CALTECH Environment Health & Safety - Glove Selection QUICK GUIDE

Glove Material	Intended Use	Advantages and Disadvantages	Example Photos
Latex (natural rubber)	Incidental contact	Good for biological and water-based materials. Poor for organic solvents. Hard to detect puncture holes. Can cause or trigger latex allergies.	
Nitrile	Incidental contact (disposable exam glove) Extended contact (thicker reusable glove)	Excellent general use glove. Good for solvents, oils, greases, and some acids and bases. Clear indication of tears and breaks. Good alternative for those with latex allergies.	
Butyl rubber	Extended contact	Good for ketones and esters. Poor for gasoline and aliphatic, aromatic, and halogenated hydrocarbons.	
Neoprene	Extended contact	Good for acids, bases, alcohols, fuels, peroxides, hydrocarbons, and phenols. Poor for halogenated and aromatic hydrocarbons. Good for most hazardous chemicals.	
Norfoil	Extended contact	Good for most hazardous chemicals. Poor fit (Note: Dexterity can be partially regained by using a heavier weight Nitrile glove over the Norfoil/Silver Shield glove.)	
Viton	Extended contact	Good for chlorinated and aromatic solvents. Good resistance to cuts and abrasions. Poor for ketones. Expensive.	

For further information please refer to the chemical Safety Data Sheets at https://safety.caltech.edu/root-pages/sds.

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Glove material	Intended use	Advantages and disadvantages	Example Photos
Polyvinyl chloride (PVC)	Specific use	Good for acids, bases, oils, fats, peroxides, and amines. Good resistance to abrasions Poor for most organic solvents.	
Polyvinyl alcohol (PVA)	Specific use	Good for aromatic and chlorinated solvents. Poor for water-based solutions.	
Stainless Steel **Kevlar** **Leather**	Specific use	Cut-resistant Gloves Sleeves are also available to provide protection to wrists and forearms. (If potential for biological or chemical contamination: wear appropriate disposable gloves on top of your cut-resistant gloves and discard after use).	  
Cryogenic Resistant Material **Leather**	Specific use	For use with cryogenic materials. Designed to prevent frostbite. Note: Never dip gloves directly into liquid nitrogen.	
Nomex	Specific use	For use with pyrophoric materials. Consider wearing a flame-resistant glove such as a Nomex 'flight' glove with a thin nitrile exam glove underneath.	

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