Nitrile, Viton, Neoprene. Which is the best material for your chemical gloves?

When choosing the correct glove material, you must review the manufacturer’s chemical resistance guide. The same material from two different manufacturers does not guarantee the same protection, and one glove material will not protect you from every chemical in every situation. Remember the definitions below.

**Breakthrough time:**
The time it takes to detect a substance inside the glove when the outside is exposed to a chemical.

**Degradation:**
The physical changes in the material such as swelling, cracking, softening or shrinking, which occur when it comes in contact with a chemical.

*A glove can exhibit chemical breakthrough even if it doesn’t show signs of degradation.*

**Permeation Rate:**
The rate at which a substance passes through a glove material once a breakthrough takes place. This rate includes absorption on the surface, diffusion through the material, and desorption on the inside surface.

**Disposable Gloves:**
Disposable gloves are typically thinner and designed for *incidental contact* with chemicals. Once these gloves are removed or contaminated, they must be discarded. Do NOT reuse.

**Reusable Gloves:**
Typically, heavy-duty and can protect you from prolonged contact up to 8 hours of continued use. Reusable gloves must be discarded if cracked, damaged, or when used for an 8-hour length of time.

For more information about your chemical glove selection, contact EHS at dehsafety@udel.edu