

Personal Protective Equipment (PPE) Guide – Chemical Resistance

PPE Resistance to Common Chemicals: E=Excellent, G=Good, F=Fair, P=Poor

Chemical	PPE Material			
	Natural Rubber	Neoprene	Nitrile	Vinyl
Acetaldehyde	Good	Good	Excellent	Good
Acetic acid	Excellent	Excellent	Excellent	Excellent
Acetone	Good	Good	Good	Fair
Acrylonitrile	Poor	Good	–	Fair
Ammonium hydroxide	Good	Excellent	Excellent	Excellent
Aniline	Fair	Good	Excellent	Good
Benzaldehyde	Fair	Fair	Excellent	Good
Benzene	Poor	Fair	Good	Fair
Benzyl chloride	Fair	Poor	Good	Poor
Bromine	Good	Good	–	Good
Butane	Poor	Excellent	–	Poor
Calcium hypochlorite	Poor	Good	Good	Good
Carbon disulfide	Poor	Poor	Good	Fair
Carbon tetrachloride	Poor	Fair	Good	Fair
Chlorine	Good	Good	–	Good
Chloroform	Poor	Fair	Good	Poor
Chlorosetone	Fair	Excellent	–	Poor
Chromic Acid	Poor	Fair	Fair	Excellent
Cyclohexane	Fair	Excellent	–	Poor

Dibenzylether	Fair	Good	–	Poor
Dibutylphthalate	Fair	Good	–	Poor
Diethanolamine	Fair	Excellent	–	Excellent
Diethyl ether	Fair	Good	Excellent	Poor
Dimethyl sulfoxide	–	–	–	–
Ethyl acetate	Fair	Good	Good	Fair
Ethylene dichloride	Poor	Fair	Good	Poor
Ethylene glycol	Good	Good	Excellent	Excellent
Ethylene trichloride	Poor	Poor	–	Poor
Flourine	Good	Good	–	Good
Formaldehyde	Good	Excellent	Excellent	Excellent
Formic acid	Good	Excellent	Excellent	Excellent
Glycerol	Good	Good	Excellent	Excellent
Hexammne	Poor	Excellent	–	Poor
Hydrobromic acid (40%)	Good	Excellent	–	Excellent
Hydrochloric acid (conc)	Good	Good	Good	Excellent
Hydrofluoric acid (30%)	Good	Good	Good	Excellent
Hydrogen peroxide	Good	Good	Good	Excellent
Iodine	Good	Good	–	Good
Methyl cellosolve	Fair	Excellent	–	Poor
Methyl chloride	Poor	Excellent	–	Poor
Methyl ethyl ketone	Fair	Good	Good	Poor
Methylamine	Good	Good	Excellent	Excellent
Methylene chloride	Fair	Fair	Good	Fair
Methyl ethyl ketone	Fair	Good	Good	Poor
Methylamine	Good	Good	Excellent	Excellent

Methylene chloride	Fair	Fair	Good	Fair
Monoethanolamine	Fair	Excellent	–	Excellent
Morpholine	Fair	Excellent	–	Excellent
Naphthalene	Good	Good	Excellent	Good
Nitric acid (conc)	Poor	Poor	Poor	Good
Perchloric acid	Fair	Good	Fair	Excellent
Phenol	Good	Excellent	–	Excellent
Phosphoric acid	Good	Excellent	–	Excellent
Potassium hydroxide (sat)	Good	Good	Good	Excellent
Propylene dichloride	Poor	Fair	–	Poor
Sodium hydroxide	Good	Good	Good	Excellent
Sodium hypochlorite	Good	Poor	Fair	Good
Sulfuric acid (conc)	Good	Good	Fair	Good
Toluene	Poor	Fair	Good	Fair
Tricresyl phosphale	Poor	Fair	–	Fair
Triethanolamine	Fair	Excellent	Excellent	Excellent
Triichloroethylene	Poor	Fair	Good	Fair
Trinitrotoluene	Poor	Excellent	–	Poor

(Adapted from Prudent Practices for Handling Hazardous Chemicals in Laboratories, 1981.)

Notes:

Aromatic and halogenated hydrocarbons will attack all types of natural and synthetic glove materials. Should swelling occur, the user should change to fresh gloves and allow the swollen gloves to dry and return to normal. No data on the resistance to dimethyl sulfoxide of natural rubber, neoprene, nitrile rubber, or vinyl materials are available; the manufacturer of the substance recommends the use of butyl rubber gloves.