Laboratory Coats

1. **Purpose:**

   Provide guidance on the selection and wearing of lab coats in the Teaching Laboratories for the safety of lab personnel and the UTM community.

2. **Scope:**

   Staff, Faculty, Postdoctoral Fellows, Graduate Students, Undergraduate Research Students, Volunteers and visitors working in the Chemistry Teaching Laboratories in the Department of Chemical and Physical Sciences (CPS).

3. **Prerequisites:**

   EHS101: WHMIS and Lab Safety (or Annual Refresher EHS112)
   EHS002: Basic Health and Safety Awareness
   EHS602: Biosafety Training (Only when required)

*Not an extensive list. Confirm with PI, Supervisor or Manager.

4. **Introduction:** *(Adapted from UofT EHS Office)*

   It's the right and responsibility of everyone in CPS to work in a safe environment. The Ontario Occupational Health and Safety Act requires supervisors to ensure that a worker 'uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn.'

   Lab coats are personal protective equipment that must be worn when and where chemical, biological or radioactive hazardous materials are used in the laboratory. Lab coats minimize contamination of clothing and protect against minor splashes and spills. Lab coats must be made of material suitable for the work environment, the materials handled and the tasks performed.

5. **Responsibilities:** *(Taken Directly from UofT EHS Office)*

   5.1 Directors/Department Heads

   It is the responsibility of Directors and Department Heads to ensure employees are aware of these guidelines.

5.2 Principal Investigators (PI) and Lab Managers

Principal Investigators and Lab Managers must determine applicable personal protective equipment (PPE) requirements based on health and safety hazards in the laboratory. The Office of EHS can assist with evaluating hazards and PPE requirements. Any University of Toronto, PIs and Managers that supervises a wet lab space are responsible for:

a) ensuring that any employees or students they supervise receive appropriate laboratory safety training which includes a component on PPE, receive specific instructions and procedures related to their lab environment;

b) conducting local risk assessments to determine when and where lab users and lab visitors are at risk of physical contact exposure, and the protective equipment that would be required;

c) advising lab users of the existence of any potential or actual danger to the health or safety; and

d) ensuring that a lab user works with required PPE, measures and procedures required.

5.3 Employees, Student Lab Users and Lab Visitors

It is the responsibility of any University of Toronto lab user or lab visitor to adhere to the procedural requirements specified within the lab environment. In addition, lab users shall:

1) Use or wear lab coats and any protective devices or clothing required to be used or worn;

2) Report to their supervisor the absence of or defect in any equipment or protective device of which the user is aware and which may endanger themselves or another lab user.

6. Laboratory Coats Guidelines and Selection Guide: *(Adapted from UofT EHS Office)*

General Guidelines:

1. Laboratory coat material must be appropriate for the hazards. (See Table below)

Material	Suitable For	Cautions	Notes
100% Polyester and 80/20 polyester/cotton blend	✓ Clinical settings ✓ Labs handling biological materials	• Most combustible and not appropriate for working with flammables. • Should never be used while working with pyrophoric materials. • NOT recommended for chemical laboratories.	Not suitable for the chemistry teaching laboratory. Can be used for handling biological materials in absence of open flames.
65/35 and 40/60 polyester/cotton	✓ Clinical settings ✓ Labs handling biological materials ✓ Generally suitable for chemical research laboratories	• Most combustible and not appropriate for working with flammables. • Should never be used while working with pyrophoric materials.	Not suitable when working with flammable chemicals. Recommended when working with strong acids or large volumes.
100% Cotton	✓ Superior to synthetic blends for fire-resistance (A good affordable compromise for chemical safety than the more expensive Fire Resistant lab coat)	• Less resistant than polyester blends to spills and splashes. • Degraded by acids.	Suitable for most work. Not recommended when working with strong acids or large volumes.
Flame Resistant treated lab coats	✓ Better for labs with significant fire hazard (with an understanding of the limitations)	• Specific manufacturer recommendations must be followed	Recommended when working with an open flame.
Dupont Nomex®	✓ Recommended for lab environments where there is a risk of arc flash or flash fire. ✓ Recommended for working with pyrophoric materials.		

2. Laboratory coat must fit properly;
    a. Properly fastened (snaps preferred over buttons)
    b. Have sleeves that properly cover the arms to the wrist
    c. Be knee-length or slightly below

3. Laboratory coats must be removed when leaving the laboratory.

    Chemicals (and chemical waste) should be transported in secondary containers, which minimize spills and splashing. Therefore, lab coats should not be worn in communal hallways.

    Between rooms, lab coats should be:
    a. Turned inside out and carried by hand/on arm
    b. Carried on a cart

4. Laboratory coats with knitted cuffs must be worn if there is a hazard from lab coat sleeves
    a. becoming entangled/catching on equipment
    b. contacting chemicals or biological agents

5. Laboratory coats should be stored:
    a. With no contact with street clothes
    b. Individually
        i. The inside of one coat should not touch the outside of another
        ii. One lab coat per hook
        iii. The use of a hanger is ideal as it protects the inside of the coat
    c. Lab coats should not be draped over laboratory chairs

6. Transportation of lab coats
    a. Lab coat must be turned inside out
    b. Lab coat must be placed in a plastic bag

7. Laboratory Coat Washing and Disposal

Two options are available for washing.

7.1 Wash lab coats in the Chemistry Teaching Labs

Contact the Chemistry Technical Staff for additional details. Please follow the instructions below to determine if your lab coat can be washed or should be disposed of instead.

7.1.1 Chemical Contamination: *(Taken Directly from UofT EHS Office)*

Contaminated lab coats should be discarded following hazardous waste disposal and not washed if contaminated by:

- Strong acids
- Concentrated corrosives
- Materials that pass through Nitrile gloves (e.g. organometallics like methyl mercury)
- Greater than 250 mL of Carcinogens, Teratogens or Toxic materials with an LD50

7.1.2 Biological Contamination: *(Taken Directly from UofT EHS Office)*

Where a known or suspect contamination from ANY biological agent occurs regardless of Risk Group Assessment Level, any contaminated clothing and lab coat must be decontaminated by autoclave or treated with an effective decontaminant before laundering.

Lab coats should not be autoclaved if they are additionally contaminated with chemicals or radioactive material.

7.2 Use service provided by VP Research Office

More information about the lab coat service can be found here.