

Spotlight on Safety

Handle with Gloves

Gloves are an important part of the personal safety gear for students and instructors in the human anatomy and physiology laboratory. Laboratory gloves protect the wearer from hazardous biological materials and/ or chemicals. Different glove materials differ in their degree of protection. One important property to consider when choosing a glove material is the permeation rate or the time it takes for a chemical to diffuse through the glove. Another is dexterity; thinner gloves afford greater dexterity but usually have quicker permeation rates.

Material Safety Data Sheet (MSDS) include information on which glove material is appropriate for the handling of a particular chemical. For example, feline embalming fluid manufactured by one biological supply company identifies the following principal hazardous components: formaldehyde, propylene glycol, methanol, phenol, and sodium citrate. The accompanying MSDS recommends neoprene or nitrile gloves in handling of specimens embalmed in this solution.

Latex and nitrile gloves are the two most popular materials for disposable laboratory gloves. Both latex and nitrile gloves have very good permeation resistance to formaldehyde. Latex, manufactured from the milky fluid of the rubber tree (*Hevea brasiliensis*) was the first material developed for use as disposable gloves but latex proteins can cause allergies in certain individuals. It is estimated that 5 to 20% of health care workers have developed some type of latex allergy. Powdered latex gloves have cornstarch to ease donning and removal but scatter latex proteins into the air increasing the area of exposure to these allergens. The use of powdered latex gloves should be eliminated.

Gloves should be removed by peeling off one glove, starting at the wrist. Care should be taken to prevent the surface of the glove coming in contact with the skin. The removed glove (now turned inside out) is used to peel off the remaining glove. Hands should be washed with soap after the gloves have been removed and properly disposed of.