Hand Protection
Assessment of Hazards

• If a workplace hazard assessment reveals that employees face potential injury to hands and arms that cannot be eliminated through engineering and work practice controls, employers must ensure that employees wear appropriate protection.
What are the Hazards?

• Skin absorption
• Chemical burns
• Thermal burns
• Electrical
• Cuts
• Punctures
Leather Gloves

- Sparks
- Heat
- Chips
- Rough objects
- Not chemicals
Coated Fabric Gloves

- Usually non-slip
- Handling bricks & wire
- Chemical containers
- Not chemicals
Butyl Gloves

- Peroxide
- rocket fuels
- highly corrosive acids (nitric acid, sulfuric acid, hydrofluoric acid and red-fuming nitric acid)
- strong bases
- Alcohols
- Aldehydes
- Ketones
- Esters
Latex Gloves

- Weak water solutions of:
  - Acids
  - Alkalis
  - Salts
  - Ketones
Neoprene Gloves

- hydraulic fluids
- Gasoline
- Alcohols
- Organic acids and alkalis
Nitrile Gloves

• Oils
• Greases
• Acids
• Caustics
• Alcohols

• Not recommended for:
  • strong oxidizing agents
  • aromatic solvents
  • Ketones
  • Acetates
Best method for Determining Effectiveness

1. Determine the ingredients of the chemicals you will be working with
2. Review the Safety Data Sheet
   1. SDS’s have been known to only say “Use appropriate gloves”
3. Choose a brand of glove
4. Use the manufactures data recommendations for the glove material
Example of Glove Selection

- Chemical Ingredient
  - Acetone
1. Product and Company Identification

Product Code: 1640.1
Product Name: Klean-Strip Acetone
Reference #: 1640.1
Manufacturer Information
  Company Name: W. M. Barr
  2105 Channel Avenue
  Memphis, TN 38113
  Phone Number: (901)775-0100
Respiratory Equipment (Specify Type)
For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection
Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves
Wear chemical resistant gloves suited for use with acetone. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing
Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)
Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or your experience slight dizziness, headache, nausea, or eye-watering - STOP - ventilation is inadequate. Leave area immediately.
I Chose Ansell Brand gloves

• Most PPE manufactures will have guidance documents to help choose the best glove for your chemical ingredient.
Look Up the Chemical

Permeation/Degradation Resistance Guide for Ansell Gloves

The first square in each column for each glove type is color coded. This is an easy-to-read indication of how we rate this type of glove in relation to its applicability for each chemical listed. The color represents an overall rating for both degradation and permeation. The letter in each square is for Degradation alone:

- **GREEN:** The glove is very well suited for application with that chemical.
- **YELLOW:** The glove is suitable for that application under careful control of its use.
- **RED:** Avoid use of the glove with this chemical.

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LAMINATE FILM | NITRILE | UNSUPPORTED NEOPRENE | SUPPORTED POLYVINYL ALCOHOL | POLYVINYL CHLORIDE (Vinyl) | NATURAL RUBBER | CANNERS AND HANDLERS* | CHEMI-PRO*
The Best Rated Glove

• Laminated Film Glove.

• Natural rubber and unsupported neoprene both had excellent degradation however had a 10 minute breakthrough time.

• Nitrile, PVA, & PVC gloves were recommended by the manufacturer to not be used with Acetone.
Acknowledgement

I ______________________, have completed the PPE Hand Protection training.

(Print Name)

Date: ________________

Please print the acknowledgement sheet, fill in requested information and email to srsweb@unm.edu to complete training.