

DIRECTIVE 2600-042

TITLE :	Directive on Health and Safety in Work and Study Environments		
ADOPTED BY:	University Executive Committee	Resolution :	CD-2014-08-26-09
EFFECTIVE DATE:	August 26, 2014		
MODIFICATION :	November 15, 2016	Resolution :	CD-2016-11-15-05
	December 19, 2016		CD-2016-12-19-04

TABLE OF CONTENTS

PREAMBLE 2

DEFINITIONS 2

1. GENERAL RULES.....4

2. RULES PERTAINING TO PERSONAL PROTECTIVE EQUIPMENT7

3. RULES PERTAINING TO SSMTE TRAINING.....11

RESPONSIBILITY FOR THE DIRECTIVE15

EFFECTIVE DATE..... 15

REFERENCES.....16

PREAMBLE

As described in its *Politique de santé et sécurité en milieu de travail et d'études* (Policy on health and safety in work and study environments)¹, the Université de Sherbrooke wishes to offer all persons working on its campuses a safe environment in which to work and study, in compliance with applicable health and safety laws, codes² and regulations. Moreover, all persons present in laboratories or workshops are exposed to additional risks that are inherent to the activities performed in such areas.

DEFINITIONS

University employee: Any person hired by the University and whose wages or salary are funded from the University's operating budget, a grant, subsidy or research contract.

Hazardous area: Place where a person might be subject to harm or adverse health effects as a result of exposure to a hazard. This notion may also apply to situations entailing a risk of loss of property or equipment.

Personal protective equipment (PPE): Specific protective equipment worn by a person in order to minimize his or her exposure to hazards that cannot be mechanically or administratively controlled, or when such control does not provide sufficient protection to ensure the person's health and physical well-being. Examples of PPE include lab coats, gloves, protective footwear (e.g., steel toed or soled shoes), safety glasses or sealed glasses, hearing protectors (earplugs, hearing protection devices, etc.), helmets, respiratory protection devices, fall protection harnesses, etc.

Student: Any person enrolled in a program of study offered by the University or working at the University under a scholarship paid directly from a granting agency.

Risk assessment (also known as risk analysis or appraisal): A formal process of identifying the hazards existing in a hazardous area, evaluating the likelihood of an accident (the "risk") depending on the activities associated with these hazards, and finally determining the proper means by which to eliminate or control such risks.

Guest: Any person who does not fall under a study or employment relationship with the University but who is working at the University as part of a project or a collaborative endeavour.

Laboratory or workshop: A laboratory or workshop is defined as a room where hazardous materials are stored or used, or in which the handling of certain equipment poses a hazard. Such rooms are usually identified by a placard that indicates certain hazards present within the room and that is put up on the wall by the door to this room, in the adjoining hallway. The *Division santé et sécurité en milieu de travail et d'études* (Environmental Health and safety Division) maintains a directory of these placards and ensures that they are kept up-to-date. The rooms in question include, but are not limited to:

- Research laboratories;
- Teaching laboratories;
- Storage rooms for hazardous products;
- Storage rooms for hazardous waste;
- Workshops, such as machine shops;

¹*Politique 2500-004* adopted by resolution of the Board of Directors (CA-2013-05-27-10).

²Applicable codes, such as the *National Building Code*, the *National Fire Code*, etc.

- Laboratory animal facilities;
- Rooms with a controlled environment (cold or hot);
- Technical rooms;
- Visual or performing arts studios.

Hazardous material: Any material which, owing to its properties, poses a health or environmental hazard. This includes explosive, gaseous, infectious, flammable, toxic, radioactive, corrosive, oxidizing or highly reactive materials, whether in their pure state, in any mixture, or present within objects in concentrations or proportions defined by applicable laws and regulations.

Standard operating procedure: A written working procedure that details the steps to follow in order to carry out a task; the personal or collective protective equipment to use; the safety instructions to follow; the maneuvers to carry out; and, as needed, the emergency measures to apply in case of an accident. This procedure is often referred to by the acronym SOP.

Environmental Health and safety Division (SSMTE, for *Santé et sécurité en milieu de travail et d'études*): The goal of this division of Building Services is to support all members of the University community, as well as all administrative units, in preventing and minimizing the risks of employment injuries or occupational diseases. The SSMTE division enforces applicable federal and provincial legislative frameworks pertaining to occupational health and safety, as well as hazardous materials.

Workplace Hazardous Materials Information System (WHMIS): The WHMIS is Canada's national hazard communication standard. The key components of this system are cautionary labelling of containers for "hazardous products"; safety data sheets; and worker education and training programs³. In Quebec, the regulatory agency for WHMIS is the *Commission des normes, de l'équité, de la santé et de la sécurité du travail* (CNESST), which enforces this system's requirements by virtue of the *Hazardous Products Act* (SOR/2015-17) promulgated under the *Act respecting occupational health and safety* (L.R.Q., c. S-2.1)⁴.

Intern (or trainee): Any person who takes part in a period of training, usually practical, that takes place either during the course of studies or between the end of studies and the beginning of professional activities, or that constitutes complementary training or retraining.

Supervisor: Any person who, in accordance with his or her role, experience or qualifications, directs or supervises how another person does work, performs a task, or contributes to a project.

Worker: For the purposes of this directive, a worker is any person who handles hazardous materials or equipment in a laboratory area or workshop. He or she may be an employee, an intern or a guest.

³ Official national WHMIS website of Health Canada (<http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index-eng.php>)

⁴ Website of the CNESST toxicological index, the REPTOX (<http://www.csst.qc.ca/en/prevention/reptox/Pages/to-english-users.aspx>)

1. GENERAL RULES

1.1 PURPOSE

The purpose of this directive is to provide general safety rules for all persons working in an area at risk for injuries or occupational diseases, for example a laboratory or workshop. In addition to the points contained in this directive, certain faculties, services, departments or research groups may also apply more stringent or better adapted preventive measures to their activities. In the event that such measures exist, they prevail over this directive. In addition, all persons must abide by the good laboratory practices detailed in the *Laboratory Health and Safety Manual*⁵.

1.2 GENERAL PROVISIONS

- 1.2.1 Adequate training must be completed before any work can be done in a hazardous area or using hazardous equipment or hazardous materials. The procedure to follow is set out in Rule 3 - *Rules pertaining to SSMTE training* (in this directive).
- 1.2.2 The *Regulation respecting occupational health and safety*⁶ applies to all persons studying or working at the University.
- 1.2.3 Persons studying or working at the University must also comply, if applicable, with governmental laws and other regulations in effect, particularly regarding biosafety and biosecurity, radiation protection, and the transportation of hazardous materials.
- 1.2.4 The workshop or laboratory supervisor is accountable for the activities that take place in his or her workshop or laboratory. In the case of educational activities, it is the professor or lecturer assigned to the educational activity who is designated as the ultimately responsible individual. For example, in the case of a research laboratory, this would be the professor directing other persons' work (the principal investigator). In the case of departmental, faculty, university or other organizations' services, this would be the person acting in the capacity of immediate superior.
- 1.2.5 Failure or refusal to comply with this directive constitutes grounds for administrative or disciplinary measures against the non-compliant person or organization, in accordance with university regulations⁷, collective agreements⁸, or any other applicable rules⁹.

⁵ *Laboratory Health and Safety Manual*, Université de Sherbrooke, Building Services, April 2013, 106 p.

Available on the Web at:

http://www.usherbrooke.ca/immeubles/fileadmin/sites/immeubles/documents/Securite_chimique/Laboratory_Health_and_safety_manual.pdf

⁶ *Regulation respecting occupational health and safety* (L.R.Q., c. S-2.1, r. 13).

⁷ University regulations (*Règlement 2575-009*): www.usherbrooke.ca/programmes/reglement/

⁸ UdeS associations and unions: www.usherbrooke.ca/accueil/fr/plan-du-site/autres-acces/associations-et-syndicats/

⁹ See *Politique sur l'intégrité en recherche et les conflits d'intérêt* at web site <http://www.usherbrooke.ca/gestion-recherche/ethique-sante-et-securite/integrite-en-recherche-et-conflits-dinterets/>

For all laboratory or workshop work

- 1.2.6** Access to any laboratory or workshop is prohibited to persons under 16 years of age, with the exception of activities approved by the person in charge of the room and by the department head. The activities in question must take place under appropriate supervision that is sufficient to limit risks.
- 1.2.7** The performance of laboratory or workshop work by persons with disabilities may pose particular risks. Under such circumstances, a risk assessment must be conducted on a case-by-case basis by the person in charge of the room, in collaboration with the SSMTE division and student services (*Services à la vie étudiante*).
- 1.2.8** Unless they come under a research protocol approved by the proper authorities, animals are prohibited in any laboratory or workshop. In the case of guide dogs, a risk assessment must be conducted by the person in charge of the room, in collaboration with the SSMTE division and student services, before access can be granted.
- 1.2.9** In hazardous areas, especially laboratories, workshops and the buildings in which they are housed, all persons must at all times adopt attitudes and behaviour that are not likely to cause accidents or injuries to themselves or to anyone else present on these premises.
- 1.2.10** Hazardous waste and litter produced in a laboratory or workshop must be disposed of appropriately and safely. Chapter 7 (Waste Management) of the *Laboratory Health and Safety Manual* sets out the related practices in effect at the Université de Sherbrooke.
- 1.2.11** Appropriate personal protective equipment (PPE) must be worn for all activities entailing a risk of injury or occupational disease. Rule 2 – *Rules pertaining to personal protective equipment*, in this directive, provides related clarifications.
- 1.2.12** PPE, especially lab coats and gloves, may not be worn in public areas (e.g., hallways, elevators, lounges, etc.). When moving between two laboratories and not carrying hazardous materials, wearing lab coats is tolerated, unless otherwise indicated by the SSMTE division.
- 1.2.13** Subject to Section 1.2.14, if hazardous materials are transported from one room to another, the PPE required by the nature of the hazardous materials involved must be worn. A bin or cart must be used and the shortest and safest route must be taken.
- 1.2.14** Gloves must be removed before touching any common equipment or any common surface that might lead to cross-contamination (for example a telephone apparatus, computer, door handle, elevator button, etc.). A single glove may be worn in order to transport hazardous material between two laboratories, in order to avoid contact with common surfaces.

For all laboratory or workshop work done alone

- 1.2.15** Working alone should be avoided as much as possible, since it significantly increases the risk level of various activities; indeed, in the event of an accident, a lone individual does not have the benefit of other colleagues on site or nearby. If a faculty, department, service or other university organization already has an existing regulation on working alone, this last regulation applies in addition to this directive. The SSMTE division website¹⁰ provides

¹⁰ <http://www.usherbrooke.ca/immeubles/sante-et-securite/>

further details on this subject.

- 1.2.16** An undergraduate student, intern or guest may not work alone in a laboratory or a workshop. However, a supervisor who deems this person competent may give written authorization to the said undergraduate student, intern or guest to work alone in a laboratory or a workshop, outside the hours of Monday to Friday from 7:30 a.m. to 6 p.m. SSMTE division staff may be consulted as needed in order to help the supervisor establish guidelines for such exceptions.
- 1.2.17** An employee, graduate student or postdoctoral intern may perform certain tasks alone in a laboratory or a workshop, outside the hours of Monday to Friday from 7:30 a.m. to 6 p.m., if this person has previously informed his or her supervisor of the said tasks and the supervisor has approved all activities to be completed.

Specific provisions

- 1.2.18** Wearing a head covering (bonnet) must not create additional risks of an injury or accident. The head covering should be as small as possible and should be made of non-flammable materials in the event that the laboratory or the workshop entails fire risks. In a laboratory or a workshop setting, any head covering whose extremities exceed shoulder length must mandatorily be worn inside the lab coat.
- 1.2.19** Long hair must be tied back so as to avoid contact with any materials or equipment handled.
- 1.2.20** Wearing headphones on both ears or earphones in both ears in order to listen to music is prohibited for all laboratory and workshop work. In certain specific contexts, such as biological containment level 2 laboratories, wearing headphones is strictly prohibited.
- 1.2.21** The volume of any music listened to must be moderate in order to allow the listener to hear an alarm signal, a call for help, or the sound of an unexpected incident (e.g. an object falling, a container exploding, etc.).
- 1.2.22** It is prohibited to drink, eat, or store food or drink in laboratories and workshops where hazardous materials are used or stored.
- 1.2.23** It is prohibited to pipette any substance by mouth, whether the substance is hazardous or not.
- 1.2.24** It is prohibited to modify any display of safety instructions or indications without the authorization of the SSMTE division.
- 1.2.25** Any incidents or accidents must be reported as soon as possible to the University's Security and Prevention division. The internal phone numbers to use are 811 for the main campus and Longueuil campus, and 511 for the Health Sciences campus. If using a cell phone, the number 819-780-0811 must be used for the Sherbrooke campuses, while the number 450-646-3811 must be used for Longueuil. The SÉCURITÉ UdeS app, when properly installed on a smartphone, can also be used.

1.2.26 A risk assessment must be conducted and recorded for any research or study protocol performed in a laboratory. It is possible to draw up one's own risk assessment form or to use the guide and form provided on the SSMTE division website¹¹. It is recommended to conduct the assessment together with colleagues in order to obtain a maximum number of opinions. The SSMTE division also offers its support on a needs basis.

1.2.27 An inventory of all chemical, biological or radioactive substances present in a laboratory or a workshop must be made and maintained by the responsible for the laboratory or the workshop. All products are covered, whether they are recognized as hazardous material or not. Regarding biological or radioactive substances, more specific requirements are described in the applicable guidelines on biosafety and biosecurity, as well as radiation protection. In terms of chemical, the HECHMET database shall be used. The SSMTE division website¹² provides further details on this subject.

2. RULES PERTAINING TO PERSONAL PROTECTIVE EQUIPMENT

2.1 PURPOSE

The purpose of the policy on health and safety in work and study environments is to avoid injuries and occupational diseases from occurring to any employee, student, intern or visitor. As much as possible, the aim is to eliminate risks at the source. However, when risks cannot be adequately eliminated or controlled at the source, suitable protective equipment must be provided, used wherever necessary, and kept in good condition. This need may result from chemical, biological, radiological, thermal, electrical or mechanical hazards arising from certain procedures or from a given environment. If these hazards are liable to cause injury or to alter the functioning of any part of the body, whether through absorption, inhalation or physical contact, then suitable protective equipment must be worn. This protective equipment includes personal protective equipment for the eyes, face, head and extremities; protective clothing; respiratory devices, and protective shields or screens.

2.2 COMPLIANCE AND RESPONSIBILITIES

2.2.1 As stated in the policy on health and safety in work and study environments, all members of the University community are responsible for preventing injuries and occupational diseases. Specific responsibilities in connection with the wearing and use of PPE apply to the persons mentioned in the following sections.

2.2.2 Supervisors must comply with and ensure their staffs' compliance with this directive. They must also make sure that staff members receive adequate training on the risks present in their workplaces (examples of such training are set out in Section 3.4 of this directive), and to ensure that they wear the recommended protective equipment during such training activities.

¹¹<http://www.usherbrooke.ca/immeubles/sante-et-securite/>

¹²<http://www.usherbrooke.ca/immeubles/sante-et-securite/>

- 2.2.3** Supervisors must apply proper disciplinary processes to any person refusing to wear adequate personal protective equipment.
- 2.2.4** Workers, students and interns must be familiar with the PPE requirements for the areas where they work or circulate, and must properly wear the PPE prescribed in this directive, based on a standard operating procedure or a risk assessment. All of these persons are responsible for completing adequate training in order to learn how to use PPE, correctly put on and remove any required PPE, and care for PPE and keep it in good condition. If applicable, they must also inform their colleagues about these requirements and must report hazardous conditions to their respective supervisors or to the SSMTE division.
- 2.2.5** Students must obtain the PPE required for their educational or research activities and wear it as required by their respective supervisors.
- 2.2.6** The members of the SSMTE division are responsible for promoting a safe work and study environment throughout all laboratories and workshops across the campuses. They must also monitor the application of this directive and provide any necessary interpretations or clarifications pertaining to it. SSMTE staff may also offer consultations and resources to help supervisors conduct their risk assessments and to develop adequate training on the wearing of PPE.

2.3 PROVISIONS APPLICABLE TO PPE

- 2.3.1** Hazards may exist within all University laboratories and workshops in different forms, including sharp edges, falling objects, sparks, chemical products, radioactive isotopes, infectious agents, noise, and a host of other potentially hazardous situations. In this context, the University has an obligation to protect its workers and students from hazards within work and study environments that can cause injuries or occupational diseases.
- 2.3.2** The best way to protect workers as well as students is to control hazards at the source. Depending on the hazardous conditions or the work setting, it is recommended to use collective protective equipment (installation of guards, working under a hood, etc.) or measures of administrative control (including standardized operating procedures) in order to manage or eliminate risks as much as possible. When hazards cannot be mechanically or administratively controlled, or when such control does not provide sufficient protection, supervisors must provide PPE to workers and ensure that it is used.
- 2.3.3** Failure or refusal to wear required PPE constitutes grounds for administrative or disciplinary measures against the non-compliant person, in accordance with applicable university regulations¹³ or collective agreements¹⁴. Any student who does not wear required PPE in a laboratory or workshop area during a class may be denied access to educational activities, until such time as the PPE is used properly.

¹³University regulations (*Règlement 2575-009*): www.usherbrooke.ca/programmes/reglement/

¹⁴ UdeS associations and unions: www.usherbrooke.ca/accueil/fr/plan-du-site/autres-acces/associations-et-syndicats/

- 2.3.4** This directive sets out minimal requirements at the University-wide level. However, each laboratory or workshop supervisor may devise more stringent measures that will apply in addition to those provided for in this directive.
- 2.3.5** For educational activities that include work in a laboratory, in a workshop, or in the field, PPE requirements (including the specific type of PPE required) must be provided in the course presentation. Students undertake to acquire and wear this PPE in the context of the course. The person teaching the course or another designated person (educational assistant, technician, etc.) is responsible for ensuring that students are familiar with and are correctly using the PPE required in the context of the course.
- 2.3.6** Each supervisor must regularly assess the workplace for which he or she is responsible in order to determine whether the risks that are present or likely to be present therein require the use of PPE. This assessment must include the risks for the persons performing work and the risks for anyone occupying the room or the space where the work will be done. If any risk assessment done in a laboratory or a workshop indicates that PPE needs are below what is indicated in Section 2.4 of this directive, the SSMTE division must be contacted in order to approve the risk assessment.
- 2.3.7** Each supervisor, based on the risk assessment, must ensure that appropriate personal protective equipment has been identified and planned for each user. The PPE must be adjusted to each person and must not interfere with his or her ability to work in complete safety. PPE must be provided to workers free of charge.
- 2.3.8** Each supervisor must ensure that the persons under his or her responsibility are aware of how to correctly wear, adjust, and maintain assigned PPE. These persons must demonstrate that they understand how to correctly use this equipment. Rule 3 – *Rules pertaining to SSMTE training* (in this directive) details the requirements and procedures involved in this training. For the purposes of this text, training on the wearing of PPE must cover the following elements:
- which PPE is necessary;
 - when this PPE is necessary;
 - how to properly put on, remove, adjust and wear the PPE;
 - the limitations of the PPE;
 - care for, maintenance of, and the useful life and disposal of the PPE.
- 2.3.9** The training described in the above paragraph must be documented as per Section 3.2.2 of this directive.
- 2.3.10** Each person is responsible for correctly wearing required PPE.
- 2.3.11** Each person must inform his or her supervisor when worn-out or damaged PPE needs to be replaced.
- 2.3.12** Each supervisor is responsible for periodically re-assessing the selection and use of PPE in the work areas under his or her control. A new risk assessment must be conducted when new risks have been identified or introduced into the workplace, or at the least every three years.

2.4 MINIMUM WORK EQUIPMENT IN A LABORATORY OR WORKSHOP

- 2.4.1 Subject to Section 2.5, the following sections set out the minimum requirements pertaining to dress and PPE. These sections apply to all laboratories and workshops where hazardous materials are used or stored, or where a physical hazard is present. This section must be used as a basis to establish the PPE required for various classes of laboratories. Procedures for the wearing of required PPE may be modified only by means of a standard operating procedure (SOP) originating from a risk assessment for the laboratory, which must be conducted consistent with the recommendations of the SSMTE team.
- 2.4.2 In all laboratories or workshops containing toxic or corrosive products, radioactive products, pathogenic agents or toxins, long pants and low-heeled shoes (closed at both ends) are mandatory. No patch of skin must be exposed between the pants and shoes.
- 2.4.3 When handling hazardous materials, wearing a lab coat (or equivalent protective clothing) and safety glasses is mandatory.
- 2.4.4 In addition, anyone who is located in the vicinity of another individual who is handling hazardous materials, and who consequently risks being exposed to a chemical product splash or another incident, must also wear a lab coat (or equivalent protective clothing) and safety glasses.
- 2.4.5 The lab coat must be appropriately sized for the person wearing it. The lab coat must be completely buttoned up. The sleeves must be long enough to avoid direct skin exposure when wearing gloves.
- 2.4.6 Eye protection must be appropriate for the work at hand and must be approved by a recognized standard (CSA, ANSI or CE). Normal prescription glasses do not offer well-adapted protection for the work done in a laboratory or workshop. Safety glasses with corrective lenses may be ordered by University services or faculties. Safety glasses may be removed when using optical microscopes or other similar instruments that require close contact between eyes and eyepieces, except in the presence of a risk of burning by laser.
- 2.4.7 Protective gloves must be worn when using any hazardous materials or objects with a risk of thermal burning (via heat or cold), items with physical risks, or devices that can cause burns to the hand. These gloves must be appropriate for the material, substance or procedure used, and must not interfere with the user's ability to work in complete safety. The product's material safety data sheet and the manufacturer's glove selection guide must be used to determine the appropriate type of gloves to use. The SSMTE team can also be consulted for help with this selection.
- 2.4.8 In some hazardous areas, respiratory protection may be necessary. Once a risk assessment has been conducted, a choice should be carefully made as to the type of protective equipment to use, between a disposable filtration mask, a mask with cartridges, or a self-contained breathing apparatus. Proper training, as per Section 3.2 of this directive, should be completed before any work is undertaken in a hazardous environment while using respiratory protection. This training, provided by a person with relevant competence recognized by the SSMTE division, must include a mask adjustment or "fit" test. The SSMTE team may also be consulted for help selecting and adjusting this equipment.

- 2.4.9** Certain operations may justify the use of additional PPE, such as visors, specific safety work boots, hearing protection, etc. These requirements may be indicated on a chemical product's safety data sheet, in the standard operating procedures, in room regulations, in applicable regulatory requirements, or in the risk assessment. The laboratory placard put up by each laboratory or workshop entrance must display the room's PPE requirements.

2.5 EXCEPTIONS

- 2.5.1** Minimal requirements for personal protective equipment in laboratory or workshop areas as described in Section 2.4 of this directive do not apply to the laboratories or workshops that have been designated and explicitly identified by the SSMTE division as being hazard-free. This includes, for example, laboratories or workshops that are exclusively used for operations free of inherent physical or chemical hazards in the course of normal and reasonably predictable activities, such as electron microscopy rooms or precision measuring rooms.
- 2.5.2** When using rotary tools (for example, lathes, bench drilling machines, etc.) in a machine shop, wearing a long-sleeved lab coat is prohibited. Properly fitted clothing that is close to the body of the wearer must be worn for such work. Risks that may be posed by other PPE (for example, gloves, earplugs held in place with a cord, etc.) must also be assessed.
- 2.5.3** Other exceptions may be approved by the SSMTE team. The SSMTE division reserves the right to determine whether the level of protection offered by PPE is below the requirements set out in Section 2.4 above. A specific risk assessment must be conducted in collaboration with the supervisors of the hazardous activity.
- 2.5.4** In agreement with the SSMTE team, it is possible to define a zone within a laboratory or workshop that does not require the use of the PPE mentioned in Section 2.4. This zone might be a hallway that is not located close to potential exposure areas or an office area near which no hazardous materials will be handled. The boundaries of these "hazard-free" zones must be clearly identified by a physical barrier (wall, panel, etc.) or an obvious delimitation on the floor (colour band affixed to the floor, for example).

3. RULES PERTAINING TO SSMTE TRAINING

3.1 PURPOSE

The purpose of the policy on health and safety in work and study environments is to avoid injuries and occupational diseases from occurring to any employee, student, intern or visitor. Training activities on the risks present in work or study environments are one of the main ways to achieve this goal. Health and safety training is especially important for those working with hazardous materials and with equipment or processes that may cause injury, whether in a research or educational environment. This training may be given in departments, workshops, laboratories, or centrally by the SSMTE division of the University's Building Services. This directive defines the minimum training requirements that apply to all workers, students and interns. The need for health and safety training must be assessed on a case-by-case basis, either by supervisors or by faculty members. Based on this needs assessment, complementary training may also be required for specific hazardous operations.

3.2 COMPLIANCE AND RESPONSIBILITIES

- 3.2.1** Supervisors are required to comply with and ensure their staffs' compliance with this directive. Supervisors are also responsible for conducting and documenting their training needs assessment pertaining to health and safety, as set out in Section 3.2.3 of this directive. If this assessment is conducted by another person, the supervisor remains responsible for reviewing and approving the said assessment. He or she is also responsible for ensuring that the staff members concerned undergo any required training as soon as possible following their arrival.
- 3.2.2** Supervisors must document the training that is given to the persons under their responsibility. Proof of training may be recorded in the form of a register, database, or certificate of qualification. At the very least, this proof must include the following:
- the name of the person(s) trained;
 - the name of the trainer, along with his or her title and professional qualifications;
 - the training date;
 - the training expiry date, if applicable;
 - a brief description of the subjects covered by the training.
- 3.2.3** A training needs assessment must be conducted and documented before the worker or student may begin any tasks in a laboratory or a technical room. The individual responsible for this evaluation is the teacher or the supervisor. Elements to take into account include the hazards present in the study or work environment, the vocational training and education background of the worker or student, and regulatory training requirements applicable to identified hazards. The scope of health-safety training activities will depend on the type of work at hand.
- 3.2.4** All persons are required to be familiar with the training requirements for the areas where they work, enter, or circulate. They are also responsible for completing required training as soon as possible following their arrival.
- In addition, they are required to inform other workers in such areas of these requirements, and to report any unsafe conditions to the supervisor or to the SSMTE division.
- 3.2.5** The members of the SSMTE division are responsible for providing any necessary interpretations or clarifications regarding this directive. SSMTE staff may also offer consultations and resources to help supervisors conduct their respective assessments of health and safety training needs or to develop such training.

3.3 PROVISIONS APPLICABLE TO TRAINING

- 3.3.1** As described below, some types of training may be mandatory for workers, students or interns at the University, depending on the hazards encountered in their places of work and study. The training may be given face-to-face by a trainer and/or online. Further information on this subject is available on the SSMTE division website.
- 3.3.2** The training indicated in this rule does not apply to undergraduate students enrolled in for-credit courses or practical work in their program of study, unless they are assigned the status of worker or intern, for example for the duration of a cooperative internship. In the context of for-credit courses or practical work in students' program of study, the faculty members in charge, as well as teaching assistants assigned to the educational activity,

remain responsible for providing the information required so that students can complete their activities in complete safety.

- 3.3.3** The Faculties may offer for-credit courses equivalent to the type of training described in Section 3.4. If such training is offered, this fact must be taken into account in the training needs assessment for a laboratory or workshop as described in Section 3.2.3, and must be clearly documented in the training documentation required as per Section 3.2.2.
- 3.3.4** The supervisor is responsible for defining together with any new person the training that this person must undergo. A guide on how to conduct a training needs assessment is available on the SSMTE division website. SSMTE division staff may also be consulted as needed to help conduct this assessment.
- 3.3.5** Supervisors must provide any newly appointed person with basic safety information and instructions concerning this person's new work environment. A list of safety information to provide BEFORE anyone begins working in a hazardous environment can be found on the SSMTE division website. These documents are to be safeguarded by the supervisor as evidence of due diligence.
- 3.3.6** With the permission of the supervisor, until it is possible for a newly appointed person in a laboratory or workshop to complete the training required for assigned tasks, he or she may complete certain hazardous tasks under the direct supervision of an employee, master's or doctoral student, or postdoctoral intern who has already completed training and is recognized as competent with respect to the safety measures in effect.

3.4 TYPES OF TRAINING

3.4.1 WHMIS training

3.4.1.1 *Target audience:* any person who is required to handle hazardous materials.

3.4.1.2 As stated in Section 62.1 of the Act respecting occupational health and safety¹⁵ "no employer may allow a hazardous product to be used, handled or stored in a workplace unless the product has a label and a safety data sheet that comply with this subdivision and the regulations under it and unless a worker who is exposed or likely to be exposed to the product has received the training and information required to safely carry out the work entrusted to him."

3.4.1.3 In all settings where hazardous materials are present, persons must have training on the Workplace Hazardous Materials Information System (WHMIS 2015). It is recommended to undergo the training before handling any hazardous materials. In the absence of immediate training, the supervisor must ensure that the worker or student has the knowledge required to work safely with hazardous materials. The *Laboratory Health and*

Safety Manual sets out a relevant chemical product classification system based on the WHMIS.

¹⁵ http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/S_2_1/S2_1_A.html

3.4.1.4 WHMIS training must be taken subsequently at least once every five years.

3.4.2 Laboratory health and safety training

3.4.2.1 *Target audience:* any person who is required to handle hazardous materials, whether chemical, biological or radioactive, in a laboratory or a workshop setting.

3.4.2.2 Each semester, the SSMTE division offers at least two training activities on laboratory health and safety, which include presentations on WHMIS 2015 and chemical risks, hazardous waste management, and the University's emergency measures. Workers, as well as biology or biomedical students, must also attend presentations of biological risks, radiation protection, and animal supply facility health and safety.

3.4.2.3 This training is validated on passing a brief exam, which leads to a certificate valid for a five-year period at the Université de Sherbrooke. The training must be taken subsequently at least once every five years.

3.4.3 Due diligence training for supervisors

3.4.3.1 *Target audience:* any and all supervisors of persons working or studying in a hazardous area.

Section 217.1 of the *Canadian Criminal Code* stipulates that “everyone who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.” Any cases of criminal negligence may be severely punished by a fine or prison sentence.

3.4.3.2 Training for supervisors is consequently addressed to all University staff concerned by the above section. The training introduces the policy on health and safety in work and study environments (*Politique 2500-004*), its resulting rules, the laws that apply to supervisors, and potential ways to exercise due diligence.

3.4.3.3 This training is adapted to audience needs and does not need to be completed subsequently on a regular basis. However, a refresher may be required in the event of changes to legislation or requests by persons confronted with any particular issues.

3.4.4 Mandatory training in accordance with governmental laws and regulations

3.4.4.1 Given the diversity of activities that take place at the Université de Sherbrooke, the SSMTE division offers a variety of training activities to ensure that workers and students abide by the laws and regulations in effect in Quebec and Canada. This includes biosafety and biosecurity training (in line with *Canadian Biosafety Standard*¹⁶), radiation protection training (in line with the *Nuclear Safety and Control Act*¹⁷), training on *Transportation of Dangerous Goods Regulations* (TDGR)¹⁸, and training associated with

¹⁶ <http://www.usherbrooke.ca/immeubles/sante-et-securite/biosecurite/>

¹⁷ <http://www.usherbrooke.ca/immeubles/sante-et-securite/radioprotection/>

¹⁸ <http://www.usherbrooke.ca/immeubles/sante-et-securite/envoi-de-produits-dangereux/>

the *Regulation respecting occupational health and safety*, for example training on working with overhead cranes or forklifts. These training activities may require refresher training on a periodic basis; the frequency of such refresher training will be clarified at the time of the training activity. New training may also be required in the event of a change to laws or regulations, or if the level of risk of certain types of work changes in a given laboratory or workshop. In the meantime, while waiting for a training activity to be offered, a person accredited by the SSMTE division may provide relevant face-to-face training, and the supervisor may designate a person to guide the worker or student in the context of hazardous work that requires training.

- 3.4.4.2** The training needs assessment must define the types of training that are required. The SSMTE division may be consulted for any questions on this topic.

3.4.5 Laboratory or workshop-specific training

- 3.4.5.1** Given the diversity of hazards present in laboratories or workshops at the Université de Sherbrooke, the SSMTE Division cannot offer all of the specific training that is required. When adequate training cannot be provided, the supervisor is responsible for making sure that the persons under his or her responsibility receive training from outside resources that enables the said persons to work without endangering their own or other persons' health and physical well-being. The SSMTE division may be consulted for help selecting outside consulting firms that can offer customized training.

- 3.4.5.2** All training activities must, if applicable, include a unit on PPE, as required by Section 2.3.8 of this directive, a description of administrative measures to apply (specific procedures in the form of standardized operating procedures), a description of the collective protection to implement before beginning work (the need for physical protection when working with certain equipment, or the need for local exhaust ventilation, for example), as well as emergency measures in the event of an incident (injury, spill, fire, etc.). This training must be documented as per Section 3.2.2 of this directive.

RESPONSIBILITY FOR THE DIRECTIVE

The University Executive Committee member who oversees the human resources is responsible for the distribution, application, and updating of this directive.

EFFECTIVE DATE

This directive came into effect on the August 26th, 2014. The latest modifications have been adopted by the University Executive Committee on December 19th, 2016.

In the event of a difficulty in interpreting the French and English versions of this Directive, the French version shall prevail.

REFERENCES

- (1) Politique 2500-004 *Politique de santé sécurité en milieu de travail et d'études* (May 2013): <http://www.usherbrooke.ca/immeubles/sante-et-securite/politique-sante-et-securite/>
- (2) Règlement 2575-009 *Règlement des études* (November 14, 2013): <http://www.usherbrooke.ca/programmes/reglement/>
- (3) UdeS associations and unions: <http://www.usherbrooke.ca/accueil/fr/plan-du-site/autres-acces/associations-et-syndicats/>
- (4) SSMTE division website: <http://www.usherbrooke.ca/immeubles/sante-et-securite/>
- (5) Laboratory Health and Safety Manual: http://www.usherbrooke.ca/immeubles/fileadmin/sites/immeubles/documents/Securite_chimique/Laboratory_Health_and_safety_manual.pdf
- (6) Act respecting occupational health and safety (LRQ chapter S-2.1): Section 49, Section 51, and Section 62.1; <http://legisquebec.gouv.qc.ca/en/showdoc/cs/S-2.1>
- (7) Regulation respecting occupational health and safety (LRQ chapter S-2.1, r. 13): <http://legisquebec.gouv.qc.ca/en/showdoc/cr/S-2.1,%20r.%2013>
- (8) [Service d'appui à la recherche, à l'innovation et à la création \(SARIC\) web site](http://www.usherbrooke.ca/gestion-recherche/ethique-sante-et-securite/integrite-en-recherche-et-conflits-dinterets/), research integrity and conflict of interest section :<http://www.usherbrooke.ca/gestion-recherche/ethique-sante-et-securite/integrite-en-recherche-et-conflits-dinterets/>
- (9) Workplace Hazardous Materials Information System, Health Canada website: <http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index-eng.php>
- (10) Commission des normes, de l'équité, de la santé et de la sécurité du travail: <http://www.csst.qc.ca/Pages/index.aspx>