

Safety and Security Procedures and Policies in Elliott Hall

March 2012

While individual faculty members are responsible for the security of their teaching and research laboratories (labs) and for the safety of persons working in them, there are a number of standard policies and procedures that apply generally. Most of these are common sense and they are typical of professional practice of Chemistry in most industrial, government and university settings. The procedures and policies listed below are a summary of the minimum standards that apply in the Chemistry Department at Acadia. It is probable that individual faculty members will have additional rules that are to be followed in their teaching and research labs as a result of special needs for the safe conduct of the work they are supervising. Any lab found not to be in compliance with the policies and procedures of this document will be given one weeks' notice prior to being shut down until brought up to these standards.

Responsibility:

1. Responsibility for safety and security in Elliott Hall falls ultimately on the Head of the Department since the Head is also responsible to the Dean of the FPAS for proper management of the space in Elliott Hall.
2. The Head normally delegates direct responsibility for oversight of safety and security to a member of the Chemistry faculty. This person is responsible for ensuring compliance with safety and security policies and procedures as well as for bringing deficiencies and suggestions for improvement to the Head.
3. Safe and secure storage of chemicals in the Department's stockrooms is the responsibility of the Department technicians. They are also responsible for WHMIS compliance and for maintaining an up to date inventory of the Department's chemicals and their locations. The technicians manage the collection and segregation of chemical waste and arrange for its disposal. Individual faculty members are responsible for ensuring that chemicals used in the teaching and research labs for which they are responsible are managed according to the current Chemistry Department procedures. A copy of these is available from the technicians.
4. The names and telephone numbers of the persons responsible for the safety and security of individual labs are posted on the laboratory doors. These persons have direct responsibility for ensuring that those who work in the labs for which they are responsible comply fully with the general departmental safety and security policies and procedures as well as with any special additional policies and procedures which they believe to be appropriate to the work undertaken in their labs.
5. The teaching assistants in undergraduate labs are responsible to the person having overall responsibility for the lab in which they are assisting for ensuring that the undergraduate students for whom they are responsible comply fully with the safety policies and procedures in effect for that laboratory.
6. Research personnel are responsible to their supervisor for the safe conduct of their work and for maintaining appropriate security of the research labs in which they work.

Building Security:

1. Keys are issued to individuals and are not to be loaned to others. The individual to whom a key is issued is responsible for its proper use. In special cases, at the discretion of the Head of the department, a key may be issued for general use by a research group. In that case, the research supervisor is responsible for its proper use.
2. The person responsible for each teaching laboratory must ensure that, on leaving the lab at the end of the normal working day:
 - (a) The master burner gas valve for the lab is turned off.
 - (b) All gas taps on the benches are turned off.
 - (c) All windows are shut and locked.
 - (d) The lights, data projectors, and fume hoods that are not required to be on for safety reasons are all turned off.
 - (e) Chemicals and apparatus are stored away correctly and the laboratory is left in a clean and professional state.
 - (f) All other equipment in the lab is left in a safe and secure manner.
 - (g) All doors to the lab are closed and locked.
3. The person responsible for each research lab must ensure that research personnel follow the same general principles as in 2. above and in addition take any necessary precautions to ensure the security of the research lab in which they work at all times, particularly when nobody is present.
4. No person is to be given access to Elliott Hall outside of normal working hours without authorization.

Safety:

Fire:

1. In case of emergency, any faculty member teaching a class or lab is responsible for ensuring that their students evacuate the building in a safe and controlled manner. Each person teaching a class or lab at the time is responsible for verifying that all persons in the class or lab have been accounted for. The supervisor of each research lab is responsible for verifying that all persons in that lab have been accounted for.
2.
 - (a) The Organic Chemistry labs, the First Year Chemistry/Biochemistry labs and the labs, offices and classroom in the basement except the labs at the south end of the basement, will exit via the north stairway and exit.
 - (b) The Physical Chemistry and Analytical Chemistry labs, the offices on the main and top floors, and the classroom on the main floor will exit via the main stairway and through the front door.
 - (c) Elliott 320 and the research lab adjacent to it will exit through Huggins.
 - (d) The research labs at the south end of the basement will exit through the basement of Huggins.
3. On evacuation, everyone will gather on University Avenue in front of the main entrance of Elliott Hall. In the event of inclement weather, people may gather in the main foyer of Huggins Science Hall provided the departmental safety officer determines that it is safe to do so. Nobody is to return to Elliott Hall until the University's Safety and Security personnel have determined that it is safe to do so.

General Safety in Chemistry Labs:

1. All workers and students are to wear safety glasses/goggles and lab coats at all times when chemicals are in use. Contaminated clothing such as lab coats should not be worn outside the lab.
2. All workers and students are not to wear open toed shoes or contact lenses in the lab.
3. Gloves are NOT permitted outside of chemical labs.
4. Transportation of chemicals between labs should be done using properly sealing secondary containment containers for volumes exceeding 500 mL (i.e solvent carriers).
5. Long hair must be tied back, loose clothing including scarves, neck ties and lab coats that are too large should not be worn in the lab.
6. Chemical refrigerators must have a label indicating "No Food or Drink" permitted.
7. Fire extinguishers, fire alarm pulls, emergency showers and eye wash stations, and electrical panels must remain unobstructed.

8. Gas cylinders must be properly secured. Cylinders must be securely fixed to a wall or object which itself is fixed to something immobile (i.e. a desk bolted to the floor). Each cylinder must be individually secured.
9. Chemical storage procedures: Acids and bases should be stored separately and strong oxidizers should be kept separate from organics. All containers should be properly sealed and labelled following WHMIS guidelines. The amount of chemicals in a working area should be kept to a minimum. Flammables and volatiles should be stored in flammable cabinets and ventilation cabinets respectively.
10. Never pipette by mouth.
11. Workers/students must consult with their lab supervisor to be aware of any lab-specific safety guidelines.
12. Any incidents or accidents must be reported by the supervisor (of the research or teaching lab) using the Online Occurrences Report Form available on the chemistry website.
13. Sharps must be disposed of properly in a designated sharps disposal container, avoid re-sheathing syringes whenever possible.
14. Broken glass must be disposed of in the designated glass waste containers. Each lab should be equipped with these containers.
15. Oil baths are not to be left unattended while heating.
16. Only CSA-approved power bars may be used in outlets. All electrical cords must be organized and tied where possible to minimize clutter.
17. Chemical spills should be cleaned by a qualified individual i.e. custodial staff should not be asked to clean chemical spills.
18. 5 L Solvent/chemical containers are the maximum size allowed in the chemistry labs, this includes containers of chemical waste.

Overnight Heated Reactions:

1. Only essential reactions should be left overnight unattended.
2. Condensor tubing must be fully clamped to prevent flooding. Heavy wire, metal hose clamps, or cable ties are acceptable. The water flowrate should also be reduced prior to leaving as the water pressure in the building increases at night.
3. As #15 in the above section indicates, no oil baths can be left unattended for overnight reactions.

Safety in Research Labs:

1. Any person working in Elliott Hall when the building is locked must sign in when entering and sign out when leaving, using the book placed at the front door for that purpose. The location at which the individual expects to spend most of their time in the building must be indicated.
2. No person may work alone in a lab unless someone else in the building is aware that they are working there and is prepared to check on them occasionally.
3. The faculty member responsible for a research lab must ensure that all appropriate safety precautions are followed for the work conducted in that lab.

Safety in Teaching Labs:

1. In those courses in which pre-lab lectures are given, students are not permitted into the lab unless they have attended the pre-lab lecture.
2. Teaching assistants are responsible for monitoring their students with sufficient care to ensure that accidents are prevented.
3. Students who refuse to comply with the safety precautions in effect in a teaching lab will be required to leave the lab.

Visitors:

1. All visitors to the labs in Elliott Hall are to be issued with safety glasses. These are available in the Department Office.
2. All visitors to the labs in Elliott Hall are to be accompanied by a Chemistry Department technician or faculty member.