

**CAREER &
TECHNOLOGY
STUDIES**

**Manual for Administrators,
Counsellors and Teachers**

**Appendix 3:
ADDRESSING HEALTH
AND SAFETY IN CTS**

June 1998

The information and recommendations provided in this appendix are general in nature and do not in any way replace the expert advice required for specific circumstances.

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PURPOSE

This appendix serves as a reference for identifying key issues and legislation related to health and safety in CTS learning environments. It is designed to assist teachers and school system administrators to:

- understand how safety is addressed in the CTS curriculum
- review present safety practices within CTS learning environments, on- and off-campus
- develop and maintain effective health and safety programs
- plan for the design and/or upgrading of CTS learning environments
- plan professional development and inservice activities related to health and safety.

Refer to Attachment 1:
Components of a Health
and Safety Program.

The information included in this appendix focuses on the major components of an effective health and safety program:

- *pre-contact*—what is done to prevent or reduce accidents: safety program, safe facilities, ensuring safe practices
- *contact*—what is done when an accident occurs to reduce injury to those affected
- *post-contact*—what is done to investigate the accident and determine corrective action.

Safety programs and practices in place within schools support the implementation of CTS, as well as other school programs, such as science and physical education. As students learn to manage themselves and the tools they work with, they develop an attitude toward personal safety and the safety of others that transfers to their personal and work life as they move into adult roles. Safety awareness and practice are developed through formal instruction and by integrating safety into daily learning experiences. A successful health and safety program requires the cooperation of students and the active understanding and leadership of teachers, administrators and school boards.

As employers, school boards provide their employees and those in their care with a place to work and learn that complies with all applicable federal, provincial and municipal health and safety and environmental regulations. In addition, school boards ensure that their employees are:

- aware of their responsibilities
- aware of the hazards associated with their work
- able to carry out their work safely
- trained in measures for their own safety.

Establishing effective health and safety policies and programs requires that attention be given to facilities and equipment, instructional planning, classroom management and due diligence, and that each be considered from personal, professional and economic perspectives.

Personal

- Opportunity—development of an individual’s confidence in understanding how to act in a way to reduce accidents, how to respond efficiently and effectively if an accident should occur, and to understand rights and responsibilities related to ensuring the safety of self and others.
- Challenge—the adjustment to an individual’s physical, psychological and social well-being, present and future, required when an accident occurs.

Professional

- Opportunity—development of a team that is committed to ensuring the health and safety of themselves and others.
- Challenge—the challenge for teachers to manage many variables: what students know, the tools they need to learn to use, and their interaction with others.

Economic

- Opportunity—more productive working and living environments, opportunity to reallocate resources from damage control to new initiatives that can stimulate greater economic growth.
- Challenge—the direct costs to the individual and the workplace in accident costs as well as indirect, long-term costs to the individual, family and society in reduced potential and opportunity.

HEALTH AND SAFETY IN THE CTS CURRICULUM

The CTS curriculum addresses safety and risk management through the identification of specific elements that need to be in place to support safe learning, and through learning outcomes that require safety awareness and the demonstration of safe practices.

HEALTH AND SAFETY AS A BASIC COMPETENCY

Students are expected to improve their ability to demonstrate basic competencies within each strand and course. Through the task area of “managing responsibility” defined in the *Basic Competencies Reference Guide*, students are expected to identify and promote safety practices, for themselves and others. Teachers are expected to monitor and assess these behaviours in all CTS courses.

Students’ performance and growth in self-management and working with others in safe environments can be assessed through observations involving the student, teacher, peers and others as they complete the requirements for a course.

Refer to the *CTS Guides to Standards and Implementation*, Section A: Program Rationale and Philosophy.

HEALTH AND SAFETY AS LEARNER OUTCOMES

Refer to the *CTS Guides to Standards and Implementation*.

Learner outcomes (learner expectations in 1997 documents) related to health and safety are integrated throughout the CTS curriculum.

Refer to the *Career Transitions Guide to Standards and Implementation*.

In addition, the following courses in the Career Transitions strand focus specifically on developing students' competency in workplace safety procedures:

- CTR1210: Personal Safety (Management)
- CTR2210: Workplace Safety (Practices)
- CTR3210: Safety Management Systems.

Refer to the *Community Health Guide to Standards and Implementation*.

Credentialling opportunities in first aid procedures are provided through courses in the Community Health strand:

- CMH2120: First Aid/CPR
- CMH2130: Sports First Aid 1
- CMH3120: First Aid/CPR for Children.

SAFETY AS A COURSE PARAMETER

Refer to Appendix 2: Defining CTS Learning Environments—Strand and Course Parameters.

Course parameters describe the elements that need to be in place to support effective learning in a course, including facilities and equipment and instructional qualifications.

In some courses, the competencies students are developing may involve a higher risk factor, possibly because of the type of equipment or the kind of performance; e.g., doing customer work. In this event, those involved in delivering the program may require additional training in safety procedures.

HEALTH AND SAFETY IN THE CTS LEARNING ENVIRONMENT

PRE-CONTACT: AVOIDING ACCIDENTS/ENSURING HEALTH

Risk Management

Risk management involves the recognition, evaluation and control of health and safety hazards. Under provincial legislation, administration and teachers are required to take steps to recognize hazards and reduce them to a minimum.

Hazard Recognition

A health and safety hazard can be any condition or practice that has the potential to cause an illness, personal injury or damage to property. Common types of health and safety hazards found in CTS classrooms are illustrated in the following chart.

Type of Hazard	Generally caused by:
Biological: <ul style="list-style-type: none"> • bacteria • moulds • viruses • parasites 	poor sanitation and housekeeping practices; contact with body fluids; inadequately maintained air conditioning and heating systems
Chemical: <ul style="list-style-type: none"> • flammable • toxic • reactive • corrosive 	a chemical in the form of a solid, liquid, vapour, mist or fume that can cause harm to a body organ through ingestion, absorption, inhalation or injection
Ergonomic: <ul style="list-style-type: none"> • excessive force • excessive repetition • improper posture • incorrect lighting 	muscle strains/sprains; inadequate lighting; poor work station design
Physical: <ul style="list-style-type: none"> • cuts/bruises • fractures • burns/frost bite • electric shock • hearing loss 	excessive energy related to falling/flying objects and extreme pressure, temperatures, electrical current, radiation, noise
Other	work-related stress and personal issues

The following chart identifies the CTS strands that can involve higher risk.

Refer to Attachment 2:
Health and Safety
Hazard Risk in CTS
Strands.

CTS Strand	Biological	Chemical	Ergonomic	Physical	Other
Agriculture	X	X	X	X	
★ Career Transitions					
Communication Technology		X	X		
Community Health	X				X
Construction Technologies		X	X	X	
Cosmetology Studies		X	X		
★ Design Studies			X		
Electro-Technologies		X	X	X	
Energy and Mines	X	X	X	X	
★ Enterprise and Innovation					
Fabrication Studies		X	X	X	
Fashion Studies			X	X	
Foods		X	X	X	
Forestry	X	X	X	X	
Information Processing			X		X
Logistics			X	X	
Management and Marketing				X	
Mechanics		X	X	X	
★ Tourism Studies					
★ Wildlife					

★ Varies according to type of program and off-campus experience.

Hazards can be identified through:

- formal and informal lab inspections
- analysis of accidents or near-misses
- task analysis
- product labels and information sheets
- equipment and tool manufacturers' recommendations
- concern expressed by students when involved in a specific task.

As a matter of policy, every student should be taught to recognize and report hazards associated with his or her work and take the necessary precautions to prevent an accident from occurring.

Refer to Attachment 3:
Sample Health and
Safety Checklist.

One of the most effective ways of identifying unsafe conditions is through regular classroom/lab inspections. These inspections help to identify:

- housekeeping concerns
- equipment problems
- issues related to lighting, heating and ventilation
- changes in procedures that may have a negative impact on health and safety
- corrections that should have already been made.

Accidents are by their very nature disruptive and may or may not cause injury or damage to property. Students may not report incidents where no injury or damage to property occurs. However, these near-misses are potential future accidents and therefore should be monitored and corrected on an ongoing basis.

The analysis of lab procedures is a process that examines the interaction between the students, the environment in which they work, and the equipment and materials they use. The results of this assessment enable teachers to:

- determine the level of knowledge and skills that a student requires to complete a given task, process or operation safely
- identify substandard acts and conditions and determine effective control measures to:
 - modify student behaviour
 - modify lab/shop conditions or procedures.

Hazard Evaluation

Hazard evaluation is the process used to prioritize an identified hazard to ensure that appropriate action will be taken. Hazards deemed most dangerous should be dealt with first. Consideration should be given to:

- the short- and long-term effects on teachers and students
- ways to remove the hazard
- methods to protect persons from harm
- reducing or eliminating a person's exposure time.

Hazard Control

Besides being able to recognize and evaluate hazards, risks can be further minimized through hazard control. Hazard control can be accomplished in the classroom through effective:

- administrative controls—controls that deal primarily with policies and regulations, classroom supervision and instruction. In a well-managed classroom, the teacher's efforts are directed toward:
 - providing adequate instruction on lab routines, job procedures and equipment operation
 - identifying and establishing sanitary practices
 - planning safe event sequences
 - scheduling work to avoid overcrowding
 - identifying and securing materials that are less toxic and harmful to the student and environment

Refer to Attachment 4:
Engineering Controls.

- locating and ordering equipment that meets or exceeds accepted standards of safety
- engineering controls—controls that focus on systems that physically remove hazardous materials or provide protection from a known hazard. These controls address practices that may involve the use of ventilation systems, dust and fume extraction equipment and machine guards

Refer to Attachment 5:
Personal Protective
Equipment.

- personal protective equipment—clothing and equipment worn to minimize the risk of illness or injury through protection of the eye/face, hearing, head/hair, foot, hand and/or respiratory system. Points to consider when selecting and using personal protective equipment include:
 - matching the type and design features of the equipment with the type and extent of the hazard
 - identifying equipment that does not interfere with the student's performance
 - using equipment that is approved and easily maintained.

Personal protective equipment should not take the place of control techniques, such as substituting a less hazardous product for a more hazardous one, exhausting dangerous fumes, extracting dust particles and guarding equipment.

Refer to Attachment 6:
Workplace Hazardous
Materials Information
System.

Strategies for hazard control in the school also need to address chemical management. The Workplace Hazardous Materials Information System (WHMIS) is a system to ensure that workers are provided with complete and accurate information regarding hazardous products they use, and to ensure that the information is used to provide safe working conditions. As all workers in the school environment are responsible for WHMIS requirements, related policy and information are pertinent to:

- school administrators
- teachers, especially in science, CTS and art
- aides and assistants in those subject areas
- cleaning and facility operations staff
- secretarial and clerical staff.

Although students are not considered workers in the school environment, it is important they become knowledgeable and follow WHMIS provisions.

Refer to Attachment 7:
Transportation of
Dangerous Goods.

Of further significance when planning for hazard control is the *Transportation of Dangerous Goods Act*, legislated to promote public safety when dangerous goods are handled, offered for transport, or transported in Canada. All persons who handle, offer for transport or transport dangerous goods must meet the TDG Regulation requirements.

The dangerous goods most likely to be transported by school system vehicles and personnel include chemical materials for instructional purposes, cleaners and other janitorial products, solvents and petroleum products, paints, and assorted chemical wastes. The following

school-based personnel should be knowledgeable regarding TDG Regulations:

- school administrators
- teachers responsible for technical areas
- lab technicians
- facility operators.

Emergency Preparedness

The impact of an accident can be greatly reduced through effective planning. In addition, planning also ensures that the resources required to deal with an unexpected situation are available.

Students and teachers in CTS programs must be prepared to respond to an emergency. An effective emergency response plan should include:

- a clearly defined and understood set of procedures
- prominently posted local emergency telephone numbers
- identification and location of external assistance procedures
- an evacuation plan in the event of a fire, chemical spill or gas leak
- easily accessed first-aid supplies
- knowledge and practice in applying first-aid techniques.

First-Aid Response Plan

In accordance with School Board Policy, each school should develop a First-Aid Response Plan appropriate to the acute illnesses or injuries that may occur on school property. This plan should enable CTS teachers to:

- identify those acute injuries or illnesses that may occur in specific areas of responsibility.

This information will be based on the type of work being done in the area, and on types and frequencies of previous injuries or illnesses.

- understand their roles and responsibilities for addressing safety issues.

Everyone in the school needs to know his or her role in putting the First-Aid Response Plan into practice.

- identify training opportunities appropriate to the acute injuries or illnesses that may occur. At minimum, this training should result in the instructor having readily available access to competent first-aid help.

The training needed varies with the needs of the particular CTS area. Schools located far from other emergency services need to have people with the extra skills necessary to stabilize an injured person for travel to an acute care hospital.

- provide their areas with first-aid response equipment appropriate to the acute injuries or illnesses that may occur, and the proximity to other emergency services. As a minimum, a basic first-aid kit, containing the equipment specified by the First-Aid Training and Standards Agency, would be required.

First-aid response equipment varies considerably according to the needs of a particular CTS function. A minimum expectation would be that all work sites have some type of basic first-aid kit. In areas remote from services, the expectation would be on the school to

provide the equipment needed to respond to first-aid emergencies.

- become familiar with the location and content of the school's First-Aid Response Plan, especially with regard to the specific procedures on how to respond to those acute illnesses or injuries that may occur.

First-aid response procedures detail the action steps required to deal with the immediate emergency. Schools can contact their local Health Authority for assistance.

- keep written records of acute injuries or illnesses that occur in their areas of responsibility. At minimum, the records should include name of person, name and qualifications of person giving first aid, time of injury, description of injury, location and description of injury cause, and actions taken to prevent recurrence. Records should be kept for three years.

Records are necessary to provide data for program review.

- review their CTS first-aid response capabilities every three years, or whenever there are significant changes in the operating conditions in the CTS work area.

First-aid response capabilities in CTS need to be reviewed to ensure their effectiveness and to identify opportunities for improvement. The intent here would be to allow some flexibility in how the CTS instructor accomplishes this task, but at the same time ensure that some type of review is carried out.

Fire Prevention and Suppression

There is a higher risk of a fire starting in a CTS facility than in other program areas because of the nature of many CTS activities. Fuels such as paper, plastic, wood, paint, oily rags, cleaning solvents and oxidizing agents that support combustion are often found in CTS labs. Conditions that can cause ignition, including electrical equipment, heating devices, open flames and sparks are also present in many CTS programs.

Fires can be prevented by eliminating the fuel source and sources of ignition through good housekeeping, proper storage of materials and appropriate use of equipment.

Not all fires have the same characteristics; therefore it is important to know the class of fire and the recommended type of fire extinguisher.

- Class A fires are associated with common materials such as wood, paper, rubber and most plastics. This class of fire can be extinguished by bringing the temperature of the burning materials below the ignition point using water or by the blanketing and smothering effects of a dry chemical or carbon dioxide extinguisher.
- Class B fires are associated with a flammable liquid, gas and grease. This class of fire is best extinguished by limiting the air that supports the fire. Dry chemicals, carbon dioxide and foam agents are recommended for this class of fire. Water, unless it is a form of mist, is not recommended because it tends to spread the fire.

- Class C fires are mainly caused by the misuse of electrical equipment and/or electrical failures. The first step in extinguishing this type of fire is to shut off the electrical supply. Only extinguishers with a class C rating are recommended to be used with this type of fire.
- Class D fires occur when combustible metals such as magnesium, powdered aluminum and zinc are ignited. Dry sand or a class D extinguisher can be used to exclude air.

Release of Hazardous Materials

Owing to possible damage to the environment and risk of danger to the health and safety of others, a plan should be in place to deal with the release of hazardous materials.

If a large spill occurs off-campus, those involved are required to immediately report the accident to proper authority, generally by contacting the Pollution Emergency Response Team at 1-800-222-6514 or by calling 911.

Smaller spills that may occur in a lab or shop should be confined and cleaned up as soon as possible. To do this, a conveniently located clean-up kit is recommended. A kit of this nature should include the following material and equipment:

- bag of granular absorbent
- damming materials
- neutralizing agents
- garbage bags
- plastic garbage cans
- goggles and respirator
- latex gloves, coveralls and rubber boots
- broom and dustpan.

CONTACT: EMERGENCY RESPONSE TO AN ACCIDENT

Response to Injury

In the event of an accident, it is important to act quickly yet take time to evaluate the extent of the injury/accident and the potential for further damage to personnel or property. When an accident occurs:

- take control of the situation through effective management techniques
- ensure that any injured person(s) is cared for
- ensure that no further injury or damage occurs
- proceed to get help.

Response to Hazardous Materials Spills

In the event of a serious spill, alert others, get away from the area and report the accident to the proper authorities by calling 911 or the fire department.

For smaller spills:

- secure the area
- keep others away from the spill
- get assistance
- contain the spill
- clean up the spill.

Before attempting a clean up, check the Material Safety Data Sheet for recommended procedures. It should be noted that all cleaned up materials, contaminated absorbent and clothing should be treated the same way as the spilt material and disposed of similarly in a clearly marked container.

Response to Fire

A typical response to a fire would include:

- if visible fire or smoke is detected, evacuate the area and isolate the fire by closing the doors
- have someone notify the teacher or administration
- pull the nearest fire alarm
- if the fire is small and contained, attempt to extinguish it using the appropriate fire extinguisher.

Response to Natural Gas or Propane Leak

Because propane is heavier than air a leak may spread into a ventilation or sewer system. If the gas should ignite, the fire could spread rapidly and cause an explosion in a confined space. When a leak is detected:

- evacuate the area
- locate and stop the leak if possible
- do not operate any electrical equipment
- notify the appropriate staff person
- remove any victims to fresh air and apply CPR if necessary.

POST-CONTACT: ACCIDENT INVESTIGATION AND REPORTING

The major purpose of an investigation is not to attach blame but to identify the causes of an accident or potentially hazardous event so that corrective measures can be taken to prevent similar events in the future.

When investigating an accident, the investigator needs to:

- get an overall view of what happened
- identify the circumstances that contributed to the accident
- examine physical evidence, such as equipment and material

- take photographs and/or collect and safeguard any physical evidence, if warranted
- talk to people directly involved and/or witnesses. Obtain written statements, if appropriate
- identify causes, and determine corrective action
- maintain records of incidents and corrective measures in keeping with board/school policy.

SOURCES OF SUPPORT: REGULATORY, MONITORING, CONSULTING

Refer to Attachment 8:
Overview of Legislation
and Key Players
Related to Health and
Safety in CTS
Programs.

LEGISLATION AND REGULATIONS

The health and safety of individuals and the environment is protected by law. All workers have the right to know about the hazardous materials they may come in contact with, to be protected from injury and to receive proper care and attention if they do become involved in an accident.

KEY PLAYERS: ROLES AND RESPONSIBILITIES

To ensure that there is an effective health and safety program in place requires the cooperation and support of all those responsible for the learning environment, development of curriculum and delivery of instruction. This involves the education community as well as various government departments and agencies who have responsibility for various aspects of health and safety.

Alberta Education:

- works cooperatively with school boards in the development of school safety policies and guidelines
- creates legislation as required and provides information explaining relevancy of legislation to the school
- identifies activities within the curriculum that may be hazardous.

School Boards:

- formulate safety policies in conjunction with the appropriate education professionals
- adopt safety policy statements consistent with regulations and codes
- facilitate the implementation of safety policies
- request and/or direct safety and health investigations
- provide for, and administer, adequate funding for the provision of a healthy and safe environment
- ensure that the requirements of various agencies such as Occupational Health and Safety Division, Fire Commissioner and Building Standards, are carried out in schools and other work sites under their jurisdiction

- provide appropriate materials and equipment to maintain adequate standards of health and safety
- establish procedures to monitor safety policies and direct investigations as required.

Superintendents:

- formulate and implement school board policies
- communicate School Board policies, especially the minimum standards, to staff, students, parents and the public
- establish a system to monitor the effectiveness of safety policies and practices in the schools
- initiate corrective action as required
- implement an appeal system that extends beyond the local environment to governmental agencies that may result in local or government intervention
- ensure that in each school there is one certified teacher and one support staff trained in first aid and emergency care.

School Administrations:

- provide for educational programs and resources that assist in the development of good safety practices and attitudes
- appoint one person to be responsible for the coordination of health and safety programs and resources in the school
- maintain accurate records of accidents at school and the treatment provided
- provide direction and support to teachers regarding student safety supervision and/or violations
- identify potentially hazardous conditions and ensure that safe practices and procedures are in place to correct them
- ensure school representation on safety committees, who would be involved in safety inspections
- conduct and/or facilitate regular safety inspections
- ensure that teachers provide safety instruction as required in the courses they teach
- report accidents to the school board and the Workers' Compensation Board, as required.

Instructional Staff:

- assume responsibility for protecting their own health and safety and that of the students under their charge
- model safe behaviour in teaching practices and procedures
- accept as a professional obligation responsibility for providing and emphasizing safety education in the classroom
- implement safety education programs in accordance with school board policies and the regulations and standards of other regulating bodies

- evaluate safety education efforts, monitor student behaviour, and initiate corrective action as required
- identify unsafe environment conditions and correct or report these in writing.

Students:

- are knowledgeable in both environment safety factors and safe behavioural practices
- should conduct themselves in accordance with established safety practices and rules, such as appropriate dress and protective clothing
- should identify unsafe practices or environmental conditions and report these to the school staff
- should inform school staff of the possible health concerns relevant to their personal safety and protection.

Parents:

- should inform the school about relevant student medical problems
- should inform the school if they wish their child to be excluded from particular course activities that may be potentially hazardous.

DUE DILIGENCE

Due diligence implies that everything reasonably possible is being done to ensure the health and safety of students, teachers and the environment. Essentially, due diligence is achieved through constant monitoring and compliance with local policies and government regulations.

Refer to Attachment 9:
Due Diligence in the
CTS Classroom.

Elements of a safety program include:

- establishing clearly defined policies, practices and procedures
- monitoring procedures to ensure that safe policies, practices and procedures are being followed
- communicating information on issues related to health and safety
- auditing/inspecting the learning environment
- training in issues related to health and safety
- investigation and reporting of accidents.

Components of a Health and Safety Program

PRE-CONTACT: Avoiding Accidents/ Ensuring Health

What is done to prevent or reduce accidents:

- ensuring a safe environment
- ensuring safe practices and procedures
- providing training.

CONTACT: Emergency Response to an Accident

What is done when an accident or incident occurs;
includes emergency response to:

- injury
- chemical spill
- fire
- gas leaks.

POST-CONTACT: Accident Investigation and Reporting

What is done to investigate an accident/incident and
determine corrective action:

- investigation
- observation
- documentation
- reporting
- identification of corrective action.

Health and Safety Hazard Risks in CTS Strands

STRANDS:	PHYSICAL								CHEMICAL										BIOLOGICAL				ERGONOMIC								
	Noise	Temperature Extremes	Radiation	Lifting	Heights/Falls	Caught Between/Under	Electric Shock	Caught in Equipment	Struck by Moving Object	Fire and Explosion	Welding/Solder Fumes	Paints	Wood Dusts	Silica and Abrasive Dust	Asbestos	Solvents and Cleaners	Lab Chemicals	Adhesives	Liquid Fuels and Coolants	Pesticides/Herbicides	Fiberglass/Resins	Gases	Bacteria/Viruses	Parasites	Mould/Fungi	Plants/Pollen	Excessive Force	Excessive Repetition	Improper Posture	Incorrect Lighting	
Agriculture	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Career Transitions	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Communication Technology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Community Health	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Construction Technologies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cosmetology Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Design Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Electro-Technologies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Energy and Mines	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Enterprise and Innovation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Fabrication Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Fashion Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Financial Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Foods	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Forestry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Information Processing	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Legal Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Logistics	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Management and Marketing	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Mechanics	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Tourism Studies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Wildlife	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Level of Risk:  Low Risk  Medium Risk  High Risk

Sample Health and Safety Checklist

School: _____

Program: _____ Facility: _____

Inspection made by: _____
Please Print Name Position

Signature: _____ Date: _____

General Questions:

1. Who is responsible for the health and safety program in this facility? _____
Administrator

_____ Teacher(s)

2. Has a previous written safety inspection been made of this facility: Yes No

3. If Yes, by whom? _____

4. Date of that inspection. _____


5. Have the recommendations of that inspection been carried out? If not, indicate the status of those exceptions below: All Some None

<u>Date Identified</u>	<u>Concern(s)</u>	<u>Corrective Action(s) and Anticipated Completion Date</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Hazard Identification and Control

To identify the health and safety hazards in the learning environment is one of the most important components of a health and safety program. The individual or team that carries out this inspection should carefully evaluate the condition and appropriateness of all facilities, work areas, equipment and instructional procedures. Each unsafe act or condition should be noted and a recommendation to correct or remove the hazard be provided. Since the learning environment is not static, it is essential that ongoing vigilance and control of health and safety hazards continue.

Checking Procedure

Draw a  around the appropriate number using the following rating scale:

Satisfactory Unsatisfactory
 4 3 2 1 0 N/A

Action required should be identified in all instances where a number of 2 or less is circled. Space is provided at the end of each topic for such comments.

Section I: Facilities

A. Housekeeping

Evaluate the condition of:	Satisfactory			Unsatisfactory		
1. walls, windows and ceiling; e.g., clean, free of chips and cracks	4	3	2	1	0	N/A
2. floors, aisles and stairs; e.g., clean and free of obstructions	4	3	2	1	0	N/A
3. student work stations; e.g., benches, tables and desks	4	3	2	1	0	N/A
4. shelves, tool and material storage areas	4	3	2	1	0	N/A
5. bulletin boards and display cases	4	3	2	1	0	N/A
6. washing and changing facilities	4	3	2	1	0	N/A
7. waste disposal areas and containers (incompatible materials should not be allowed to come in contact with each other)	4	3	2	1	0	N/A
8. power panel and gas meter areas; e.g., free of obstructions and combustible materials	4	3	2	1	0	N/A
9. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

B. General Conditions

Evaluate the provision for/condition of:	Satisfactory			Unsatisfactory		
1. clearly marked and accessible exits	4	3	2	1	0	N/A
2. emergency lighting	4	3	2	1	0	N/A
3. safety treads and railings on stairs	4	3	2	1	0	N/A
4. safety zone markers around hazardous equipment	4	3	2	1	0	N/A
5. non-skid floor surfaces in front of machines	4	3	2	1	0	N/A
6. air quality (general ventilation, fume extraction and dust control systems)	4	3	2	1	0	N/A
7. lighting direction and levels	4	3	2	1	0	N/A
8. noise levels	4	3	2	1	0	N/A
9. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

C. Electrical Supply

Evaluate provision for/condition of:	Satisfactory			Unsatisfactory		
1. electrical outlets (outlets should not be overloaded)	4	3	2	1	0	N/A
2. power panel breakers and circuit identification	4	3	2	1	0	N/A
3. master control and emergency shut-off switches	4	3	2	1	0	N/A
4. electrical conduit, cables, connections and extension cords	4	3	2	1	0	N/A
5. high voltage signage	4	3	2	1	0	N/A
6. explosion proof switches and fixtures; e.g., paint room	4	3	2	1	0	N/A
7. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

D. Gas Supply

	Satisfactory			Unsatisfactory		
Evaluate the provisions for/condition of:						
1. gas lines, valves, regulators and colour coding	4	3	2	1	0	N/A
2. lighting instructions for gas-fired equipment and appliances	4	3	2	1	0	N/A
3. pilot lights and/or electronic ignition systems	4	3	2	1	0	N/A
4. fire guards between gas appliance and equipment and adjacent walls, benches and other combustible materials	4	3	2	1	0	N/A
5. combustion air supply	4	3	2	1	0	N/A
6. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

Section II: Furniture and Equipment

A. Lab Furniture and Equipment

	Satisfactory			Unsatisfactory		
The furniture/equipment is:						
1. arranged to provide maximum safety to the operator and other students	4	3	2	1	0	N/A
2. properly adjusted and secured to floor, bench or cart	4	3	2	1	0	N/A
3. guarded at all exposed points of operation	4	3	2	1	0	N/A
4. controlled easily (switches and levers accessible)	4	3	2	1	0	N/A
5. provided with dust extraction or ventilation where required	4	3	2	1	0	N/A
6. provided with working surfaces appropriate to the tasks performed; e.g., electrical work should not take place on a metal surface	4	3	2	1	0	N/A
7. serviced and maintained on a regular basis	4	3	2	1	0	N/A
8. provided with electromagnetic switches where required; e.g., drill press, table saw, wood and metal lathes	4	3	2	1	0	N/A
9. CSA approved (applies to all electrical equipment)	4	3	2	1	0	N/A
10. properly grounded or double insulated	4	3	2	1	0	N/A
11. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

B. Fire Protection

Evaluate:	Satisfactory			Unsatisfactory		
1. emergency exit routes and signage	4	3	2	1	0	N/A
2. proper type, location and service records of fire extinguishers	4	3	2	1	0	N/A
3. provision and use of fireproof pads under electric irons, hot plates and other portable heating devices	4	3	2	1	0	N/A
4. type of storage of chemicals and flammable materials	4	3	2	1	0	N/A
5. storage of oily rags and other combustible materials	4	3	2	1	0	N/A
6. placement and condition of smoke detectors and/or heat sensors	4	3	2	1	0	N/A
7. condition and use of heat fuses (used in conjunction with extinguishing system and parts washer lids)	4	3	2	1	0	N/A
8. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

C: Personal Protective Equipment

Evaluate provision for/condition of:	Satisfactory			Unsatisfactory		
1. appropriate eye protection; e.g., face shields, goggles and safety glasses	4	3	2	1	0	N/A
2. hand protection; e.g., rubber gloves, leather gauntlets and heat-resistant gloves	4	3	2	1	0	N/A
3. foot protection; e.g., safety shoes and toe caps	4	3	2	1	0	N/A
4. head covering/protection; e.g., hats, hair nets, hard hats and bump caps	4	3	2	1	0	N/A
5. respiratory protection; e.g., dust, paint and spray masks	4	3	2	1	0	N/A
6. protective clothing; e.g., aprons, gowns, smocks and leggings	4	3	2	1	0	N/A
7. hearing protection; e.g., ear plugs and muffs	4	3	2	1	0	N/A
8. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

D. First-Aid Equipment

Evaluate availability/condition of:	Satisfactory			Unsatisfactory		
1. first-aid kit	4	3	2	1	0	N/A
2. eye wash station	4	3	2	1	0	N/A
3. emergency shower	4	3	2	1	0	N/A
4. first-aid information	4	3	2	1	0	N/A
5. fire blanket	4	3	2	1	0	N/A
6. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

Section III: Instructional Program

A. Posted Information

Evaluate:	Satisfactory			Unsatisfactory		
1. use of bulletin boards, health and safety posters and student reports	4	3	2	1	0	N/A
2. suitability and type of safety instruction posted at each machine	4	3	2	1	0	N/A
3. emergency response procedures and postings	4	3	2	1	0	N/A
4. availability of important telephone numbers and contact people to be used in the event of an accident or injury	4	3	2	1	0	N/A
5. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

B. Handling Materials/Goods

Evaluate:	Satisfactory			Unsatisfactory		
1. instruction on the use of hazardous materials (WHMIS)	4	3	2	1	0	N/A
2. availability and maintenance of Material Safety Data Sheets	4	3	2	1	0	N/A
3. labels on controlled product containers	4	3	2	1	0	N/A
4. methods used to dispose of hazardous materials	4	3	2	1	0	N/A
5. material lifting and handling instructions and procedures	4	3	2	1	0	N/A
6. procedures used to transport dangerous goods	4	3	2	1	0	N/A
7. personal hygiene related to customer service; e.g., hair nets, plastic gloves and hand washing	4	3	2	1	0	N/A
8. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

C. Record Keeping

Evaluate:	Satisfactory			Unsatisfactory		
1. documentation of safety lesson plans and presentations	4	3	2	1	0	N/A
2. records of student attendance	4	3	2	1	0	N/A
3. records of student safety tests and results	4	3	2	1	0	N/A
4. reporting mechanisms for accidents and injuries	4	3	2	1	0	N/A
5. records of follow-up measures	4	3	2	1	0	N/A
6. records of facility and program inspection	4	3	2	1	0	N/A
7. records of requests for facility/equipment improvements	4	3	2	1	0	N/A
8. other: _____	4	3	2	1	0	N/A

Comments (concerns, required actions, recommendations):

Engineering Controls

Ventilation

In accordance with government regulations, where there exists a reasonable possibility that a health or safety hazard exists from the production or dissemination of an airborne contaminant, ventilation is to be in place such that these hazards are controlled.

In determining whether a ventilation system is needed, the following points should be considered:

- concentrations of the airborne contaminants in comparison with the maximum allowable limits set by Alberta Labour, Occupational Health and Safety (Chemical Hazards Regulation)
- physical, chemical and toxicological properties of the contaminants
- flammability and explosivity of the contaminants
- location of the students or staff in relation to the sources
- oxygen content of the air
- duration of the exposure of the workers
- sources and concentrations of the contaminants; e.g., dust and fumes.

Dust and Fume Extraction

Dust and fume extraction equipment should be engineered to operate with the least amount of noise and vibration.

Dust and fume extraction should take place as close to the source as is possible to avoid spreading the contaminants or fumes throughout the work environment. Processes that typically require dust/fume extraction include:

- cooking
- foundry
- welding and soldering
- woodworking.

Machine Guards

Well-engineered guards should not interfere with the safe operation of the equipment.

Guards are installed on equipment to protect the operator from rotating parts, flying chips, sparks, high temperatures and operating points. At no time should fixed guards be removed or mechanisms locked out. Types of guards and guarding mechanisms include:

- complete enclosures around belts and pulleys
- movable guards as found on table saw or jointer
- fixed guard around a grindstone
- covers in place at the point of operation
- interlocking devices requiring both hands to be used as in the operation of a paper cutter
- automatic shut off used in connection with a washer/dryer lid or door and computer numerical control (CNC) lathe/mill cover.

Personal Protective Equipment

Often the only practical way to minimize the risk of illnesses or injury is to use Personal Protective Equipment (PPE).

Clothing

Clothing may provide a defence against injury. Many lab processes require students to wear aprons, smocks or coveralls over their regular clothing. Where there is the possibility of becoming caught in moving parts or exposure to fire, students **should not** be permitted to wear:

- loose fitting or torn clothing
- garments made from flammable materials
- exposed jewelry
- long, loose hair.

Eye/Face Protection

For more information, refer to Alberta Labour "Eye Injury Prevention in Industry," 1994.

Any operation that presents a risk of injury to the eyes or face requires the use of approved eye/face protection equipment. This PPE is designed to protect individuals against:

- flying objects, sparks and particles
- splashing liquids and molten metal
- intense heat
- ultraviolet, infrared and visible radiation.

A variety of eye and face protection devices are available. They include:

- safety glasses equipped with side shields to offer protection from impact
- goggles that are vented to protect the eyes and a portion of the face
- goggles that are nonvented to protect against impact and chemical splashes
- welding goggles to protect against radiation and impact
- welding helmets to protect the eyes and face from radiation and impact
- face shields to protect the whole face; these should also be supplemented with safety glasses.

Hearing Protection

For more information, refer to CSA Standards "Hearing Protection," Z94.2-94.

Noise from some operations may cause hearing loss.

Students and teachers should not be exposed to a sound level that exceeds 85 dB on average for an eight-hour day unless some form of hearing protection is used. It is at decibel levels 85 and above that the chances of noise-induced hearing loss begins to increase. Examples of noise levels produced by common tools and the occupation exposure limits are outlined in the following chart.

Machine	<i>Noise Levels</i> ★	
	Decibel Level	Max Hours/Days of Exposure
Bandsaw	95	2
Chain saw	100	1
Circular saw	105	1/2
Dust collector	95	2
Jointer	90	4
Lawn mower	95	2
Metal lathe	80	16
Router	105	1/2
Thickness planer	105	1/2

★ Actual levels vary according to the design of the equipment. For example, belt driven equipment tends to be less noisy than gear driven.

To reduce or eliminate the risk of injury owing to sudden or continuous noise levels, the appropriate precautions should be taken, by using hearing protection and/or limiting exposure time. The most common types of hearing protection used in CTS programs are earplugs and earmuffs.

Head Protection

For more information, refer to CSA Standards “Industrial Protective Headwear,” Z94.1–92.

On many job sites and activities, safety headwear is required to protect the head from falling objects, bumps, splashes or energized objects. Headwear must meet CSA requirements and job site recommendations. It should be noted that bump caps are not considered to be helmets and can only be used where there is little risk from falling objects.

Foot Protection

Safety footwear is designed to protect against impact, compression and puncture injuries. Safety footwear can be purchased in a variety of styles and grades indicated by coloured tags and symbols. The colour of the tag indicates the amount of resistance the toe will support against different weights dropped from varying heights. In construction, a green triangle is recommended in conjunction with a high cut boot that gives ankle support.

Hand Protection

Consult the Material Safety Data Sheet for recommended protection when handling hazardous materials.

Hands often need to be protected from heat/cold, abrasion, chemicals and electrical shocks. PPE is available for each of these hazards, including:

- finger guards
- thimbles
- hand pads
- mitts
- gloves.

If gloves or other devices are necessary, they should fit properly and do the job required. Note, in some instances, that gloves or other forms of hand protection are not recommended particularly around moving machinery since the glove can get caught and pull the worker into the moving parts.

Respiratory Protection

Remember, APR is only as good as its seal and its ability to filter out the contaminants for which it was designed.

There are two major categories of respirators. The most common type to be found in a CTS classroom is the Air Purifying Respirator (APR) that is designed to remove dust, fume and mist particles. APRs are further divided into disposable and reusable types. The second, more specialized category is the atmosphere supply respirator, which includes Self-contained Breathing Apparatus (SCBA) used, for example, in auto body painting.

The choice of respirator depends on the type of hazard and the degree of use. For example:

- disposable fiber respirators are simple types of air purifiers that cover the nose and mouth. They can be used in conjunction with low levels of dust, mist and fumes. Once the paper fibers have become loaded the filter must be disposed of safely
- reusable half and full face respirators are usually made of rubber and protect against certain dust, mists, gases and vapours using disposable or rechargeable cartridges.

In all cases, it is important to maintain the equipment and ensure a proper seal around the face when in use.

Workplace Hazardous Materials Information System

The following is a brief overview of Workplace Hazardous Materials Information System (WHMIS) and how it applies to schools. It is not meant to be a comprehensive description of WHMIS. Questions pertaining to specific details regarding WHMIS should be directed to the school board's occupational Health and Safety Department, or to Alberta Labour.

WHMIS is a system to ensure that workers are provided with complete and accurate information regarding hazardous products that they use, and to ensure that the information is used to provide safe working conditions. It is a Canada-wide system that regulates suppliers, employers and workers.

Suppliers must inform purchasers of the properties, hazards and procedures for safe use of the hazardous materials they are buying.

Employers and workers must become knowledgeable about this hazard information and must use the information to ensure safe use of the materials, under normal and emergency conditions.

Why WHMIS?

WHMIS is intended to solve several problems that currently exist at some work sites, including schools. These problems include:

- unlabelled or inadequately labelled substances
- inadequate information on hazards and precautions relating to hazardous materials
- lack of awareness by employers and workers about the materials they use
- improper use of hazardous materials.

These problems are resulting in an unacceptable incidence of injuries, illnesses, and allergies resulting from exposure to hazardous substances, and the associated loss of work time, money and quality of life.

Legal Status of WHMIS

WHMIS is a federal law supplemented by provincial laws. Therefore, the requirements of WHMIS **must** be followed.

School administrators and teachers, as well as other paid workers in the school, are "designated occupations" under the legislation. Therefore, literally all workers in the school are responsible for WHMIS requirements in their work. Although "student" is not a designated occupation in legislation, it is important that students become knowledgeable and follow WHMIS provisions.

Elements of WHMIS

WHMIS is composed of three key elements:

- Labels
- Material Safety Data Sheet (MSDS)
- Worker Education.

Labels

There are two different types of WHMIS labels that can be attached to a controlled product: the Supplier Label and the Workplace Label.

The Supplier Label contains information regarding the product's name, health risks, safe handling procedures, first-aid measures and the manufacturer or supplier identity. The Supplier Label also must display the applicable WHMIS symbols and must make reference to the product's Material Safety Data Sheet. All original containers of controlled products from manufacturers or suppliers must have this information.

Consumer Products

Many of the products used in a school are "Consumer Products" and are partially exempt from WHMIS requirements. As a result, these products do not require Workplace Labels provided their original labels are legible, and they are stored and used in their original containers. However, once they have been decanted or their original labels have been replaced with workplace labels, they become WHMIS-controlled and must meet all labelling and Material Safety Data Sheet requirements.

Material Safety Data Sheets

A Material Safety Data Sheet (MSDS) for each controlled product that is used or available for use must be readily accessible at the work site.

The MSDS contains nine sections of important information:

- Product Identification and Use
- Hazardous Ingredients
- Physical Data
- Fire and Explosion Data
- Reactivity Data
- Toxicological Data
- Preventive Measures
- First-aid Measures
- Preparation Date.

The MSDS is NOT:

- all the information needed for safe use of a product in every situation
- a document only to be read and filed away.

A binder of MSDSs should be maintained and located in the area where the products are used. MSDSs should be reviewed before using a product or instructing anyone else in its use. An MSDS cannot be more than three years old (from indicated preparation date on MSDS). Any MSDS older than this is invalid and must be replaced as soon as possible with an updated version. Updated MSDSs are usually readily available from the supplier. A WHMIS-controlled product should not be used if there is no MSDS on-site.

Worker Education

The employer must ensure that each worker is provided, or has whatever amount of education and training is necessary, to ensure safe use of each controlled product under normal and emergency conditions. Thus, personnel who use or come into contact with WHMIS-controlled products and Transportation of Dangerous Goods must be identified and their training needs determined (see Attachment 7). Initial and regular refresher training must be provided. The training given should also be regularly evaluated for relevance and effectiveness.

Transportation of Dangerous Goods

“Dangerous goods” are defined here as potentially hazardous materials that are explosive, flammable, poisonous, infectious, radioactive or corrosive. The *Transportation of Dangerous Goods (TDG) Act* exists to protect people, the environment, or property when these goods are being transported by road, rail, sea or air. TDG applies to transport only. It does not apply within the workplace—only WHMIS does. Shippers, carriers and receivers are all responsible for ensuring that shipments of dangerous goods comply with federal and provincial regulations as well as municipal bylaws.

TDG Regulations

The *Transportation of Dangerous Goods Act and Regulations* were enacted to promote public safety when dangerous goods are handled, offered for transport, or transported in Canada. The regulations prescribe safety standards and requirements, and provide a mechanism for communicating the relative degree and nature of the hazard.

Legal Status of TDG

The transport of dangerous goods by road is regulated under provincial regulations, which parallel the *Federal Transportation of Dangerous Goods Act*. Compliance is ensured in Alberta by Alberta Transportation and Utilities. Inspectors may issue tickets on the road, for infractions. Typically, most infractions relate to deficiencies in training, shipping documentation or labelling.

Who Is Involved?

All persons who handle, transport or offer for transport dangerous goods must meet the TDG Regulation requirements. The dangerous goods most likely to be transported by school system vehicles and personnel include chemical materials for instructional purposes, cleaners and other janitorial products, solvents and petroleum products, paints, and assorted chemical wastes. As a result, within a school, the following personnel should be knowledgeable regarding TDG Regulations:

- school administrators
- teachers responsible for technical areas
- lab technicians
- facility operators.

TDG Regulations are composed of three keys elements:

- training
- shipping documents
- labelling.

Training

No person can handle, offer for transport, or transport dangerous goods unless that person is properly trained or under the direct supervision of a properly trained person. A person cannot direct another person unless they also have received appropriate training. The school board must ensure that training has been received by all personnel who handle, offer for transport, or transport dangerous goods and must see that Certificates of Training (valid for three years) have been issued and are still valid. This applies to the generators of dangerous goods, schools, and carriers of dangerous goods, school board shipping department.

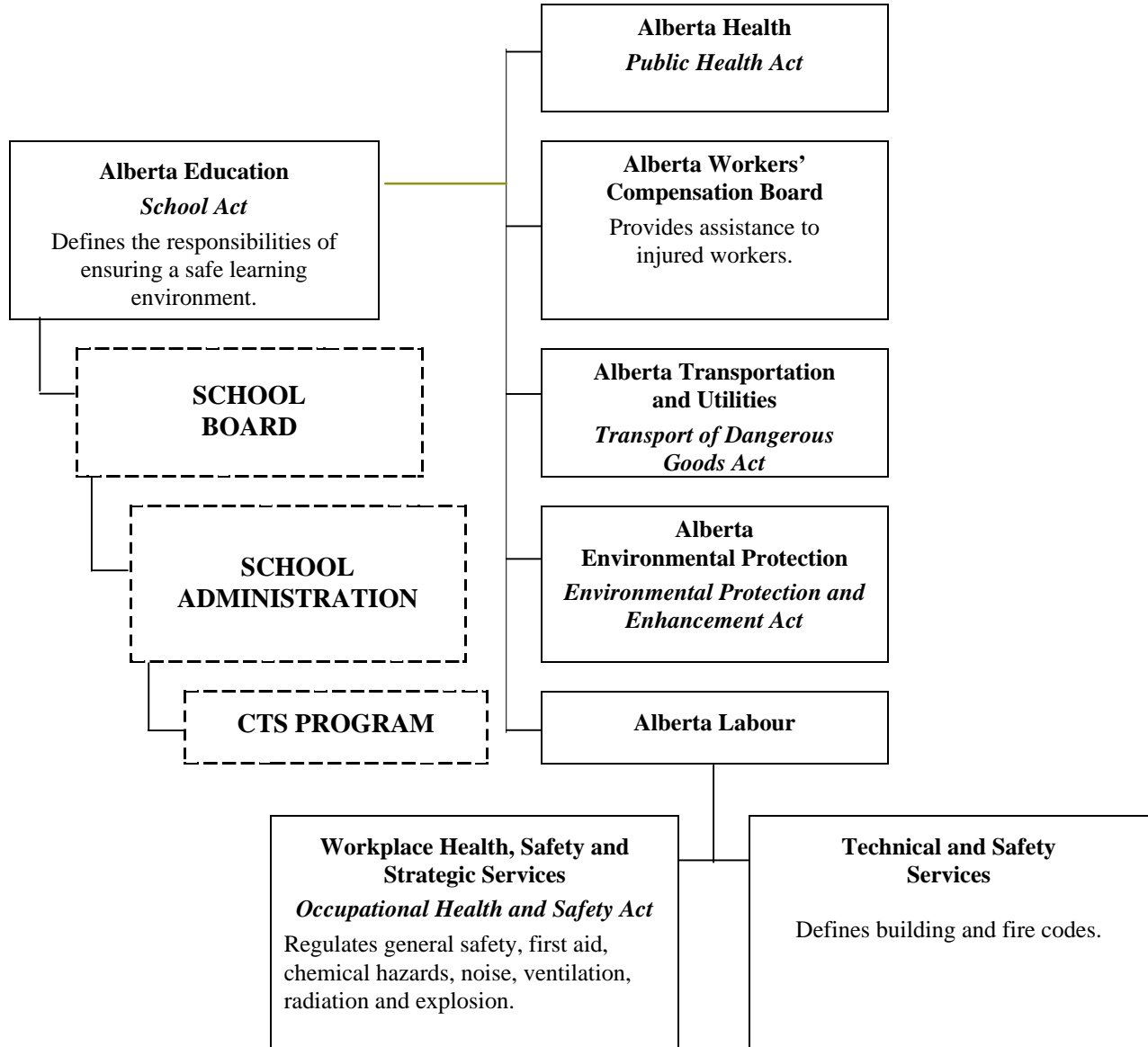
Shipping Documents

All shipments of dangerous goods must be accompanied by a shipping document containing information identifying the goods, shipper, carrier and receiver as well as quantities, safe handling and emergency procedures. The shipper, carrier and receiver must retain a copy of the dangerous goods shipping document and any additionally pertinent documents, following delivery of the consignment. *These documents must be made available to a government inspector within 15 days of a written request and must be retained for two years by all three parties.*

Labels

Placards on transporting vehicles are not needed for most materials carried in the school system because of the small quantities involved. There are, however, some exceptions. Boxes containing separate classes of dangerous goods must be labelled with the primary classification, orientation sticker if liquid, and any other pertinent safe handling information. Individual containers of dangerous goods, if shipped separately, must have a TDG label attached indicating proper shipping name, PIN number, primary and secondary classifications, an orientation sticker if liquid and any other pertinent handling information.

Overview of Legislation and Key Players Related to Health and Safety in CTS Program



Due Diligence in the CTS Classroom: Provision of a Safe Work Environment

A. Physical Environment

- Maintain a clean and orderly work environment.
- Ensure that all tools, machines, safety, and other equipment, are maintained, safe and in good working condition.
- Be able to use competently and safely all tools, machines, safety and other equipment.
- Know what safety devices are necessary, and be familiar with and able to use all safety devices for your tools, machines and equipment.
- Know the locations of and be able to use fire extinguishers.
- Be sure that fire extinguishers are maintained.
- Ensure proper storage of all materials and supplies.
- Be able to operate the electrical safety control system in the teaching environment.
- Check that lighting, heating/cooling, plumbing and ventilation are functioning and adequate. Report inadequacies to your administrator.

B. Program

- Provide an exemplary model of how to operate safely in the work environment.
- Provide a safety training program for your students with respect to all tools, machines, safety and other equipment, that contains the following elements:
 - demonstration and explanation
 - guidance and observation until competence is achieved
 - inform the student when competence is achieved
 - formal recognition of competence
 - ongoing monitoring of performance.
- Ensure that all students know and can perform the emergency procedures established as part of the safety program.
- Ensure that students report all accidents/incidents/near-misses.
- Ensure that all students use appropriate safety gear when necessary.
- Maintain a high level of order and discipline.
- Do not accept any unsafe behaviour. Remove any student who is acting in an unsafe manner, and ensure that he or she can operate safely before re-admittance.
- Ensure that all students handle all materials and supplies in a safe manner.
- Ensure that students are dressed safely.
- Continually monitor the student's learning environment.

C. Emergency Response Skills

- Know the school's emergency response plan.
- Know your role in the school emergency response plan.
- Become an emergency response team member.
- Respond appropriately to emergencies.
- Be able to use first-aid kit equipment.
- Become first-aid certified—*Emergency Level/CPR*.

D. Accident/Incident Investigation Skills

- Know the accident/incident reporting procedure.
- Know what accidents/incidents are to be reported.
- Be able to prepare full and accurate reports.
- Know to whom reports must be given.
- Treat near-miss information appropriately.
- Use accident/incident/near-miss information in the continual upgrading and provision of a safer work environment.