Executive Summary

Western University strives to foster the development of a safety consciousness in all members of the University community for the purpose of minimizing the risk of injury to persons and promoting a healthy and safe working/learning environment. As safety legislation and standards change, the University is committed to keeping abreast of these changes, to communicating these standards within the campus, and to ensuring compliance on an ongoing basis.

This report highlights the health and safety activities at Western over the past year and provides indicators that are quantitative measures of the University’s performance. To ensure that the University meets its obligations under the Occupational Health and Safety Act and the University’s Safety Policy, the Health and Safety team provides audits of all workspaces and labs at the university. The results of the audits are reviewed by the Health and Safety team on a regular basis to identify trends and develop proactive programs to support faculties and departments with the goal of ensuring legislative compliance.

The Health and Safety team provides services to all Western faculty, staff, students and visitors while continuing to enhance their service delivery and programs to meet the changing needs of the research and learning environment. Over the past few years as the University’s research programs expanded so has our supports in the biosafety, radiation and lab safety program in order to respond to the needs of the researcher. Consultation and advice is provided by the Safety Officers on the facilities, equipment and research protocols.

Western’s internal responsibility system for health and safety includes a policy and management structure as well as partners in the health and safety committees and departmental safety officers. The health and safety committees and Safety Officers advise management, including Vice-Presidents, Deans, Associate Vice-Presidents and Managers of health and safety matters in their faculties and departments. Western University Health and Safety Management System has been implemented to ensure proper due diligence in the management of workplace health and safety.
Safety Programs

Laboratory Safety

The laboratory safety program supports Western University research by reducing the risk of non-compliance issues in laboratories. Inspections and communication with researchers ensure compliance with the Occupational Health and Safety Act and regulations such as Workplace Hazardous Materials Information System (WHMIS) Regulation 380.

In 2015, Canada adopted the Globally Harmonized (GHS) System of Classification and Labelling of Chemicals which is known as WHMIS 2015. GHS defines and classifies hazards associated with chemical products and includes globally standardized label and Safety Data Sheet (SDS) information. Implementing the new GHS involved changes to both federal and provincial laws:

- Hazardous Products act and the Controlled Products Regulations by Health Canada which came into force February 11, 2015;
- Occupational Health and Safety Act and the WHMIS regulation came into effect on July 1, 2016.

By December 1, 2018 we must be fully complaint with WHMIS 2015 which will require us to:

- Revise our workplace labelling system.
- Replace MSDS with SDS for all of our hazardous products.
- Review the chemicals at the university and either dispose of those that do not meet the new labelling requirements or replace the labels with a WHMIS 2015 compliant label.

Year in Review: Inspections

In the Laboratory Safety program we have 432 labs supervised by 272 Principal Investigators (PI). These included labs located on the main campus as well as in our research parks and farm. In 2016, 70% of the PI’s had fully compliant labs at the initial inspection. Of the 272 PIs, 16% had non-compliance items that required a follow-up inspection, down from 29% in 2015. All non-compliant labs were found to be in compliance following a second inspection.

Laboratory Inspection Findings

The compliance issues identified during inspections are categorized in ten groups. An issue that cannot be corrected during the inspection are identified as either non-compliance or requires improvement depending on the severity of the issue (risk of personal injury or damage to property). Non-compliance issues require a follow-up inspection to ensure corrective action has been completed. Figures 1 and 2 show that we have improved the compliance in the laboratory program with the most significant change in the last five years in the Faculty of Engineering. The Dean has been a great partner for the Occupational Health and Safety team in changing and supporting a culture change.

Figure 3 identifies the two chemical categories which we have the majority of compliance issues which include labelling and storage/condition of chemicals.
Figure 1: Five year Review of PI Compliance with the Lab Safety Program

![Bar chart showing PI Compliance with the Lab Safety Program 2012-2016]

Figure 2: Five year Review of PI Compliance with the Lab Safety Program by Faculty

![Bar chart showing PI Compliance with the Lab Safety Program 2012-2016 by Faculty]
Biosafety Program

Biosafety refers to safety measures taken with respect to the effects of biological research on humans, animals, plants and the environment. A biohazard is a biological agent that constitutes a potential hazard to humans, animals, plants or the environment. Researchers use many different types of biohazards in their laboratories including bacteria and viruses. Other examples of biohazards can include plant pathogens, zoonotic diseases, and human source material.

All work conducted with potentially hazardous biological agents on University premises or under the control of the University is to be performed in accordance with the requirements as outlined in Western’s Biosafety Manual which has been approved by the Biosafety Committee.

Legislative Changes

Biological Safety Regulations
On December 1, 2015, the Public Health Agency of Canada (PHAC) enacted the *Human Pathogens and Toxins Regulations* (HPTR) along with a remaining section of the *Human Pathogens and Toxins Act* (HPTA). The new regulations replaced the Human Pathogen Importation Regulations previously in place.

The purpose of the new regulations is to reduce the risk of intentional or unintentional misuse of human pathogens and toxins, improve oversight, and establish national requirements for the safe handling of these materials.
Some changes to the Biosafety Program are required at Western to ensure compliance with the new regulations. The most important change was the issuance of licences for pathogens and toxins. Western applied for two licences: one for Risk Group 2 (i.e. Cholera Toxin, Pertussis Toxin, Salmonella, Vaccinia Virus) and another for Risk Group 3 (i.e. Tuberculosis, Rabies virus, HIV). In the future, Western could possibly also need to apply for a third licence to allow researchers to work with Security Sensitive Biological Agents (SSBA) as identified by the Public Health Agency of Canada. The current levels of SSBA at Western do not require us to have a separate licence. HPTA licencing requires that a Biological Safety Officer (BSO) be designated and be responsible for oversight and administration of the program.

Under the new regulations, once the university is licenced, the BSO can approve the import of Risk Group 2 and Risk Group 3 materials. The BSO inspects the labs of Western researchers or a research group to ensure full compliance with the requirements of the licence.

Risk Group 3 human pathogens and toxins are referred to as Security Sensitive Biological Agents (SSBA) and have additional conditions and regulations that we are required to meet. At Western we have SSBA activities taking place in 12 labs and entry is limited to individuals holding a security clearance, or those accompanied and supervised by someone holding a security clearance.

New Substances Notification Regulations (Organisms)
A new amendment to the New Substances Notification Regulations (NSNR), (Organisms), has been proposed by Environment and Climate Change Canada (ECCC). We anticipate receiving the draft regulations by mid-2017 which will come into force in 2018.

The proposed regulations would require notification, 14 days in advance, prior to conducting an experiment that involves importing or manufacturing genetically modified organisms. This has critical implications as many researchers at Western utilize genetically modified organisms including mice, zebrafish, drosophila, and plants. Each year at Western there are thousands of organisms either imported or created. The addition of the advance application and approval process has the potential to
significantly slow research and pose an enormous burden administratively. In addition, Western would need to designate a Qualified Designated Authority (QDA) that would be responsible for overseeing the implementation of the regulation, and this role would have responsibility for any genetically modified organisms.

**Dual-Use Potential in Life Sciences Research**
Knowledge, tools, and techniques resulting from research in the life sciences, while offering great potential benefits for human health, the economy, and the environment, could also be misused for bioterrorism or the creation of biological weapons. Research intended for beneficial purposes that nonetheless presents the risks of potential misuse is sometimes referred to as “dual use”. To maintain an adequate level of biosecurity, the Public Health Agency of Canada (PHAC) has imposed a new requirement to conduct dual-use risk assessments for researchers working with pathogens.

Starting in August 2017, all pathogens deemed as dual-use agents will be reviewed by the Biohazards Subcommittee and Campus Community Police Services’ CPTED Coordinator so that enhanced biosecurity measures can be implemented in the workplace. Over a three-year period, we will conduct a risk assessment on every pathogen used at Western.

**Year in Review: Inspections**

**Canadian Council on Animal Care**
A routine visit by the Canadian Council on Animal Care (CCAC) to evaluate Western’s animal care and use program was conducted on September 29 and on October 1, 2015. The CCAC report made recommendations regarding the facility included the integration of oversight for city wide animal holding and procedure areas as well as review of best practices for animal husbandry and health and safety of personnel.

In 2016, three Animal Care and Veterinary Services workers were diagnosed with occupational illnesses due to chronic exposure to rodent allergens (mice, rats). These occupational illnesses were reported by the University to the Ministry of Labour (MOL).

In May 2016, two MOL inspectors and one MOL Occupational Physician visited Western to investigate nine alleged safety violations made by an anonymous person. The MOL did not find any violations and no orders were issued against the University.

Western continues to conduct tests on the air handling systems. An indoor air quality survey was performed, and procedures that could generate dust were reviewed and all were found to be adequate. To reduce the potential of exposure to allergens in the animal holding areas, the University has alerted all researchers and workers that the personal protective equipment requirements will be enforced in ACVS animal holding areas.

**Radiation, X-ray, Laser Programs**
Western University has a Nuclear Substances and Radiation Devices Licence issued by the Canadian Nuclear Safety Commission that allows us to possess, transfer, import, export, use and store the nuclear substances, the radiation devices and the prescribed equipment. The University has established the
Radiation Safety Program to comply with the Nuclear Safety and Control Acts and Regulations. The Radiation Safety Program structure includes the Senior Management, the Radiation Safety Coordinator and the Radiation Safety Committee. The University issues the Internal Permits to a University employee who is the principle investigator or person in charge of the locations where the Nuclear Substances, the radiation devices or the prescribed equipment are used or stored.

Western University is committed to taking every reasonable precaution, as is practical, to maintain radiation exposure to staff, students and the public to As Low as Reasonably Achievable (ALARA).

**Year in Review: Inspections, Licenses and Filings**

The University achieved a successful International Atomic Energy Agency inspection with regard to the use of uranium and nuclear reactor related research activity in October 2016. In addition, the Canadian Nuclear Safety Commission has renewed the University nuclear substances and radiation devices licence until February 28, 2022. The length of licence is in recognition of an outstanding compliance audit.

In 2016, the University submitted three annual compliance reports of nuclear substances and radiation devices, Tandetron accelerator, and Tritium import licences to the Canadian Nuclear Safety Commission. The Ontario Ministry of Labour must approve the use of new non-medical x-ray machines in the province. Western had approved seven new machines located in five labs.

The annual internal safety inspections of radiation, x-ray and laser safety program continues to be successful. In 2016, a total of 116 permits, covering 169 designated radiation, x-ray and laser rooms were inspected by the Radiation Safety Coordinator. There was at 89% compliance in all three of these safety programs.

**Environment Program**

In 2016, the use of the Hazardous Waste disposal program has continued to support the needs of teaching and research. Western continues to maintain a status of ‘In Good Standing’ for our waste generator license (Generator ID ON0195100).

**Year in Review: Inspections, Licenses and Filings**

**Hazardous Materials Storage**

As specified in the Certificate of Approval from the Ministry of the Environment, an Annual Report for the Hazmat Facility (A040113) was submitted in March 2016. No concerns were raised by the Ministry.

In 2016 OHS and our hazardous waste contractor (RPR Environmental) continued with the system that collects hazardous chemical waste and removes it from campus every week. This minimizes the risk of storing chemical waste on the main campus.

On November 25, 2016 the Ministry of the Environment and Climate Change visited the site on campus and conducted an inspection of the Storage Facility. The Ministry found no ‘Issues of Non-Compliance’ and no ‘Action’ was required as a result of the Inspection. The site was in compliance with the Certificate of Approval.
Biohazardous Waste Program
The Occupational Health and Safety Team (OHS) continues to work closely with Stericycle and RPR Environmental (our external waste contractors) to handle Biohazardous Waste. Stericycle ensures that the waste is packaged and transported (as per regulations) to their site in the Toronto where it is autoclaved and incinerated. Stericycle’s schedule and procedures meet the needs of researchers at Western.

For the convenience of our researchers, OHS has combined the pickup of biohazardous waste with the long established, weekly chemical waste pickup schedule.

Radioactive Waste Program
The Radioactive Waste program continues to meet all the requirements of the Canadian Nuclear Safety Commission (CNSC) and the Transportation of Dangerous Goods Regulations. We have a storage area in the Graphics Building for the decaying of materials.

Transportation of Dangerous Goods
Research is increasingly global, and researchers at Western collaborate extensively with colleagues internationally. In addition to the exchange of data and ideas there is the need to exchange “real” chemical and biological samples for study and analysis. Most of these chemical and biological samples are considered hazardous and need to be shipped by air. This means all shipments must be packaged, labeled and documented according to International Air Transport and Dangerous Goods Regulations (TDG). These regulations continue to get “stricter” every year with frequent updates.

Occupational Health and Safety Officers are collectively certified, abreast of the changing regulations, are able to support researchers and help them prepare their samples for shipment anywhere in the world.

On August 10, 2016 Transport Canada visited campus and conducted an inspection of the paperwork, procedures, training and facilities related to the Transportation of Dangerous Goods including the weekly removal of hazardous waste from campus. Transport Canada wrote no orders for non-compliance but did comment on areas of improvement for paperwork and procedure.

General Health and Safety Program

Year in Review: Inspections

The Occupational Health and Safety Act requires that members of the Joint Occupational Health and Safety Committee (JOHSC), “inspect the physical condition of the workplace at least once a year, inspecting at least a part of the workplace in each month”. OHS coordinates this program for the Joint Occupational Health and Safety Committee.

Every inspection at Western is conducted by one of the worker members (who represent their union or association) on the JOHSC. In 2016 each of the members conducted, on average, 5 to 6 inspections. This is a significant time commitment and is appreciated by Western. These inspections include not only all workplaces on the main campus, but also include the multiple worksites where employees work off campus.
In 2016, 551 compliance orders were issued by the JOHSC during workplace inspections. This is a 53% increase as compared to 2015 and a 10% increase as compared to 2014.

The success of the JOHSC inspection program and the high level of compliance can be attributed to cooperative efforts of the Committee members, the area safety representatives, and the workers.

OHS also appreciates the significant contribution of the various departmental safety committees across campus. Many of these committees have their own inspection programs.

Chemical safety and safety equipment use are the two areas where supervisors need to focus on improving the safety compliance in the laboratory operations. Chemical Safety includes chemical storage, chemical labelling and the handling, labelling and segregation of chemical waste. Safety Equipment includes personal protective equipment, safety equipment not available, signage and monthly checking of items such as safety showers, eyewash stations and first aid kits.

The JOHSC is concerned about the low numbers of faculty and staff who have completed their required WHMIS training. Human Resources data currently show that, as of late 2016, 50% of faculty members and 54% of staff had completed their WHMIS training. The Committee knows that this is the responsibility of Deans and Budget Unit heads and they have also been given the tools, and the reminders, to monitor their areas. Human Resources will be meeting with Faculties and Departments where we do not have full compliance.

Critical Injuries
Critical injuries are those injuries that due to their nature, meet criteria that must be reported to the Ministry of Labour. A critical injury places one’s life in jeopardy; produces unconsciousness; results in substantial loss of blood; involves the fracture of an arm or leg (but not a finger or toe); consists of burns to a major portion of the body; or, causes the loss of sight in an eye. There were no Critical Injuries in 2016.

First Aid Programs
The First Aid program continues the ongoing task of ensuring that Western is in compliance with WSIB Regulation 1101. Trained representatives are in place for all Departments in all buildings on campus. A current list of all representatives and kit locations is maintained on the Human Resources website.

OHS continues to partner with the UWO Student Emergency Response Team to provide Red Cross First Aid and CPR training. There are over 250 trained and certified first aid representatives on campus. They are responsible for first aid in their area, conducting and documenting monthly kit inspections, refilling their kits with required materials kits, etc.

Training
In May 2016 we introduced a new WHMIS e-learning training module on OWL. Over 60 in class safety training sessions were provided to Facilities Management (FM), Information Technology Services (ITS), and engineering students. To meet the Ministry of Labour training requirements, ten industrial training modules were prepared and presented to staff who work in potentially hazardous locations. These modules include the following:
• Confined Space Entry
• Elevating Work Platforms
• Fall Protection
• Laboratory Safety
• Ladder Safety
• Self-Contained Breathing Apparatus

Figure 4: Training Completion Counts: 2014 - 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisory Health and Safety Awareness</td>
<td>775</td>
<td>767</td>
<td>2,237</td>
</tr>
<tr>
<td>Worker Health and Safety Awareness</td>
<td>3,236</td>
<td>3,403</td>
<td>5,685</td>
</tr>
<tr>
<td>WHMIS Basic</td>
<td>-</td>
<td>2,980</td>
<td>3,066</td>
</tr>
<tr>
<td>WHMIS Comprehensive</td>
<td>-</td>
<td>2,668</td>
<td>2,580</td>
</tr>
<tr>
<td>WHMIS &quot;New&quot;</td>
<td>10,756</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>WHMIS Total</td>
<td>10,756</td>
<td>5,648</td>
<td>5,646</td>
</tr>
<tr>
<td>Lab Safety – Classroom</td>
<td>553</td>
<td>988</td>
<td>940</td>
</tr>
<tr>
<td>Lab Safety – e-Learning</td>
<td>490</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lab Safety Total</td>
<td>1,043</td>
<td>988</td>
<td>940</td>
</tr>
<tr>
<td>Biosafety</td>
<td>625</td>
<td>679</td>
<td>675</td>
</tr>
<tr>
<td>Radiation Safety Nuclear</td>
<td>67</td>
<td>70</td>
<td>63</td>
</tr>
<tr>
<td>Radiation Safety Refresher</td>
<td>77</td>
<td>32</td>
<td>117</td>
</tr>
<tr>
<td>Radiation Safety Total</td>
<td>144</td>
<td>102</td>
<td>180</td>
</tr>
<tr>
<td>Laser</td>
<td>98</td>
<td>80</td>
<td>96</td>
</tr>
<tr>
<td>X-Ray</td>
<td>108</td>
<td>63</td>
<td>87</td>
</tr>
</tbody>
</table>

Facilities Management e-Learning Courses

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Awareness</td>
<td>141</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Comprehensive Asbestos</td>
<td>35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Personal Protective Equipment</td>
<td>171</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electrical Awareness</td>
<td>127</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lock Out/Tag Out</td>
<td>93</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
New Ministry of Labour Training Requirement
As of April 1, 2017, people who work at heights at construction sites are required to have training through a Ministry of Labour - approved provider. This training is a full day program and includes information about how to work at heights safely, as well as practical application of skills. The training objectives are to educate the worker on how to recognize the workplace hazards and how to protect themselves from falls.

Safety Committees Update

Joint Occupational Health and Safety

The Joint Occupational Health and Safety Committee (JOHSC) is the one, and only, health and safety committee that is required, under the Occupational Health and Safety Act, at a workplace. It is an advisory group of worker and management representatives that must meet regularly to discuss health and safety concerns, review progress, and make recommendations.

In addition to any special concerns, the Committee reviews and assesses trends in:

- Accidents and Injuries
- Critical Injuries
- Work Refusals
- Workplace Inspections

Western’s JOHSC is comprised of worker representatives from CUPE 2361; CUPE 2692; GTA/PSAC Local 610; IUOE; UWOFA; UWOPA; UWOSA; PMA; and SAGE, and management representatives from across campus.

The Committee met 8 times in 2016. Currently, all JOHSC positions are filled and meet the membership requirements stated in the Terms of Reference.

It is a requirement under the Occupational Health and Safety Act that “at least one worker and one management representative must be certified” and Western exceeds that requirement in that all members have the opportunity to receive certification.

Biosafety Committee

The Western University Biosafety Committee (WUBC) is mandated to fulfil the responsibilities of a Research Institution Biological Safety Committee as described in the Public Health Agency of Canada Canadian Biosafety Standard, 2nd edition, 2015 (CBS) and/or Canadian Biosafety Handbook, 2nd edition, 2016 (CBH). These responsibilities include verifying that all work with biohazardous agents carried out at Western University is in accordance with the safety practices as stated in the CBS and/or CBH. The WUBC provides biosafety advice to researchers at the University.

A Western University Biological Agents Permit Application (BAPA) is required to be completed by Principal Investigators (PIs) for all laboratory activities (research and teaching) when one or more of the following conditions are met:
• A Principal Investigator holds a grant administered by the University and in charge of a University laboratory/facility where the use of Risk Group 1, 2 or 3 biological agents is conducted in the laboratory.
• Any work proposed involves animals carrying zoonotic agents infectious to humans.
• Any work proposed involves plant pathogens, or fungi, that require Public Health Agency of Canada (PHAC) or Canadian Food Inspection Agency (CFIA) permits.
• Undergraduate courses that require the use of Risk Group1, Risk Group2, or Risk Group3 agents.
• Any work proposed involves the manipulation of Human Source Materials.

The applications are reviewed on monthly basis by a panel of expert University researchers serving on the Biohazards Subcommittee who are also members of the larger WUBC. All applications are also re-submitted for review every three years to reflect any changes in the research. In 2016, the Biohazards Subcommittee reviewed and made recommendations on 69 University Biological Agents Permit Applications.

Western’s Biosafety Officer inspects the worksite for research requiring containment levels two or three to ensure that it meets the operational and physical requirements as per the current Public Health Agency of Canada CBS. Western’s Biosafety Officer can issue a Biosafety Permit following the inspection.

The overarching policies and procedures as well as the BAPA application form are reviewed annually to capture the ever changing governmental requirements. The types of work proposed in addition to the physical integrity of the location of the work are evaluated in conjunction with the knowledge and experience of each research group.

For some researchers who could potentially work with Security Sensitive Biological Agents, SSBA, a biosecurity risk assessment may be required to ensure compliance with the CBS. The Biological Safety Officer, Principal Investigator, and Campus Community Police Services are involved in the risk assessment process when required. A Special Police Constable evaluates the principal of Crime Prevention Through Environmental Design (CPTED) taking into account technological tools to detect, deter, and prevent crime. This principal is adopted in laboratories where SSBA and dual use agents may be used.

Laboratory Safety Committee

The Lab Safety Committee met twice in 2016 (June and December). Lab inspections for 2015 were reviewed and the strategies used to successfully improve compliance in 2016 were discussed. This included the pre-inspection communication strategy and monthly inspections to monitor maintenance in poor performing labs.

Investigations of accidents and incidents occurring in labs were reviewed. Committee members were concerned that these were occurring, however recognized that there were few accidents and the Principal Investigator corrective action plans were generally detailed.
In response to changes in the WHMIS legislation, the Committee reviewed and approved changes to the Hazard Warning Signage for laboratories. The need to revise the Laboratory Safety Manual was recognized to reflect new WHMIS information and operational changes due to physical upgrades in the fume hood systems which will be completed in 2017.

The Laboratory Safety Committee reviewed the compliance of the labs at their bi-annual meeting.

*Radiation Safety Committee*

The Radiation Safety Committee met three times in 2016. The Committee discussed the proposed changes of radiation doses for the lens of the eyes from the Canadian Nuclear Safety Commission and possible methods to reduce doses to the eyes. The Committee also discussed non-compliance items from the internal radiation, x-ray and laser safety inspection results, submission of X-ray applications to the Ontario Ministry of Labour, and annual compliance report of the nuclear substances and radiation devices licence to the Canadian Nuclear Safety Commission.

*Emergency Response*

*HAZMAT*

Western’s Hazardous Materials Emergency Response Team (HazMat Team) provides technical mitigation expertise in situations of uncontrolled releases of chemical, biological, and nuclear substances into our facilities or the natural environment. Eleven team members may be called upon to attend to such situations and they are available on a 24-hour basis. The members have been carefully selected by the University because of their unique expertise and job function in the organization.

In 2016, the HazMat Team conducted 12 training exercises for its members and other resource support staff. Team members are now capable of handling small to medium size spills and releases of chemical, biological and nuclear materials. Over the last year and a half, the team responded to two spills and were able to successfully mitigate each spill without requiring outside contracted assistance.

On November 2, 2015, the HazMat Team responded to an uncontrolled release of Bromine Pentafluoride at the Western Science Centre G54. Extreme precautions were taken because Bromine Pentafluoride (BrF5) is extremely reactive and it reacts vigorously with organic compounds, often in an explosive manner.

While conducting a routine analysis of silicate material using a modified version of the laser fluorination technique, a grain of material vigorously reacted with the laser and shot upwards breaking the barium fluoride (BaF2) window holding the samples under vacuum. The safety procedure for a window breaking was followed, and because of the highly reactive nature of BrF5, the laboratory was evacuated and Campus Police was notified.

Following the building evacuation and arrival of the London Fire Department and Western’s HazMat Team, a plan was devised with the laboratory researchers to stabilize the reactive chemical.
The team maintained very close relationship with the London Fire Department (LFD) Hazardous Materials Team. A joint Risk Assessment training exercise was conducted in the Staging Building where team members from both organizations learned the proper techniques in identifying unknown spilled chemicals. These exercises with LFD facilitate better understanding of the roles of key individuals from both organizations.

**Workplace Accident Statistics**

**WSIB**

**Lost Time Injury Frequency**
Lost Time Injury (LTI) Frequency is the number of LTI claims divided by the derived hours worked multiplied by 200,000. The University Code is the last 5 digits of the WSIB account number. Western’s code is 43185.

**Figure 5: LTI – 5 Year Average for all Universities**

*Do not contract out caretaking and hospitality services.*

**Figure 6: LTI Frequency for all Universities**
Figure 7: LTI Frequency – Large Universities

*Do not contract out caretaking and hospitality services.

Severity Rate
Severity Rate is the Year-To-Date Days lost regardless of the accident dates divided by the full time equivalent worker multiplied by 100.

Figure 8: Severity 5 Year Average for all Universities

*Do not contract out caretaking and hospitality services.
Figure 9: Severity – Large Universities

![Severity - Large Universities](image)

No Lost Time Injury Frequency
No Lost Time Injury (NLTI) Frequency is the number of NLTI claims divided by the derived hours worked multiplied by 200,000. **Note:** NLTI cases are Health Care Claims. Those attending Workplace Health fall into two categories: if they see the nurse, it is considered first-aid, and if they see a doctor it is considered health care.

Western is above the average on these NLTI claims. Hospitality Services accounts for over 35% of these types of claims. The Occupational Health & Safety team is reviewing with Hospitality leadership how to prevent these injuries.

Figure 10: No Lost Time Injury – Large Universities

![NLTI- Large Universities - 5 year average](image)

*Do not contract out caretaking and hospitality services.*
Figure 11: No Lost Time Injury – Large Universities