Office of Safety Newsletter

**Topic:** Personal protective equipment (PPE)

**Date:** May 2021

**Personal protective equipment (PPE)**

Because of COVID-19, everyone now knows what PPE means, and is aware that these are items worn as temporary barriers against exposure to hazards. While it has become instinct to put on a lab coat and safety glasses as you enter the lab, there are things to consider to ensure that PPE are sufficiently protective. Ed Chainani (echaina2@illinois.edu), the Assistant Director for Safety at Grainger Engineering, provides these tips:

**Use of PPE should be the last resort**

The use of PPE should be considered only after engineering controls and administrative controls have been found to be infeasible. Utilize the hierarchy of controls!

**The PPE must fit the task...**

The hazardous materials to be protected against must be identified, as well as the route of exposure or body parts affected. The ability of the PPE to properly serve as a barrier must be evaluated. Let’s take the example of chemical protective gloves: The ubiquitous nitrile laboratory glove does not protect the hands against all chemicals, in all situations. The right glove material and thickness can be selected by evaluating the Breakthrough Time, Degradation and Permeation Rate for each chemical. PPE selection should be documented, in a worksheet such as this one: [https://www.drs.illinois.edu/site-documents/PPESelectionWorksheet.pdf](https://www.drs.illinois.edu/site-documents/PPESelectionWorksheet.pdf)

...and fit the wearer

Lab coats with sleeves that are too short won’t provide the needed coverage. Gloves that are too large or too small will impair dexterity or grip. Some PPE, such as respiratory protection (think N95 masks), require medical evaluation and fit testing. In such cases, PPE is truly personal!

**Those who use PPE must be trained**

Wearers of PPE should know these: When PPE is necessary; what PPE is required; how to properly don, doff, adjust, and wear PPE; the limitations of the PPE; and the care, maintenance, useful life and proper disposal of the PPE.

A failure of protection can potentially happen if there is: A lack of training on PPE use, or misunderstanding of training; the improper selection of PPE; improper fit of PPE; improper PPE care, cleaning and storage; and failure to use/wear the PPE. All these must be avoided.
More information on PPE can be found on the DRS page:

https://www.drs.illinois.edu/Page/SafetyLibrary/PersonalProtectiveEquipment