurisdiction and federal jurisdiction at the same time.

**Controls** – measures that are implemented to eliminate or minimize hazards in the workplace. These controls are established as either engineering (first line of defense), administrative or personal protective equipment (used as a last resort).

**Direct Cause** – those unsafe objects, conditions or behaviors which occur immediately before an accident/incident; for example, inadequate guards and barriers, defective tools, improper lifting.

**Ergonomics** – A science that seeks to adapt work or working conditions to suit the worker. The aim is the evaluation and design of facilities, environments, jobs, training methods and equipment to match the capabilities of workers and reduce the potential for fatigue, error or unsafe acts.

**Hazard** – dangerous object, event, behavior or condition which has the potential to cause injury, illness or property damage.

**Incident (near miss; potential accident)** – an undesired event that under slightly different conditions could have resulted in an injury or loss.

**Indirect Cause** – other factors relating to an accident/incident in the workplace which do not directly cause the accident/incident.

**Occupational Health and Safety Policy** – a written statement which demonstrates management's commitment to maintaining a healthy and safe work environment.

**Occupational Health and Safety Committee** – committee of workers and management required in almost all jurisdictions in Canada to promote safe workplace attitudes and practices, and reduce hazards and accidents.

**Occupational Health and Safety Program** – a process for managing health and safety issues in the workplace. It includes a written document of health and safety policies and procedures, which is tailored to meet the needs of individual workplaces.

**Procedure** – a step-by-step process of performing a task safely from beginning to end.

**Practice** – a set of guidelines established to help a worker perform a task, which may not always require a step-by-step procedure for completion (e.g. good housekeeping practices).

**Risk** – chance of loss based on the probability of an injury and the possible severity of that injury.

**Root Cause** – see “basic” cause, above.

**Safety Standard** – specification, code of practice, or rule of conduct developed and adopted by a recognized standard-setting business/organization such as the Canadian Standards Association (CSA), the American National Standards Institute (ANSI), and the National Fire Protection Association (NFPA).

**Serious accident** – accident resulting in death, permanent or temporary disability, excessive property damage, or accidental release of pollutants with significant effects. More specifically, serious accidents are those accidents meriting in-depth investigations and are defined in the *OH&S Act* [section 54(3)].

**Unsafe act** – departure from an accepted, normal or correct procedure or practice which has actually produced injury or property damage or which has the potential for producing such loss.

**Unsafe condition** – departure from a standardized, accepted or normal physical state to create circumstances which increase the likelihood of an accident.

## **Appendix B**

### **Work Sheets**



Using the "letters" indicated below, identify the types of safety hazards in the following list. You may want to refer to your Reference Guide for Occupational Health and Safety Committees and Worker Health and Safety Representatives for further explanation. Some hazards may be classified under more than one type. **This is not a test.**

## Safety Hazards

### Worksheet 4.1

**M**-----Machine Hazards

**E**-----Energy Hazards

**C**-----Confined Space Hazard

**MH**-----Materials Handling Hazards

**W**-----Work Practice Hazards

\_\_\_\_\_ moving parts-----

\_\_\_\_\_ falling objects-----

\_\_\_\_\_ shovelling items-----

\_\_\_\_\_ hot parts-----

\_\_\_\_\_ areas not intended for human occupancy-----

\_\_\_\_\_ absence of safety-----

\_\_\_\_\_ shipping explosive substances-----

\_\_\_\_\_ poor housekeeping-----

\_\_\_\_\_ moving flammable substances-----

\_\_\_\_\_ areas with restricted entry or exit-----

\_\_\_\_\_ slip and fall-----

\_\_\_\_\_ hot parts of equipment-----

\_\_\_\_\_ areas where hazardous atmospheres exist-----

\_\_\_\_\_ grease on the floor-----

\_\_\_\_\_ absence of guards-----

\_\_\_\_\_ poor maintenance

\_\_\_\_\_ overloaded circuits-----

## **Warehouse Hazards**

Read the following case study carefully and complete Worksheet 4.3 - Identifying Hazards.

### Case Study

You are a member of the OH&S committee and have received a concern from Bob, a shipper/receiver working in the warehouse. Bob has worked for 5 years at ABC Company. He approaches you with a concern because 3 staff have gone off work in the past 2 months with back injuries. He tells you all injuries involved pushing a loaded handcart into a transport truck from the loading dock. The cart is difficult to maneuver and there appears to be several causes. There has been a request for maintenance of the cart but no one has it followed up.

You do a walk through with Bob and the temporary supervisor John. You note there are a lot of items scattered around the loading dock and the housekeeping is poor. Boxes of products are not labelled properly; some are stacked haphazardly. In addition, an unlabelled bulk container of cleaning agent is being used as a doorstep. The staff is working at a very quick pace with items being loaded onto incoming transport trucks every 20 minutes. There are 5 loading docks in use. You have to talk very loudly for others to hear what you are saying.

## Office Equipment Hazards

Read the following case study carefully and complete Worksheet 4.3 - Identifying Hazards.

Note: You will be using this case study again. So keep it close by.

### Case Study

You are a member of the OH&S Committee for a large bank. Your employer informed the OH&S committee that according to their most recent WHSCC injury report, soft tissue injuries (i.e. neck, back, shoulder, wrists, etc.) are on the rise. Because you will be attending upcoming office ergonomics course, the OH&S committee has assigned you to investigate the hazards in the building that could be contributing to the increase in injuries. You are feeling a bit nervous about this assigned task.

You first review the most recent inspection report and notice that a ceiling leak and possible mold issue were identified. You also notice that electrical tape has been used to fix a frayed power cord.

Your next step is to review some employee occupational health & safety surveys. You notice there were many complaints related to the new increased productivity timelines. Workers were often complaining of working long hours at their workstations in front of their computers with little or no rest breaks. You also decide to review the OH&S committee's logbook of employee complaints. You notice a number of complaints about broken chairs.

You head back to your desk to compile your findings. On the way, you notice a maintenance person without appropriate personal protective equipment (PPE) mopping up some water with an unlabelled, strong smelling cleaning product. (You remember the ceiling leak you read about in last month's inspection report.) When you look up at the leak, you notice a black/green ring around the area.

When you get back to your desk, you become very frustrated because the ventilation system is broken once again and it is 31 degrees outside today. You decide to continue this task after lunch.

## Work Sheet 4-3

# Recognizing Hazards

1. List the Safety Hazards.

2. List all the health hazards using the following categories.

### Health Hazards

Chemical

Physical

Biological

Ergonomic

Worksheet 4.4(a)  
**Contributing Factors - Warehouse**

Re-read your case study. Identify potential factors contributing to the hazards (PEME)

**People**

**Equipment**

**Materials**

**Environment**

**Worksheet 4.4(b)**  
**Contributing Factors - Office Equipment**

Re-read your case study. Identify potential factors contributing to the hazards (PEME)

**People**

**Equipment**

**Materials**

**Environment**

## Worksheet 4.5(a)

**Evaluating Hazards – Warehouse****Safety Hazard**

- Improper storage and labelling of cleaning agent

**Health Hazard**

- Ergonomic
  - Push/pull
- Physical
  - Noise

Consider severity of hazard and probability  
of injury, illness, or property damage

Severity

Probability

Severity

Probability

Severity

Probability

## Worksheet 4.5(b)

# Evaluating Hazards - Office Equipment

### Health Hazard

- Ergonomic
  - Repetition/Duration

### Safety Hazard

- Unlabelled cleaning agent
- Energy
  - Electricity

Consider severity of hazard and probability of injury, illness, or property damage

Severity:

Probability:

Severity:

Probability:

Severity:

Probability:



## Worksheet 4.6

# Hazard Controls

Identify the following hazard controls using the key provided

Key

EC — Engineering controls

AC — Administrative controls

PPE — Personal protective equipment

\_\_\_\_\_ Install warning devices (eg: warning signs, roped off areas).

\_\_\_\_\_ Design or plan to minimize hazards to safe levels (eg: use less toxic or non-toxic materials such as non-asbestos insulation; use non flammable liquids).

\_\_\_\_\_ Use safe work procedures (eg: operating manuals, safe work protection codes, and company safety rules).

\_\_\_\_\_ Install physical barriers or use safety devices (eg: guard rails, safety shields).

\_\_\_\_\_ Design or plan to eliminate hazards (eg: eliminate access to roofs, convert from CO<sub>2</sub> fire protection to water deluge).

\_\_\_\_\_ Use safety devices/gear such as: shoes, gloves, goggles, hard hats, etc.

\_\_\_\_\_ Design or plan to minimize chances of human error (eg: workplace not congested, colour-coded test leads, switches up to on and down for off, adequate lighting).

## Worksheet 4.7(a)

# Hazard Controls - Warehouse

### Rank

Identify the controls for the hazards listed. Discuss these controls and decide which one you would consider the most important by ranking them from 1 to 3.

### Hazard Control Measures

#### Health Hazard

- Ergonomic
  - Push/pull

#### Safety Hazard

- Improper storage and labeling of cleaning agent

Engineering

Administrative

PPE

Engineering

Administrative

PPE

## Worksheet 4.7(b) Hazard Controls - Office Equipment

### Rank

Identify the controls for the hazards listed. Discuss these controls and decide which one you would consider the most important by ranking them from 1 to 3.

### Hazard Control Measures

#### Health Hazard

- Ergonomic
  - Repetition/Duration

#### Safety Hazard

- Unlabelled cleaning agent

Engineering

Administrative

PPE

Engineering

Administrative

PPE

**Appendix C**  
**Work Sheets Answer Keys**

## Worksheet 4.1 - Answer Key

### Safety Hazards

Identify the types of safety hazards in the following list using the following codes.

NOTE: According to the research carried out for this training, these hazards fit into certain categories. Some participants may disagree with these answers. However, the important point is not the category the hazard falls into. The important point is that participants will become more aware of the many hazards that exist in the workplace.

M-----Machine Hazards

E-----Energy Hazards

C-----Confined Space Hazards

MH----- Materials Handling

W-----Work Practice Hazards

### Hazards

  M   moving parts

  E   falling objects

 MH  shovelling items

  M   hot parts

  C   areas not intended for human occupancy

  W   absence of safety procedures

 MH  shipping explosive substances

  W   poor housekeeping

 MH  moving flammable substances

  C   areas with restricted entry or exit

  E   slip and fall

  E   hot parts of equipment

  C   areas where hazardous atmospheres exist

  W   grease on the floor

  M   absence of guards

  M   poor maintenance

  E   overloaded circuits

**Worksheet 4.3 - Answer Key**  
**Recognizing Hazards - Office Equipment**

## **Safety Hazards**

- ▶ Improper labelling of controlled products (i.e. cleaning agent)
- ▶ Inadequate maintenance of office equipment (i.e. broken chairs)
- ▶ Improper maintenance of electrical cords
- ▶ Inadequate maintenance of physical environment (i.e. leak in the ceiling and ventilation system)
- ▶ Failure to use appropriate PPE
- ▶ Failure to follow-up on identified hazards (i.e. ceiling leak identified in previous workplace inspection report)

## **Health Hazards**

- ▶ Chemical - cleaning agent
- ▶ Biological - mold
- ▶ Physical - air quality, excessive heat
- ▶ Ergonomic - repetition, duration

The important point here is for participants to be able to recognize the hazards. The fact that might be considered a “safety” hazard or “health” hazard is not the main point.

**Worksheet 4.3 - Answer Key  
Recognizing Hazards - Warehouse**

## **Safety Hazards**

- ▶ Inadequate maintenance of tools and equipment (i.e. hand cart)
- ▶ Improper storage and labelling of controlled products (i.e. cleaning agent)
- ▶ Improper labelling of boxes of product
- ▶ Failure to follow-up on maintenance requisition  
ineffective communication between maintenance, management and warehouse staff

Materials handling  
using defective equipment

improper lifting

improper placement and stacking of boxes

Poor housekeeping  
disorderly workplace

congested areas with restricted movement of workers, etc.

## **Health Hazards**

- ▶ Chemical - cleaning agent
- ▶ Physical - noise (OH&S Regulation 50 & 58, ACGIH standards)
- ▶ Ergonomic - push, pull, storage, work pace, work flow, work organization
- ▶ Biological - N/A (unknown if business/organization manufactures biochemical products)

The important point here is for participants to be able to recognize the hazards. The fact that might be considered a "safety" hazard or "health" hazard is not the main point.

### Worksheet 4.4(a) - Answer Key Contributing Factors - Warehouse

Potential factors contributing to the hazards (PEME)

#### People

- ▶ Front line staff, temporary supervisor
- ▶ Maintenance staff
- ▶ Management
- ▶ Contract staff (transport truck drivers)

#### Equipment

- ▶ Hand cart

#### Materials

- ▶ Boxes of product

#### Environment

- ▶ Physical Environment
  - building design (i.e. flooring, noise etc.)
  
  - design of hand cart and work area
  
- ▶ Non-physical Environment
  - Human resource issues (i.e. hiring, selection, training)
  
  - Maintenance system issues
  
  - Purchasing issues
  
  - Productivity standards
  
  - Policies, procedures and work practices



## Contributing Factors - Office Equipment

Potential factors contributing to the hazards (PEME)

### People

- ▶ Maintenance staff
- ▶ Management/Supervisors
- ▶ Employees

### Equipment

- ▶ Broken chairs
- ▶ Computers
- ▶ Ventilation system

### Materials

- ▶ Cleaning agents

### Environment

- ▶ Physical Environment
  - Ceiling
  - Floors
  - Workstations
- ▶ Non-physical Environment
  - Training (office ergonomics, hazard recognition, evaluation and control, WHMIS)
  - Organization's new productivity timelines
  - Policy / procedures on breaks
  - Maintenance systems - timelines, preventative maintenance programs

## Worksheet 4.5(a) - Answer Key Evaluating Hazards - Warehouse

Hazard	Legislation	Standards & Guidelines	Potential Risks <small>Consider severity of hazard and probability of injury, illness, or property damage</small>
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### Safety Hazard

- Improper storage and labelling of cleaning agent

#### Severity

- ▶ Potential to cause adverse health effects, degree unknown since unknown chemicals
- ▶ Potential to cause explosions and/or chemical reactions if incompatible chemicals are stored together
- ▶ Potential for accidents, injuries, spill & product loss due to lack of safe handling & storage procedures

#### Probability:

- ▶ likely will occur in time and could cause loss to PEME & be fatal depending on chemical

### Health Hazard

- Ergonomic
  - Push/pull

#### Severity

- ▶ Potential to cause soft tissue injuries (varying degrees) which could lead to lost time workday(s)
- ▶ Potential for a large number of employees to be affected

#### Probability

- ▶ Has occurred several times
- ▶ Likely to occur again

### Health Hazard

- Physical
  - Noise

#### Severity

- ▶ potential to cause adverse hearing effects over time
- ▶ potential to cause personal injury and property damage due to excess noise levels

#### Probability

- ▶ Likely to occur in time

\* Snook, S. And Cirello, V.M. (1991). "The Design of Manual Handling Tasks: Revised Tables of Maximum Acceptable Weights and Forces". Ergonomics, Vol. 34, NO.9, pages 1197-1213.

## Worksheet 4.5(b) - Answer Key Evaluating Hazards - Office Equipment

Hazard	Legislation	Standards & Guidelines	Potential Risks Consider severity of hazard and probability of injury, illness, or property damage
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### Safety Hazard

- Ergonomic
  - Repetition/duration

Severity:

- ▶ Potential to cause soft tissue injuries (varying degrees) which could lead to lost workday(s)
- ▶ Potential for a large number of employees to be affected

Probability:

- ▶ Has occurred to date
- ▶ Likely to occur in time

### Safety Hazard

- Unlabelled cleaning agent

Severity:

- ▶ Potential for all employees to breath in fumes
- ▶ Potential for maintenance to irritate/burn skin from cleaning agent
- ▶ Potential for cleaner to be splashed into eyes
- ▶ Potential for incompatibility with other chemicals
- ▶ Potential for chemicals to cause toxic health effects in humans

Probability:

- ▶ Existing air quality may increased probability of fumes to cause sickness
- ▶ Inhalation, burns, eye irritation likely to occur immediately or within short period of time to maintenance personnel

### Safety Hazard

- Energy
  - Electricity

Severity:

- ▶ Potential for electrical shock - may be fatal
- ▶ Fire hazard

Probability:

- ▶ Shock likely to occur in time as cord is not insulated

Duration

### Worksheet 4.6 - Answer Key Hazard Controls

Identify the following hazard controls using the following key:

- EC - Engineering controls
- AC - Administrative controls
- PPE - Personal protective equipment

AC Install warning devices (eg: warning signs, roped off areas).

EC Design or plan to minimize hazards to safe levels (eg: use less toxic or nontoxic materials such as non asbestos insulation; use non flammable liquids).

AC Use safe work procedures (eg: operating manuals, safe work protection codes, business/organization safety rules).

EC Install physical barriers or use safety devices (eg: guardrails, safety shields).

EC Design or plan to eliminate hazards (eg: eliminate access to roofs, convert from CO<sub>2</sub> fire protection to water deluge).

PPE Use safety devices/gear such as: shoes, gloves, goggles, hard hats, etc.

AC Design or plan to minimize chances of human error (eg: workplace not congested, colour-coded test leads, switches up to on and down for off, adequate lighting).

AC Select, train and supervise personnel

Worksheet 4.7(a) - Answer Key  
Hazard Controls - Warehouse

## Health Hazard: Ergonomic - push/pull

Participants should be informed that not all the controls listed below will be relevant to each circumstance. The information is provided to assist them in resolving issues.

### Engineering controls

#### Elimination/Substitution:

- ▶ Determine if the cart is suitable for the task. A power-assisted cart may be more appropriate in certain circumstances
- ▶ Review the diameter and type of wheel to determine if the forces can be reduced. The general condition of the wheels should be reviewed to determine if maintenance is required
- ▶ Review the surfaces over which the cart must travel. Debris including gravel, paper, sand, etc. will increase the required forces and should be eliminated
- ▶ Obstacles which impede a straight path, would require more maneuvering and increase the forces required. Turning space should also be considered

### Administrative controls

- ▶ Ensure safe handling practices and procedures
- ▶ Ensure maintenance policies, procedures and practices are reviewed and enforced
- ▶ Review the movement of traffic in the loading dock to reduce manoeuvring required
- ▶ Review stacking practices on the loading dock and ensure safe practices are enforced
- ▶ Review human resource issues including the hiring, placement and training of all staff including supervisors and management
- ▶ Review disability management process to ensure ability to safely return staff to work in a timely manner
- ▶ Ensure safe housekeeping practices are established and enforced in materials handling safety
- ▶ Ensure all staff are trained appropriately
- ▶ Review work/rest break schedule
- ▶ Review work pace

Worksheet 4.7(a) - Answer Key  
Hazard Controls - Warehouse (page 2)

## **Safety Hazard: Improper storage and labelling of cleaning agent**

### **Engineering controls**

Elimination/Substitution:

- ▶ Install door stop; store cleaning agent in appropriate storage area.

### **Administrative controls**

- ▶ Ensure policies and procedures are established for labelling, safe handling and storage of controlled products according to WHMIS.
- ▶ ensure workers wear appropriate PP
- ▶ ensure WHMIS labels and current MSDSs are in place
- ▶ ensure storage procedures are in place
- ▶ ensure that education and training in WHMIS is administered to employees who are handling controlled products.
- ▶ ensure workers are aware of potential hazards
  - ▶ ensure workers complete WHMIS training course
  - ▶ ensure workers have access to and are able to read MSDSs and WHMIS labels
  - ▶ ensure workers complete any training necessary for required PPE
  - ▶ establish procedures to ensure appropriate PPE is selected for workers
  - ▶ ensure an emergency response plan and equipment is in place to deal with an emergency situation
  - ▶ ensure workers are trained in first aid

### **PPE**

- ▶ Protect eyes with goggles  
Protect hands with gloves

**Worksheet 4.7(b)**  
**Hazard Controls - Office Equipment**

**Health Hazard: Ergonomic - Repetition/duration**

Participants should be informed that not all the controls listed below will be relevant in each circumstance. The information is provided to assist them in resolving issues.

**Engineering controls**

**Elimination/Substitution**

- ▶ Ensure workstation and equipment design meets appropriate standards/guidelines (i.e. CSA, CCOHS).

**Administrative controls**

- ▶ Establish safe work practices and procedures
- ▶ Review productivity timelines, evaluate based on established standards and recommend appropriate controls
- ▶ Review work/rest schedule to determine if it meets standards (i.e. CSA)
- ▶ Review work organization to determine if multiple tasks can be incorporated into the job
- ▶ Review human resource issues including policies on overtime, break schedules etc.
- ▶ Ensure maintenance policies, procedures and practices are reviewed and enforced
- ▶ Ensure safe housekeeping practices are established and enforced
- ▶ Ensure a process for hazard recognition, evaluation and control has been developed and regularly monitored by OH&S committee
- ▶ Ensure recommendations are documented internally and in OH&S minutes
- ▶ Review disability management process to ensure ability to safely return staff to work in a timely manner

**Worksheet 4.7(b)**  
**Hazard Controls - Office Equipment (page 2)**

## **Safety Hazard: Unlabelled cleaning agent**

*Note: Chemical is treated as a severe one since it is strong smelling and unknown. All controls may not be needed, depending on what the chemical is.*

### **Engineering controls**

#### **Elimination / Substitution**

Take the cleaning agent out of use until appropriately labelled.

### **Administrative controls**

- ▶ Establish safe handling practices and procedures according to WHMIS
- ▶ Ensure WHMIS labels and current MSDSs are in place
- ▶ Establish education and training for workers
  - ▶ ensure workers are aware of potential hazards
  - ▶ ensure workers complete WHMIS training course
  - ▶ ensure workers have access to and are able to read MSDSs
  - ▶ ensure workers complete any necessary training required for PPE usage
- ▶ Ensure workers wear appropriate PPE
- ▶ Establish procedures to ensure appropriate PPE is selected for workers
- ▶ Ensure an emergency response plan and first aid equipment is in place to deal with an emergency situation

### **PPE**

- ▶ Protect eyes with goggles
- ▶ Protect hands with gloves
- ▶ Protect lungs with a respirator