1.0 Definition

Lab coats shall be worn in laboratories to protect your clothing from becoming soiled and to provide limited protection against minor splashes of chemical, biological, and radioactive material. In case of an accident, it is much faster and easier to remove a lab coat than street clothes to minimize skin contact with hazardous materials. Appropriate lab coats should be fully buttoned with sleeves rolled down. Assure that hazardous chemicals, radioactive materials, or toxic dusts are not carried home with you on your street clothes by using lab coats or disposable protective clothing. See NCSTATE University Lab Coat Cleaning and Disposal guideline for further information. Don't wear lab coats in public places, such as offices, lunchrooms, or lounge areas, as they can transfer hazardous materials and contaminate these areas. Tyvek coveralls can be used over street clothes for protection against particles, but do not provide sufficient protection against liquids. Lab coats will also not resist liquid penetration, and if splashed with chemicals, should be removed immediately. Cotton lab coats (100% cotton) are preferable to rayon or polyester blend coats. Be sure that you purchase long laboratory coats that will extend to your knees.

Vinyl or rubber aprons and sleeves should be used when dispensing corrosive liquids (e.g. hydrofluoric acid, phenol, etc). Where metal organic liquids or other materials that may self ignite on contact with air (pyrophoric) are used, Nomex lab coats are required, along with face shields. See NCSU guidelines for pyrophoric chemicals safety.

When selecting lab coats, the following selection criteria are recommended:
2.0 Selection Criteria

1. Handling non-flammable chemicals in any quantities, handling of very small quantities of flammable liquids, and/or lab work where flame flashback to the labcoat is unlikely – 100% Cotton lab coat (see Fisher and Grainger catalogs on marketplace for models on state contract where best pricing should be available)

2. Handling of larger quantities of flammable liquids and/or lab work where flame flashback to the labcoat is a reasonably likely – Based on hazard assessment by labs, 100% cotton lab coats or Fire resistant cotton lab coat can be selected (see Fisher and Grainger catalogs on marketplace for models on state contract where best pricing should be available)

   Example: Bulwark® Excel-FR® Lab Coats

3. Handling of pyrophoric liquids (will ignite simply on contact with air) - Nomex lab coat (see Fisher and Grainger catalogs on marketplace for models on state contract where best pricing should be available)

3.0 Note

Researchers/users shall be aware that lab coats provide only limited protection against chemicals (as any other protective equipment). Engineering controls along with good safety practices are always required to minimize exposure risk in laboratories. In most cases use of lab coats will also need to be supplemented with the use of additional protective equipment.