Standard Operating Procedure

Title:	**Electrical Safety**
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This is a controlled document, authored and maintained by the Joint Health and Safety Committee (JHSC) at the Leslie Dan Faculty of Pharmacy, University of Toronto.

David Dubins — 05-Dec-17

Author of this Revision:
David Dubins, Ph.D., B.Eng.
Member, Joint Health and Safety Committee

Date

Reviewed by:
Zarko Zlicic
Faculty Technician
Member, Joint Health and Safety Committee

05.12.2017.
Date

Carolyn Cummins — Dec 5, 2017

Approved by:
Carolyn L. Cummins, Ph.D.
Associate Professor
Chair, Joint Health and Safety Committee

Date

Heather Boon — Dec 5, 2017

Authorized by:
Heather Boon, B.Sc.Phm., Ph.D.
Professor and Dean

Date

1. Scope

The scope of this SOP is to provide building-specific details regarding the safety issues concerning aging and/or faulty electronic laboratory instruments and equipment.

This SOP is not intended to replace, supersede, or contravene any of the policies or training outlined by the Office of Environmental Health and Safety (OEHS), available online via the following website:

https://ehs.utoronto.ca/resources/

The SOP is intended to clarify how site-specific aspects of OEHS policies are dealt with in order to ensure they are appropriately implemented. OEHS policies will not be re-iterated in this document, but rather the reader is referred to the link above, to the Policies and Procedures Listing Health and Safety Manual.

2. Objective

The objective of this SOP is to outline the appropriate policies, and the building-specific procedures pertaining to electrical safety issues inherent in the use of electronic devices in the Leslie Dan Faculty of Pharmacy.

3. Background

The Leslie Dan Faculty of Pharmacy is an organization committed to protecting and monitoring the health and safety of people in the building. The Joint Health and Safety Committee is the body responsible for overseeing this important task and reporting to the OEHS at the University of Toronto. SOPs are now required by the OEHS. This series of SOPs are compliant with this requirement.

4. Definitions and Abbreviations

Abbreviations used in this document are defined in this section:

SOP	Standard Operating Procedure
JHSC	Joint Health and Safety Committee of the Leslie Dan Faculty of Pharmacy, at the University of Toronto
OEHS	The Office of Environmental Health and Safety, University of Toronto
TBD	To be determined
N/A	Not Applicable
Rev.	Revision

CSA	Canadian Standards Association

5. Policies

1. Electrical safety policies pertaining to the laboratory are available through the Laboratory Fire Safety guidelines posted by Facilities and Services website: http://www.fs.utoronto.ca/main-property-management/fire-prevention/lab/
2. Electrical Safety Guidelines are available through the Facilities and Services website: http://www.fs.utoronto.ca/wp-content/uploads/2015/07/Electrical_Fire_Safety_guidelines_Checklist.pdf
3. Safety training for graduate students is a degree requirement, and occurs twice yearly in the Leslie Dan Faculty of Pharmacy. Electrical safety is a component of the safety training course.

6. Procedures

6.1.1 Identification of Electrical Safety Hazards

1. Laboratory equipment should be periodically checked for the following symptoms:
    - Fraying cords
    - Improper grounding (i.e. no third/grounding prong)
    - Aging electronics
    - Smoking or sparking during operation
    - Intermittent operation or shorting
2. It is the responsibility of the Principal Investigator and members of the laboratory to identify, and service or replace faulty laboratory equipment.
3. Any concerns should be brought to the attention of the Faculty Technician.

6.1.2 A Circuit Breaker Engages

1. Laboratory equipment should never be plugged directly into an electrical outlet. A power bar with a built-in CSA-approved circuit breaker will protect the equipment, and help prevent a circuit breaker engaging.
2. If an electrical outlet is overloaded, or there is an electrical problem (e.g. a short) with a specific piece of lab electrical equipment, the circuit breaker might engage and turn off the power.
3. If the power is cut suddenly from a given piece of laboratory equipment, the user shall unplug the device from the outlet and try to determine the source of the problem, which may include:
    - Too many instruments plugged into one outlet
    - An electrical problem with the electronic device
    - An electrical problem with the building (e.g. a power failure)

4. Another device that is known to be working is plugged into the outlet to determine whether or not the outlet is live. If there is a power bar, locate and depress the circuit breaker reset button.
5. If the outlet is not live (i.e. a working device does not power on), then the user shall take a note of the exact room and location of the outlet, and call the University of Toronto Call Centre (8-3000 from a University phone, or 416-978-3000 from any phone) to report the incident. The University of Toronto Call Centre will dispatch an electronics technician (during work hours) or an engineer (after office hours, in the event of an emergency) to assess the incident and take the appropriate action.
6. If the outlet is live, then the laboratory equipment is faulty. A fuse may have blown, or there may be a more impactful electrical problem. Consult the Faculty Technician for further assistance.

7. Revision History

Revision #	Date	SOP Section(s)	Revision Description	Revised By
0	20-Mar-12		SOP PBSOP008 created.	David Dubins (author)
1	05-Dec-17		Web links updated. Video links removed (no longer available).	David Dubins (reviser)