



# Alabama K – 12 Science Safety Guidelines



## Appendix I- Glove Types Appropriate for Science Laboratory Activities

| Glove material         | Intended use                                                                                | Advantages and disadvantages                                                                                                                                                                                                                                              | Example Photos                                                                        |
|------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Latex (natural rubber) | Incidental contact                                                                          | <ul style="list-style-type: none"> <li>• Good for biological and water-based materials.</li> <li>• Poor for organic solvents.</li> <li>• Little chemical protection.</li> <li>• Hard to detect puncture holes.</li> <li>• Can cause or trigger latex allergies</li> </ul> |    |
| Nitrile                | Incidental contact (disposable exam glove)<br><br>Extended contact (thicker reusable glove) | <ul style="list-style-type: none"> <li>• Excellent general use glove. Good for solvents, oils, greases, and some acids and bases.</li> <li>• Clear indication of tears and breaks.</li> <li>• Good alternative for those with <a href="#">latex allergies</a>.</li> </ul> |   |
| Butyl rubber           | Extended contact                                                                            | <ul style="list-style-type: none"> <li>• Good for ketones and esters.</li> <li>• Poor for gasoline and aliphatic, aromatic, and halogenated hydrocarbons.</li> </ul>                                                                                                      |  |
| Neoprene               | Extended contact                                                                            | <ul style="list-style-type: none"> <li>• Good for acids, bases, alcohols, fuels, peroxides, hydrocarbons, and phenols.</li> <li>• Poor for halogenated and aromatic hydrocarbons.</li> <li>• Good for most hazardous chemicals.</li> </ul>                                |  |

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|-----------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Norfoil                                 | Extended contact | <ul style="list-style-type: none"> <li>• Good for most hazardous chemicals.</li> <li>• Poor fit (Note: Dexterity can be partially regained by using a heavier weight Nitrile glove over the Norfoil/Silver Shield glove.</li> </ul>                                                                                             |    |
| Viton                                   | Extended contact | <ul style="list-style-type: none"> <li>• Good for chlorinated and aromatic solvents.</li> <li>• Good resistance to cuts and abrasions.</li> <li>• Poor for ketones.</li> <li>• Expensive.</li> </ul>                                                                                                                            |    |
| Polyvinyl chloride (PVC)                | Specific use     | <ul style="list-style-type: none"> <li>• Good for acids, bases, oils, fats, peroxides, and amines.</li> <li>• Good resistance to abrasions.</li> <li>• Poor for most organic solvents.</li> </ul>                                                                                                                               |    |
| Polyvinyl alcohol (PVA)                 | Specific use     | <ul style="list-style-type: none"> <li>• Good for aromatic and chlorinated solvents.</li> <li>• Poor for water-based solutions.</li> </ul>                                                                                                                                                                                      |   |
| Stainless steel<br>Kevlar<br>Leather    | Specific use     | <ul style="list-style-type: none"> <li>• Cut-resistant gloves.</li> <li>• Sleeves are also available to provide protection to wrists and forearms.</li> <li>• (If potential for biological or chemical contamination: wear appropriate disposable gloves on top of your cut-resistant gloves and discard after use).</li> </ul> |  |
| Cryogenic Resistant Material<br>Leather | Specific use     | <ul style="list-style-type: none"> <li>• For use with cryogenic materials.</li> <li>• Designed to prevent frostbite. Note: Never dip gloves directly into liquid nitrogen.</li> </ul>                                                                                                                                           |  |