

Natural Latex, Nitrile, Vinyl and Synthetic Chemical Resistance Chart

Chemical Name	Natural Rubber	Nitrile	Vinyl	Synthetic
Acetaldehyde	2	1	2	3
Acetic Acid	1	1	1	4
Acetic Anhydride	2	3	3	1
Acetone	2	2	3	3
Acetonitrile	3	3	3	3
Acrylic Acid	2	2	4	ND
Acrylonitrile	4	ND	3	3
Ammonium Acetate	1	1	ND	1
Ammonium Carbonate	1	1	ND	1
Ammonium Fluoride, 30 - 70%	1	1	1	ND
Ammonium Hydroxide 30 - 70%	1	1	1	1
Ammonium Hydroxide <30%	1	1	1	ND
Amyl Alcohol/Pentano	2	1	4	4
Aniline	2	3	3	4
Aqua Regia	4	4	4	4
Benzaldehyde	3	4	2	4
Benzene	4	3	3	4
Benzyl Chloride (a)	3	2	4	4
Boric Acid	2	1	ND	4
Bromine	4	ND	2	4
Bromopropionic Acid	2	3	2	ND
Butane	4	ND	4	1
Butyl Acrylate	2	2	2	ND
Butyl Cellosolve	1	1	2	ND
Butyraldehyde	4	ND	2	2
Calcium Hydroxide	1	1	2	1
Calcium Hypochlorite	4	2	2	4
Carbon Disulfide	4	2	3	4
Carbon Tetrachloride	4	2	3	4
Chlorine	2	ND	2	4
Chloroacetone	3	ND	4	1
Chlorobenzene	4	4	4	4
Chlorodibromomethane	4	4	4	4
Chloroform (a)	4	4	4	4
Chloronaphthalenes	4	4	4	4
Chromic Acid	4	3	1	4
Cisplatin	2	2	ND	ND
Citric Acid, 30 - 70%	1	1	1	1
Cyclohexane	3	ND	4	4
Cyclohexano	2	1	1	1
Cyclo hexaND	4	4	4	4
Cyclohexylamine	4	4	4	ND
Di-N-Amylamine	4	1	ND	ND
Di-N-Butylamine	4	1	ND	ND
Di-N-Butyl Phthalate	3	1	4	4
Di-N-Octyl Phthalate	3	1	ND	ND
Diacetone Alcohol	3	2	4	4
Diallylamine	4	4	ND	ND
Dibenzyl Ether	3	ND	4	4
Dibutyl Phthalate	3	ND	4	2
Dichloroacetyl Chloride	4	4	ND	ND
Diesel Fuel	4	1	ND	2
Diethanolamine	3	ND	1	1
Diethylamine	3	2	4	1
Diethyl Ether	3	1	4	4
Diethylene Glyco	1	1	ND	1
Diethylenetriamine	4	4	4	4
Diisobutyl Ketone	4	2	3	3
Diisobutylamine	4	1	4	4
Dimenthylacetamide	2	3	4	4
Dimenthyl Ether	4	2	4	4
Dimethylformamide (DMF)	4	4	4	4
Dimenthyl Sulfoxide (b)	ND	ND	ND	ND
Epichlorohydrin	3	4	4	ND
Ethanol	1	1	ND	1
Ethyl Acetate	3	2	3	4
Ethyl Ether	4	2	4	4
Ethylene Dichloride (a)	4	2	4	4

Chemical Name	Natural Rubber	Nitrile	Vinyl	Synthetic
Iodine	2	ND	2	4
Isobutyl Alcohol	4	1	3	ND
Isooctane	4	1	4	2
Isopropyl Alcohol	1	1	2	2
Isopropylamine	4	4	ND	ND
Methylamine	2	1	1	2
Methyl Cellosolve	3	ND	4	2
Methyl Chloride (a)	4	ND	4	4
Methylene Chloride (a)	3	2	3	3
Methyle Ethyl Ketone	3	2	4	4
Monoethanolamine	3	ND	1	1
Morpholine	3	ND	1	1
Naphthalene (a)	2	1	2	2
Nitric Acid (conc.)	4	4	2	2
Perchloric Acid	3	3	1	1
Phenol	2	ND	1	1
Phosphoric Acid	2	ND	1	1
Potassium Hydroxide (sat)	2	2	1	1
Propylene Dichloride	4	ND	4	4
Sodium Hydroxide	2	2	1	1
Sodium Hypochloride	2	3	2	2
Sulfuric Acid (conc.)	2	3	2	2
Toluene (a)	4	3	3	3
Trichloroethylene (a)	4	2	3	3
Tricresyl Phosphate	4	ND	3	3
Triethanolamine	3	1	1	1
Trinitrotoluene	4	ND	4	4
Jet Fuel <30% Aromatics 72-248C	4	2	ND	ND
Kerosene	4	1	3	3
Lactic Acid	1	1	1	1
Lauric Acid	2	2	3	3
Malatheion 30-70%	1	1	ND	ND
Maleic Acid	2	2	2	2
Methanol	3	3	4	4
Methyl Acetate	4	4	4	4
Methyl Ethyl Ketone	4	4	4	4
Methyl Isobutyl Ketone	4	4	4	4
Methyl Methacrylate	4	4	4	4
Methylene Chloride	4	4	4	4
N-Amyl Acetate	4	3	ND	ND
N-Butyl Acetate	4	3	ND	ND
N-Butyl Alcohol	1	1	ND	ND
N-Methyl-2 Pyrrolidone	1	4	ND	ND
N-Propyl Alcohol	1	1	ND	ND
Naptha, 15-20% Aromatics	4	1	3	3
Naptha, <3% Aromatics	4	1	3	3
Nitric Acid, <30%	1	1	2	2
Nitric Acid 30-70%	4	4	3	3
Nitrobenzene	3	3	4	4
Nitroethane	1	4	ND	ND
1-Nitropropane	2	4	4	4
2-Nitropropane	4	4	4	4
Octane	4	1	3	3
Octyl Alcohol	1	1	3	3
Oleic Acid	2	1	3	3
Oxalic Acid	1	1	1	1
Palmitic Acid	3	1	2	2
PCB (Polychlorinated Biphenyls)	4	2	ND	ND
Pentachloropheno	4	2	3	3
Pentane	4	1	4	4
Perchloric Acid	3	1	1	1
Perchloroethylene	4	2	4	4
Peroxyacetic Acid	4	4	4	4
Petroleum Ether, 80-110C	4	2	4	4
Phenol, <70%	2	2	2	2
Phosphoric Acid, >70%	2	1	2	2
Picric Acid	2	1	1	1
Potassium Hydroxide	2	1	1	1
Potassium Iodide	1	1	ND	ND

Chemical Name	Natural Rubber	Nitrile	Vinyl	Synth-etic
Ethylene Glyco	2	1	1	1
Ethylene Glycol Dimethyl Ethe	3	3	3	3
Ethylene Dichloride	4	4	4	4
Ethylene Trichloride (a)	4	ND	4	4
Flourine	2	ND	2	ND
Formaldehyde	2	1	1	3
Formic Acid	1	2	1	3
Freon 113 or TF	4	1	4	2
Freon TMC	3	3	3	3
Furfural	4	4	4	4
Gasoline 40-50% Aromatics	4	1	3	1
Gasoline Unleaded	4	2	3	2
Glutaraldehyde, <5%	2	2	ND	ND
Glycerol	1	1	1	2
Haxane	4	ND	4	1
Heptanes	4	1	ND	2
Hexamethyldisiloxane	4	2	ND	2
Hexane	4	1	4	1
Hydrazine	3	1	1	2
Hydrochloric Acid, <30%	1	2	1	3
Hydrochloric Acid, 30-70%	2	2	2	2
Hydrochloric Acid, <50%	1	1	2	3
Hydrobromic Acid (40%)	2	ND	1	4
Hydrobromic Acid (conc.)	2	2	1	4
Hydrofluoric Acid (30%)	2	2	1	4
Hydrogen Peroxide	2	2	1	4

Chemical Name	Natural Rubber	Nitrile	Vinyl	Synth-etic
Propyl Acetate	4	3	4	4
Pyridine	4	4	ND	ND
Silver Nitrate	1	2	ND	ND
Sodium Carbonate	1	1	ND	ND
Sodium Chloride	1	1	ND	ND
Sodium Floride	1	1	ND	ND
Sodium Hydroxide, 30-70%	1	1	2	2
Sodium Hypochlorite	1	1	2	2
Sodium Thiosulfate	1	1	ND	ND
Styrene	4	4	4	4
Sulfuric Acid, 30-70%	1	3	2	2
Tannic Acid	2	2	1	1
1,2,4,5-Tetrachlorobenzene	ND	1	ND	ND
1,1,1,2-Tetrachloroethane	4	3	4	4
Tetrahydrofuran	4	3	ND	ND
Toluene	4	3	3	3
Toluene-2, 4-Diisocyanate	4	4	4	4
1,2,4-Tridchlorobenzene	4	3	ND	ND
1,1,1-Trichloroethane	4	4	4	4
1,1,2-Trichloroethane	4	4	4	4
Trichloroethylene	4	4	4	4
Tricresyl Phosphate	2	2	3	3
Trihanolamine	1	1	1	1
Turpentine	4	1	4	4
Xylenes	4	3	4	4

1 = Excellent	Person(s) intending to use suggestions contained in this publication should first verify that the glove selected is suitable for the intended use and meets all appropriate safe-handling standards
2 = Good	
3 = Fair	
4 = Poor	
ND = No Data	

NOTES:

- (1) Chemical ratings are given as a performance rating to show the resistance to material deterioration by specific chemicals. The rate of permeability is not rated as a part of this table. Ratings may vary widely with the same materials depending on the formulation and blending of the manufacturer.
- (2) Should swelling occur, the user should change to fresh gloves and allow the gloves to dry and return to normal.
- (3) 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.

The information presented above is for reference only. When evaluating test results, remember that actual workplace conditions and a controlled test situation will affect performance of a glove differently. Additionally, there are many different techniques, materials and methods for making thin film gloves. Even gloves of the same basic materials may not be acceptable for chemical resistance if other materials, additives, compounds are added into the manufacturing process. This publication is subject to revision.

Individuals intending to use suggestions contained in this publication should first verify that the glove selected is suitable for the intended use and meets all appropriate safe-handling standards.

CAUTION: Natural Rubber Latex gloves may cause allergic reaction in some individuals.

PRODUCTS DESCRIBED HEREIN ARE WARRANTED TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP IN NORMAL USE AND SERVICE. NO WARRANTY OF MERCHANTABILITY, FITNESS, NOR OTHER WARRANTY, WHETHER EXPRESSED, IMPLIED, OR STATUTORY, IS MADE BY THE SELLER.

The table was taken from Prudent Practices for Handling Chemicals in Laboratories, National Research Council, National Academy Press, Washington D.C. P. 159-160 (1981)

Updated: 14-04-2003