

Appendix H - Gloves

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A. CHOOSING GLOVES

Primary Concern

The primary concern for gloves used to protect the skin from chemical contact is that they provide adequate worker safety. (This appendix only addresses chemical protective gloves and does not address protection from cuts, burns, electricity, etc.)

After ensuring that a glove provides adequate chemical protection, the gloves should be tested while performing the laboratory procedure, to ensure the glove provides enough dexterity that the work can be done. If a glove is too slippery to allow gripping the work, a different type glove can be worn over the chemical protective glove to improve dexterity.

Sometimes, workers do not want to wear effective gloves because they are not comfortable. A big factor frequently in worker comfort is that the right size glove is available. In other cases, worker comfort can be improved in some cases by wearing cotton inserts within the chemical protective glove or by purchasing gloves designed to be more comfortable.

Glove Weaknesses

Either degradation or permeation may affect gloving material.

- **Degradation**

This is when glove material breaks down due to chemical contact. Exposed gloves may get harder, softer, expand, contract, stiffen, weaken or become brittle.

- **Permeation**

This means leaking through the glove material even if the glove material is not susceptible to chemical attack. Permeation can occur even if there is no visible damage to the gloves being worn. Thicker gloves usually resist permeation better than thin gloves.

The information in Table 3, Glove Guide for Specific Chemicals, is based primarily on permeation information for thick (20 mil) gloves.

B. GLOVE MATERIALS

Different gloving materials offer different kinds of protection. The following will help you understand the various glove-related terms used.

Natural Rubber

- A naturally produced rubber (commonly called latex) that is highly elastic and flexible. This type material resists bases, acids, alcohols and diluted water solutions of most types of chemicals, especially when it is thick (18 mils or more). **Latex (natural rubber) exam gloves and thin latex gloves do not provide chemical protection.**
- The primary concern from latex gloves is that the proteins in latex can produce allergic reactions in some people (as described later in Appendix G in Section C). Latex gloves are not alike. Powder-free gloves transfer less protein to the skin and respiratory tract. Hypoallergenic gloves have lower protein levels because of additional washing after manufacture. Because of these differences, there is over a 500-fold difference in protein levels between different style gloves from different

manufacturers.

Neoprene

- A synthetic rubber developed as an oil-resistant substitute for natural rubber. Neoprene has excellent resistance to all straight-chain hydrocarbons, all aliphatic hydroxy compounds such as methyl and ethyl alcohols and ethylene glycol, animal and vegetable fats and oils, and fluorinated hydrocarbons such as Freon refrigerants.

Nitrile

- Nitrile is a synthetic rubber with chemical protection as well as superior puncture, cut, snag, and abrasion resistance. Nitrile is often available in thin and heavy gauges and offers excellent protection against alkaline solutions, saturated salt solutions and aliphatic hydrocarbons, both saturated and unsaturated. It is little affected by fatty acids found in vegetable fats and oils or by aliphatic alcohols, glycols, glycerols. Nitrile is not recommended for use in the presence of strong oxidizing agents, ketones, acetates, and a few other chemicals.

PVC

- Polyvinyl chloride (PVC) or vinyl is a plastic material that resists amines, aromatics, inorganic acids, bases, and salts but not aldehydes, ketones, halogen compounds, and petroleum products.

Viton

- A specialty fluoroelastomer which is the most chemical resistant of all rubbers. It protects against oils, fuels, and lubricants, most mineral acids, hydraulic fluids and aliphatic and aromatic hydrocarbons.

PVA

- Polyvinyl Alcohol, PVA is a plastic material that protects against aromatics, ketones and chlorinated solvents. PVA coating is water soluble. ***Do not use in water or water based solution.***

Butyl

- Butyl rubber provides superior resistance to highly corrosive acids and is excellent against ketones and esters. It should not be worn with halogenated compounds.

Plastic Film

- Special, multiple laminated layers of different type plastics make these gloves resistant and impervious to the vast majority of common chemicals. Examples are 4H and SilverShield gloves. These gloves have very poor dexterity and most workers wear latex gloves over the plastic film gloves to improve the dexterity.

C. LATEX ALLERGIC REACTIONS

Since 1988, allergies to natural rubber latex have become a serious concern to workers in frequent contact with latex derived products. For laboratory and health care personnel this chronic exposure comes from the frequent use of disposable latex gloves.

Glove related chemical sensitizers are found in both latex and synthetic gloves as residue from the glove manufacturing process. Powder, used to make the gloves easier to put on, absorbs these chemicals and unbound latex proteins. The powder works as an abrasive,

accelerating the individual's sensitivity to the chemicals/proteins it has absorbed.

Environmental Health and Safety (EH&S) Department recommends purchasing powder-free latex or synthetic gloves.

Three types of reactions are associated with latex gloves: irritation, delayed hypersensitivity reaction, and immediate hypersensitivity reaction.

Irritation

All individuals are susceptible to irritation caused by direct cell injury. The abrasive nature of powder particles may initiate or aggravate irritating symptoms.

a. Symptoms

The first symptoms are redness with associated burning or itching. It appears where the glove is tighter on knuckles, the back of the hands or on the wrists.

b. Prevention

Wear larger gloves to reduce pressure areas and increase air circulation. Use powder free gloves. After removing gloves, wash your hands with mild soap and water and keep your hands conditioned with hand lotions and creams. Water-based lotions are more compatible with latex than oil-based lotions.

c. Reactions

People who are genetically predisposed to develop sensitivity to the powders, chemicals, and/or proteins found in the latex gloves can have either a delayed or immediate hypersensitivity reaction.

Delayed Hypersensitivity Reaction

a. Symptoms

The skin in the gloved area becomes red and painful with small blisters appearing. This reaction often spreads beyond the border of the glove. The skin reaction will recur and will be more severe with every exposure to latex.

b. Prevention

An option is to use a powder free synthetic rubber with less allergic potential such as vinyl, nitrile, or neoprene gloves. You should also see your health care provider for evaluation. A prescription strength steroid cream is often required to calm the allergic reaction.

It is important to know that people with this delayed skin sensitivity reaction do not go on to develop the Immediate Hypersensitivity Reaction.

Immediate Hypersensitivity Reaction

a. Symptoms

A very small exposure to latex can trigger an extreme reaction in some sensitized individuals. These people may have the reactions simply by being in a room with someone using powdered latex gloves. The symptoms include hives, itching all over, nasal congestion, swelling of lips, eyelids, and face, shortness of breath, rapid heartbeat, abnormally low blood pressure, and shock.

b. Prevention

People with this reaction must avoid all products containing latex (balloons, condoms, dental dams, etc.). Wear a medic alert bracelet, showing an allergy to latex. Remember that the emergency responders will be wearing latex gloves.

c. First Aid

First Aid for individuals with immediate hypersensitivity reaction to latex - Carry an Epi Pen or Anakit for self-injection with epinephrine at the first sign of symptoms. Seek medical treatment immediately. These reactions can be medical emergencies.

D. GLOVE SIZES

Determine your proper size by using a tape measure to find the circumference of your hand around the palm. This measurement in inches is closest to your actual glove size. For example 7 inches is equal to a size 7 glove. Sizes may vary among styles and manufacturers. Most often gloves are sized according to men’s hands.

Table 1 Glove Sizes

	Extra Small (XS)	Small (S)	Medium (M)	Large (L)	Extra Large (XL)
Hand Size (Inches)	6-7	7-8	8-9	9-10	10-11

E. OFF-CAMPUS SOURCES FOR GLOVES

Table 2 Glove Suppliers

	Natural rubber	Neo-prene	Nitrile	PVC	Viton	PVA	Butyl	4H	Silver Shield
<i>VWR Scientific Products</i> 1-800-932-5000 www.vwrsp.com	X	X	X	X	X	X	X		
<i>Grainger</i> 1-800-472-4643 www.grainger.com		X	X	X	X	X	X	X	X
<i>Best Mfg. Company</i> 1-800-241-0323	X	X	X	X	X		X		
<i>Ansell Edmont Industrial</i> 1-800-800-0444	X	X	X	X		X			
<i>Guardian Mfg. Company</i> 1-800-243-7379		X					X		

F. GLOVE SELECTION FOR SPECIFIC CHEMICALS CHART

The following chart is to be used only as a *general* guide to the type of glove to be worn as protection against accidental splashes and spills. Each glove manufacturer uses their own formulations to produce gloves. No two-glove manufacturers produce gloves exactly alike. Manufacturers will often make several types of glove from the same material, e.g., nitrile. Each of these gloves has specific uses specified by the manufacturer.

If your gloved hands will be immersed in a chemical or they will be in contact with a chemical for more than a few minutes, then contact a manufacturer. Manufacturers can send you glove guides/charts or provide recommendations. You can also contact EH&S, 206-543-7388, for recommendations on the best glove to use.

Latex exam gloves are not intended for use with chemicals.

The following chart was compiled using the glove guides provided by the manufacturers listed in the footnotes.

Table 3 Glove Guide for Specific Chemicals

Chemical	Excellent	Very Good
Acetaldehyde ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	
Acetamide ¹	Butyl, Nitrile	
Acetic Acid, Anhydride ¹	Neoprene	Butyl
Acetic Acid, 30% ¹	Neoprene	
Acetic Acid, 50% ⁵	Nitrile, Neoprene	
Acetic Acid, 84% ⁴	Neoprene, Nitrile, Butyl, Viton	
Acetic Acid, Glacial ^{2&5}	Neoprene ² , 4H ⁵	Natural Rubber
Acetone ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	Neoprene ³
Acetonitrile ^{2,4&5}	Neoprene ² , Butyl ⁴ , 4H ⁵ , SilverShield ⁵	
Acetophenone ¹	Butyl	
Acrylic Acid ²	Natural Rubber	
Acetyl Chloride ¹	Viton	
Acetylene ¹	Butyl, PVC, Viton	
Acrylamide, 50% ⁴	Butyl, Viton, Neoprene, Nitrile	
Acrylonitrile ⁴	Butyl	Neoprene
Adipic Acid ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Alkazene ¹		Viton
Allyl Alcohol ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Alum-NH3-Cr-K ¹	Butyl, Nitrile, Neoprene	
Aluminum Acetate ¹	Viton, Butyl, PVC	
Aluminum Chloride ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Aluminum Fluoride ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Aluminum Hydroxide ¹	Viton, Nitrile, Neoprene	PVC, Butyl

Chemical	Excellent	Very Good
Aluminum Nitrate	Viton, Butyl, Nitrile, Neoprene, PVC	
Aluminum Phosphate	Viton, Butyl, Nitrile, Neoprene, PVC	
Aluminum Sulfate	Viton, Butyl, Nitrile, Neoprene, PVC	
Ammonia, Anhydrous ⁴	Butyl, Viton, Nitrile	Neoprene
Ammonia ³	Butyl, Neoprene	
Ammonium Carbonate	Viton, Butyl, Neoprene, PVC	
Ammonium Chloride	Viton, Butyl, Nitrile, Neoprene	PVC
Ammonium Fluoride, 40% ²	Nitrile, Neoprene, PVC, Natural Rubber	
Ammonium Hydroxide, Conc. ²	Nitrile, Neoprene, PVC, Natural Rubber	
Ammonium Hydroxide ³	Butyl, Neoprene	
Ammonium Hydroxide, 29% ^{4&5}	Neoprene ⁴ , Butyl ⁴ , Viton ⁴ , 4H ⁵	
Ammonium Nitrate	Viton, Butyl, Nitrile, PVC	Neoprene
Ammonium Persulfate	Viton, Butyl, Neoprene, PVC	
Ammonium Phosphate	Viton, Butyl, Nitrile, Neoprene, PVC	
Ammonium Salts	Viton, Butyl, Nitrile, Neoprene, PVC	
Ammonium Sulfate	Viton, Butyl, Nitrile, Neoprene, PVC	
Amyl Acetate ²	Nitrile ²	
Amyl Alcohol ⁴	Butyl, Nitrile, Neoprene, Natural Rubber	
Amyl Borate	Viton, Nitrile, Neoprene	
Amyl Chloronaphthalene	Viton	
Aniline ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	Neoprene ³
Aniline Dyes		Viton, Butyl, Neoprene
Aniline Hydrochloride	PVC	Viton, Butyl, Nitrile
Ansul Ether		Butyl
Aqua Regia ⁴	Natural Rubber, Butyl, Viton, Neoprene, Nitrile	
Arochlor(s)	Viton	
Arsenic Acid	Viton, Butyl, Nitrile, Neoprene, PVC	
Arsenic Trichloride	Viton, Nitrile, Neoprene	PVC
Askarel	Viton	PVC, Nitrile
Asphalt	Viton	PVC, Nitrile
Barium Chloride	Viton, Butyl, Nitrile, Neoprene, PVC	
Barium Hydroxide	Viton, Butyl, Nitrile, Neoprene, PVC	
Barium Sulfide	Viton, Butyl, Nitrile, Neoprene, PVC	
Battery Acid ⁴	Neoprene, Nitrile, Butyl, Viton	
Benzaldehyde ⁴	Butyl, Viton	
Benzene ^{3,4&5}	Butyl ³ , Natural Rubber ⁴ , Viton ⁴ , 4H ⁵ , SilverShield ⁵	
Benzoic Acid	Viton	PVC
Benzyl Chloride		
Benzyl Alcohol	Viton	Butyl, Neoprene
Benzyl Benzoate	Viton, PVC	Butyl
Benzyl Chloride	Viton	
Beryllium	Viton, Butyl, Nitrile, Neoprene, PVC	
Black Sulfur Liquor	Viton, PVC	Butyl, Nitrile, Neoprene
Blast Furnace Gas	Viton, PVC	

Chemical	Excellent	Very Good
Bleach Solutions ¹	Viton, Butyl, PVC	
Borax ¹	Viton, Butyl, Neoprene, PVC	Nitrile
Bordeaux Mixture ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Boric Acid ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Boron Trifluoride ¹		PVC
Bromine ¹	Viton, PVC	
Bromoform ⁴	Viton	
Bromopropionic Acid ²	Natural Rubber	
1,3-Butadiene ⁴	Viton, Nitrile	Butyl
Butane ¹	Viton, Nitrile, Neoprene	PVC
Butoxypropanol ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Butoxytriglycol ⁴	PVC, Butyl, Viton, Neoprene, Nitrile	
Butyl Acetate ^{3&5}	4H ⁵ , SilverShield ⁵	Butyl ³
Butyl Acetyl Ricinoleate ¹	Viton, Butyl, PVC	Neoprene
Butyl Alcohol, Butanol ⁴	Viton, Butyl, Neoprene, Nitrile, Natural Rubber	PVC
Butyl Amine ⁴		Natural Rubber, Butyl, Viton
Butyl Benzoate ¹	Viton	Butyl, PVC
Butyl Carbitol Solvent ⁴	Neoprene, Nitrile, PVC, Viton, Butyl	
Butyl Cellosolve ^{2&4}	Nitrile ² , Neoprene ² , PVC ⁴	
Butyl Dipropasol Solvent ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	
Butyl Ethylene	Viton, Nitrile	
Butyl Oleate ¹	Viton, PVC	Butyl
Butyl Propasol Solvent ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Butyl Stearate ¹	Viton	Viton, Butyl, Nitrile, PVC
p-tert-Butyl Toluene ^{3,4&5}	Butyl ³ , Nitrile ⁴ , PVC ⁴ , Viton ⁴ , 4H ⁵ , SilverShield ⁵	
-Butyrolactone ²	PVA, Natural Rubber	Neoprene
Butyraldehyde ¹		Butyl
Butyric Acid ¹	Viton, PVC	Butyl
Calcium Acetate ¹	Butyl, PVC	Nitrile, Neoprene
Calcium Bisulfite ¹	Viton, Nitrile, Neoprene, PVC	
Calcium Chloride ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Calcium Hydroxide ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Calcium Hypochlorite ¹	Viton, Butyl, PVC	
Calcium Nitrate ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Calcium Sulfide ¹	Viton, Butyl, Neoprene, PVC	
Carbamate ¹	Viton, PVC	Butyl, Neoprene
Carbinol ³	Butyl	
Carbitol ¹		Viton, Butyl, Nitrile, Neoprene, PVC
Carbolic Acid ⁴	Viton, Butyl	
Carbon Bisulfide ¹	Viton	
Carbon Dioxide ¹	Viton, Nitrile, PVC	Butyl, Neoprene
Carbon Disulfide ^{2,4&5}	PVA ² , Viton ⁴ , 4H ⁵ , SilverShield ⁵	

Chemical	Excellent	Very Good
Carbonic Acid ¹	Viton, Butyl, Neoprene, PVC	Nitrile
Carbon Monoxide ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Carbon Tetrachloride ^{2,4&5}	Viton ⁴ , PVA ² , Nitrile ⁴ , 4H ⁵ , SilverShield ⁵	
Caustic Soda 50% ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Cellosolve ¹		Butyl, Vinyl
Cellosolve Acetate ^{2&4}	Butyl ⁴	Natural Rubber ²
Cellosolve Solvent ²	Neoprene, Natural Rubber	
Cellulube ¹	Viton, Butyl	PVC
Chlorine (Dry) ¹	Viton	PVC
Chlorine (Wet) ³	Butyl	
Chlorine Dioxide ¹	Viton, PVC	
Chlorine Trifluoride ¹	Vinyl	
Choroacetic Acid ¹	Viton, PVC	Butyl
Chloroacetone ¹		Butyl, Neoprene
Chlorobenzene ^{2&4}	Viton ⁴ , PVA ²	
Chlorobromomethane ¹		Butyl
Chlorobutadiene ¹	Viton	
Chlorododecane ¹	Viton	
Chloroform ^{2&5}	PVA ² , 4H ⁵	
Chloromethane ³	Butyl, Neoprene	
O-Chloronaphthalene ^{2&5}	SilverShield ⁵	PVA ²
1-Chloro 1-Nitro Ethane ¹		
Chlorox Solution ¹	Viton, Neoprene	Butyl, Nitrile, PVC
Chlorosulfonic Acid ¹	Vinyl	
Chlorothene ³	Butyl, Neoprene	
Chlorothene VG ²		PVA
Chlorotoluene ¹	Viton	PVC
Chrome Plating Solutions ¹	Viton, PVC	
Chromic Acid , 50% ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Chromium Trioxide ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Citric Acid ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Citric Acid, 10% ²	Nitrile, Neoprene, PVC, Natural Rubber	
Citric Acid, 30% ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Coal Tar Products ¹	Nitrile	
Cobalt Chloride ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Copper Acetate ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Copper Chloride ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Copper Cyanide ¹	Viton, Butyl, Nitrile, Neoprene, PVC	
Copper Sulfate ¹	Viton, Nitrile, Neoprene, PVC	Butyl
Creosote ¹	Viton	Nitrile
Cresol ⁴	Neoprene, PVC, Butyl, Viton	Natural Rubber
Cresylic Acid ⁴	Neoprene, PVC, Butyl, Viton	Natural Rubber

Chemical	Excellent	Very Good
Cumene ¹	Viton	PVC
Cyclohexane ⁵	Viton, Nitrile, Neoprene, Butyl, 4H	Silver Shield
Cyclohexanol ^{4&5}	Neoprene ⁴ , Nitrile ⁴ , Natural Rubber ⁴ , PVC ⁴ , Butyl ⁴ , Viton ⁴ , 4H ⁵ , SilverShield ⁵	
Cyclohexanone ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	
P-Cymene ¹	Viton	
Decalin ¹	Viton	
Decane ¹	Viton	Nitrile, Neoprene
Denatured Alcohol ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Developing Fluids ¹	Viton, PVC, Nitrile, Neoprene	Butyl
Diacetone Alcohol ⁴	Neoprene, Natural Rubber, PVC, Butyl, Viton	
Dibenzyl Ether ¹		Butyl
Dibenzyl Sebecate ¹		Viton, Butyl
Dibutyl Amine ¹		PVC, Nitrile, neoprene
Dibutyl Phthalate ^{1,2,3&5}	PVA ² , Butyl ³ , 4H ⁵ , SilverShield ⁵	
Dibutyl Sebacate ¹		Viton, Butyl
O-Dichlorobenzene ⁴	Viton	
Dichloromethane ³	Butyl	
1,2-Dichloroethane ⁵	Viton, 4H ⁵ , SilverShield ⁵	
Dichlorotrifluoroethane		Neoprene
Diesel Oil ⁴	Viton, Nitrile, PVC, Neoprene	
Diethanolamine ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Diethylamine ³	Butyl ³	
Diethyl Ether ¹		
Diethylene Glycol ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Diethylene Glycol Monobutyl Ether ⁴	Natural Rubber, PVC, Butyl, Viton, Neoprene, Nitrile	
Diethylene Glycol Monoethyl Ether ⁴	Natural Rubber, PVC, Butyl, Viton, Neoprene, Nitrile	
Diethylene Glycol Monomethyl Ether ⁴	Natural Rubber, PVC, Butyl, Viton, Neoprene, Nitrile	
Diethylene Glycol Monopropyl Ether ⁴	Natural Rubber, PVC, Butyl, Viton, Neoprene, Nitrile	
Diethylene Oxide ⁴	Butyl	
Diethyl Sebacate ¹		Viton, Butyl
Diisobutylene ¹	Viton	Nitrile
Di-Isobutyl Ketone, DIBK ⁵	Silver Shield, Butyl, Nitrile, Viton, 4H	
Diisopropyl Benzene ¹	Viton	
Diisopropyl Ketone ¹	Butyl	
n,n-Dimethyl Acetamide, DMAC ²		Natural, Rubber
Dimethyl Aniline ¹		
Dimethyl Formamide, DMF ^{2,3&5}	Butyl ³ , Nitrile ³ , 4H ⁵ , SilverShield ⁵	Natural Rubber ²
Dimethyl Phthalate ¹		Viton, Butyl, PVC
Dimethyl Mercury	Silver Shield or 4H worn under long-cuffed, unsupported neoprene, nitrile or other heavy duty	

Chemical	Excellent	Very Good
	gloves ⁶	
Dimethyl Sulfoxide, DMSO ²	Nitrile, Neoprene, Natural Rubber	
2,6-Dimethyl-4-Heptanone ⁴	Nitrile, Neoprene, Natural Rubber, PVC, Butyl, Viton	
2,4-Dinitrotoluene, 40% in ROH ⁴	Butyl	Natural Rubber, Neoprene
Diocetyl Phthalate, DOP ^{1&2}		Viton ¹ , Butyl ¹ , PVA ²
Diocetyl Sebacate ¹		Viton, Butyl
1,4-Dioxane ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	
Dipropasol Glycol Monobutyl Ether ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Dipropylene Glycol Monopropyl Ether ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Divinyl Benzene ^{3,4&5}	Butyl ³ , Viton ⁴ , SilverShield ⁵	
Dowtherm Oil ¹	Viton	
Electroless Copper (MacDermid 9048) ²	Nitrile, Neoprene, PVC, Natural Rubber	
Electroless Nickel MacDermid J60/61) ²	Nitrile, Neoprene, PVC, Natural Rubber	
Epichlorohydrin ^{1 &2}	PVA ²	Butyl ¹
Ethanal ³	Butyl	
Ethane ¹	Viton, Nitrile	Neoprene, PVC
Ethanol ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	PVC
Ethanolamine ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Ethanamine ³	Butyl	
2-Ethoxyethanol ⁴	Butyl, Viton	
Ethoxytriglycol ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Ethylamine, 70% in water ⁵	Silver Shield, Butyl	
Ethylene ¹	Viton, Nitrile, PVC	Butyl
Ethylene Chloride ¹	Viton	
Ethylene Chlorohydrin ¹	Viton	Butyl, Neoprene
Ethylene Diamine ¹	Butyl, Nitrile, Neoprene	PVC
Ethylene Dichloride ^{1&2}	Viton ¹ , PVA ²	
Ethylene Glycol ²	PVC, Nitrile, Neoprene, Natural Rubber	
Ethylene Glycol Ether ⁴	Butyl	
Ethylene Glycol Monobutyl Ether	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Ethylene Glycol Monhexyl Ether	Neoprene, Nitrile, PVC, Butyl, Viton, Natural Rubber	
Ethylene Glycol Monopropyl Ether	Viton, Neoprene, Nitrile	Butyl
Ethylene Oxide ³	Butyl, Neoprene	
Ethylene Trichloride ¹	Viton	
n-Ethylethaneamine ³	Butyl, Neoprene	
Ethyl Acetate ^{3&5}	Butyl ³ , Neoprene ³ , 4H ⁵ , SilverShield ⁵	
Ethyl Acetoacetate ¹	PVC	Butyl
Ethyl Acrylate ¹		Butyl
Ethyl Alcohol ^{1,2&5}	Viton ¹ , Butyl ¹ , Nitrile ² , Neoprene ² , 4H ⁵	PVC ¹

Chemical	Excellent	Very Good
Ethyl Aldehyde ³	Butyl	
Ethyl Benzene ³	Butyl	
Ethyl Benzoate ¹	Viton	Butyl
Ethyl Bromide ¹		Nitrile
Ethyl Butanol ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Ethyl Chloride ¹	Viton, Butyl, Nitrile	Neoprene
Ethyl Ether ^{2&5}	Nitrile ² , SilverShield ⁵	
Ethyl Formate ¹	Viton	Butyl, Neoprene, PVC
Ethyl Glycol Ether ²	Neoprene	Natural Rubber
Ethyl Mercaptan ¹	Viton	PVC
Ethyl Oxalate ¹	Viton, Butyl	PVC
Ethyl Silicate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Fatty Acids	Viton, PVC	Nitrile, Neoprene
Ferric Chloride	Viton, Butyl, PVC, Nitrile, Neoprene	
Ferric Nitrate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Ferric Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Fluohydric Acid ³	Butyl	
Fluoroboric Acid ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Fluorine (Liquid) ¹		Viton
Fluorocarbon Oils ¹	Butyl, Nitrile, PVC	Viton, Neoprene
Fluorolube ¹	Butyl, PVC, Nitrile, Neoprene	Viton
Fluorosilicic Acid ¹	Nitrile, Neoprene	Viton, Butyl
Formaldehyde, 37% ^{2&5}	Viton ⁵ , Butyl ⁵ , PVC ⁵ , Nitrile ² , 4H ⁵	Silver Shield ⁵
Formic Acid 90% ²	Neoprene, PVC, Natural Rubber	
Freon 11 ¹	Viton	Nitrile
Freon 12 ¹	PVC, Nitrile, Neoprene	Viton, Butyl
Freon 13 ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Freon 21 ¹	Nitrile	
Freon 22 ¹	Butyl, PVC, Neoprene	
Freon 31 ¹	Butyl, Neoprene	
Freon 32 ¹	Butyl, Nitrile, Neoprene	
Freon 112 ¹	Viton	Nitrile
Freon 113 ⁴	Butyl, Nitrile, Neoprene	
Freon 114 ¹	Butyl, Nitrile, Neoprene	Viton, PVC
Freon 115 ¹	Butyl, Nitrile, Neoprene	Viton, PVC
Freon 142B ¹	Butyl, Nitrile, Neoprene	
Freon 152A ¹	Butyl, Nitrile, Neoprene	
Freon 218 ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Freon C316 ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Freon C318 ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Freon 114B2 ¹		Viton, Nitrile, neoprene
Freon 502 ¹	Butyl, Neoprene	Viton, Nitrile
Freon TA ¹	Butyl, Nitrile, Neoprene	Viton, PVC

Chemical	Excellent	Very Good
Freon TC ¹	Butyl, Nitrile, Neoprene	Viton, PVC
Freon TF ^{1&2}	Viton ¹ , Nitrile ² , Neoprene ²	
Freon TMC ¹	Viton	Butyl, Nitrile, Neoprene
Freon T-P35 ¹	Viton, Butyl, Nitrile, Neoprene	PVC
Freon T-WD602 ¹	Viton, Butyl	PVC, Nitrile, Neoprene
Freon BF ¹		Nitrile, Neoprene
Freon MF ¹	Nitrile	
Fuel Oil ¹	Viton, Nitrile	PVC, Neoprene
Fumaric Acid ¹	Viton, PVC, Nitrile	Neoprene
Furan ¹	PVC	
Furfural ⁴	Natural Rubber, Butyl	Neoprene
Gallic Acid ¹	Viton	Butyl, PVC, Nitrile, Neoprene
Gasoline, Unleaded ⁴	Viton, Nitrile	
Gasoline (White) ²	Nitrile	
Glucose ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Glutaraldehyde, 50% ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	PVC
Glycerine ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Glycols ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Glyphosate Roundup(TM)	Butyl, Viton, Nitrile	
Green Sulfate Liquor ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Halowax Oil ¹	Viton, PVC	
Heptane ⁴	Neoprene, Nitrile, Viton	
N-Hexaldehyde ¹	Neoprene	Butyl
Hexamethyldisilazane ²	Nitrile, Neoprene	
n-Hexane ⁵	Viton, Silver Shield, 4H, PVA, Nitrile	
n-Hexene ⁴	Viton, Nitrile	
Hexyl Carbitol Solvent ⁴	Neoprene, Nitrile, Natural rubber, PVC, Butyl, Viton	
Hexyl Cellosolve Solvent ⁴	Neoprene, Nitrile, Natural rubber, PVC, Butyl, Viton	
Hexyl Alcohol ¹	Viton, Nitrile	PVC, Neoprene
Hexylene Glycol ¹	Viton, Butyl	PVC, Nitrile, Neoprene
Hydraulic Oil ¹	Viton, Nitrile	Neoprene
Hydrazine Hydrate, 85% ⁴	Neoprene, Nitrile, Natural rubber, PVC, Butyl, Viton	
Hydrazine, 70% ⁵	Silver Shield, 4H, Butyl, Neoprene, PVC, Nitrile	
Hydrazine 65% ²	Nitrile, Neoprene, PVC, Natural Rubber	
Hydrobromic Acid ¹	Viton, Butyl, PVC	Neoprene
Hydrochloric Acid, Conc. ²	Nitrile, Neoprene, PVC, Natural Rubber	
Hydrochloric Acid, 10% ⁴	Nitrile, Neoprene, PVC, Natural Rubber, Viton, Butyl	
Hydrochloric Acid 37% ^{2&5}	Viton ² , PVC ² , Butyl ² , 4H ⁵ , SilverShield ⁵	Nitrile ² , Neoprene ²

Chemical	Excellent	Very Good
Hydrocyanic Acid ¹	Viton, Butyl	PVC, Nitrile, Neoprene
Hydrofluoric Acid, 48% ^{4&5}	Butyl ⁴ , Neoprene ⁴ , 4H ⁵ , SilverShield ⁵	Nitrile ⁴ , Viton ⁴ , PVC ⁴
Hydrogen Chloride (gas) ³	Butyl, Neoprene	
Hydrogen Fluoride ⁴	Butyl	Neoprene, Natural Rubber
Hydrogen Peroxide (90%) ¹	PVC	Viton
Hydrogen Peroxide (30%) ²	Nitrile, PVC, Natural Rubber	
Hydrogen Sulfide ¹	Butyl, PVC, Neoprene	
Hydroquinone ²	Nitrile, Neoprene, PVC	
Hydroquinone, Saturated	Nitrile, Neoprene, PVC	
Iodine ¹	Viton, PVC	Butyl, Nitrile
Iodomethane ⁴	Viton,	
Isoamyl Acetate ⁴		Nitrile
Isoamyl Alcohol ⁴	Natural Rubber, Butyl, Viton, Neoprene, Nitrile	PVC
Isobutyl Alcohol, Isobutanol ⁴	Viton, Butyl, Neoprene, Nitrile, Natural Rubber	PVC
Isooctane ²	Neoprene, Nitrile, PVA	
Isophorone ¹	Butyl	
Isopropyl Acetate ¹		Butyl
Isopropyl Alcohol, Isopropanol ⁴	Nitrile, Neoprene, Butyl, Viton, Natural Rubber	
Isopropyl Chloride ¹	Viton, PVC	
Isopropyl Ether ¹	PVC	Nitrile
JP3 ¹	Viton, Nitrile	
JP4 ¹	Viton, Nitrile	
Kerosene ^{2&4}	Nitrile ⁴ , Neoprene ⁴ , PVC ⁴ , Viton ⁴	PVA ²
Lactic Acid ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Lauric Acid, 36%/ EtOH ²	Nitrile, Neoprene, Natural Rubber	
Lead Acetate ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Lead Nitrate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Lead Sulfamate ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Lime Bleach ¹	Viton, Butyl, PVC, Nitrile	Neoprene
Lime Sulfur ¹	Viton, Butyl, PVC, Neoprene	
dl-Limonene ⁴	Nitrile, Viton	Neoprene, PVC
Lindol ¹	Butyl	Viton
Linoleic Acid ¹	PVC	Viton, Nitrile
Linseed Oil ¹	Viton, Nitrile	PVC, Neoprene
Liquified Petroleum Gas ¹	Viton, PVC, Nitrile	Neoprene
Lubricating Oils ¹	Viton, Nitrile	PVC, Neoprene
Lye ¹	Butyl, PVC	Viton, Nitrile, Neoprene
Magnesium Chloride ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Magnesium Hydroxide ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Magnesium Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Malathion ¹		PVC, Nitrile, Neoprene

Chemical	Excellent	Very Good
Maleic Acid ¹	Nitrile, Neoprene, Natural Rubber	
Maleic Anhydride ¹	Viton, PVC	
Mercuric Chloride ¹	Viton, Butyl, Nitrile, Neoprene	
Mercury ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Mesityl Oxide ¹		Butyl
Methane ¹	Viton, PVC, Nitrile	Neoprene
Methoxytriglycol ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Methyl Acetate ²	Neoprene	Nitrile, Natural Rubber
Methyl Alcohol, Methanol ^{1&3}	Butyl ³ , PVC ¹ , Nitrile ¹ , Neoprene ³	
Methylamine ²	PVC, Natural Rubber, Nitrile	
Methyl Acrylate ¹		Butyl, Neoprene
Methylacrylic Acid ¹		Viton, Butyl, PVC, Neoprene
Methyl Bromide ^{1&2}	Viton ¹	PVA ² , Nitrile ¹
Methyl Butyl Ketone ¹	Butyl	
Methyl Carbitol Solvent ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Methyl Cellosolve ⁴	Neoprene, Natural Rubber, PVC, Butyl, Viton	
Methyl Chloride ^{2&4}	Viton ⁴ , Neoprene ⁴ , Nitrile ⁴ , PVC ⁴ , Butyl ⁴	PVA ² , Natural Rubber ⁴
Methylchloroform ³	Butyl, Neoprene	
Methylene Chloride ⁵	Silver Shield, 4H, PVA	
Methyl Ethyl Ketone, MEK ^{3&5}	Butyl ³ , Silver Shield ⁵ , 4H ⁵	
Methyl Formate ¹		Butyl, PVC, Neoprene
Methyl Iodide ⁴	Viton	
Methyl Isobutyl Ketone, MIBK ³	Butyl	
Methyl Methacrylate ²		PVA
Methyl Oleate ¹	Viton, PVC	Butyl
Methyl Propasol Solvent ⁴	Natural Rubber, Butyl, Neoprene, Nitrile	
N-Methyl-2-Pyrrolidone, NMP ^{2&4}	Natural Rubber ² , Neoprene ⁴ , Butyl ⁴	
Methyl Salicylate ¹	Butyl	
Methyl t-Butyl Ether, MTBE ²	Nitrile	PVA
Mineral Oil ¹	Viton, PVC, Nitrile	Neoprene
Mineral Spirits ⁴	Neoprene, Nitrile, Viton	PVC
Mineral Spirits, Rule 66 ²	Nitrile, PVA	
Monochlorobenzene ¹	Viton	
Monoethanolamine ²	Nitrile, Neoprene, PVC, Natural Rubber	
Monomethyl Ether ¹	Butyl, Nitrile, Neoprene	Viton, PVC
Monovinyl Acetylene ¹	Viton, Butyl, Nitrile	Neoprene
Morpholine ⁵	Butyl, Neoprene, Silver shield, 4H	PVA
Muriatic Acid ²	Nitrile, Neoprene, PVC, Natural Rubber	
Naphtha VM&P ²	Nitrile, PVA	Neoprene
Naphthalene ¹	Viton	
Neville Acid ¹	Viton, PVC	Butyl

Chemical	Excellent	Very Good
Nickel Acetate ¹	Butyl, PVC	Nitrile, Neoprene
Nickel Chloride ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Nickel Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Nitric Acid, 10% ²	Nitrile, Neoprene	PVC, Natural Rubber
Nitric Acid, 23% ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Nitric Acid, 70% ²		Neoprene
Nitric Acid, conc. ³	Butyl	
Nitric Acid-Dilute ¹	Viton, Neoprene	Butyl, PVC
Nitrobenzene ^{2,3&5}	Butyl ³ , Neoprene ³ , 4H ⁵ , SilverShield ⁵	PVA ²
Nitroethane ¹		Butyl
Nitromethane ²	Neoprene,	PVA
2-Nitropropane ^{2,3&5}	PVA ² , Butyl ³ , 4H ⁵ , SilverShield ⁵	Neoprene ²
Octadecane ¹	Viton, Nitrile	Neoprene
N-Octane ¹	Viton, Nitrile	Neoprene
Octachlorotoluene ¹	Viton	
Octyl Alcohol, n-Octanol ^{2&4}	Nitrile ² , Neoprene ² , Natural Rubber ⁴ , PVC ⁴ , Butyl ⁴ , Viton ⁴	PVA ²
Oleic Acid ²	Nitrile, Neoprene	PVA
Oleum Spirits ^{1&3}	Viton ¹ , PVC ¹ , Butyl ³ , Neoprene ³	Nitrile ¹
Oxalic Acid ²	PVC, Nitrile, Neoprene, Natural Rubber	
Palmitic Acid ²	Neoprene	PVC
PCBs 50% (Aroclor 1254/TCB) ⁴	Nitrile, Butyl, Viton	PVC
Pentachlorophenol ³	Neoprene	
n-Pentane ⁵	Viton, Silver Shield, 4H, Nitrile	
Perchloric Acid, 60% ²	Nitrile, Neoprene, PVC	
Perchloroethylene ²	PVA	Nitrile
Pentane ³	Neoprene	
Pentachlorophenol, 1% in Kerosene ⁵	Viton, Silver Shield, Neoprene, PVC, Nitrile	
Petroleum Ether ⁴	Nitrile, Viton	Neoprene
Phenol ^{2&5}	Neoprene ² , Natural Rubber ² , 4H ⁵ , SilverShield ⁵	PVC ²
Phenyl Benzene ¹	Viton	PVC
Phenyl Ethyl Ether ¹		Viton, PVC
Phorone ¹		Butyl
Phosphoric Acid, Conc. ²	Nitrile, Neoprene	PVC
Phosphoric Acid (20%) ¹	Viton, PVC	Butyl, Nitrile, Neoprene
Phosphoric Acid (45%) ¹	Viton, PVC	Butyl, Neoprene
Phosphoric Acid (85%) ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Phosphorous Trichloride ¹	Viton, Butyl, PVC	
Phthalic Acid Dibutyl Ester ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Picric Acid ¹	Viton, PVC, Neoprene	Butyl, Nitrile
Picric Acid, Sat. /EtOH ²	Nitrile, Neoprene, PVC	
Pinene ¹	Viton	PVC, Nitrile

Chemical	Excellent	Very Good
Pine Oil ¹	Viton	PVC, Nitrile
Piperidene ¹		
Polyvinyl Acetate Emulsion ¹	Viton, Butyl, PVC, Nitrile	Neoprene
Potash 45% ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Potassium Acetate ¹	Butyl, PVC	Nitrile, Neoprene
Potassium Chloride ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Potassium Cupro Cyanide ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Potassium Cyanide ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Potassium Dichromate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Potassium Hydroxide ³	Butyl, Neoprene	
Potassium Hydroxide, KOH, 45% ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton, PVC	
Potassium Hydroxide, 50% ²	Nitrile, Neoprene, PVC, Natural Rubber	
Potassium Nitrate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Potassium Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
2-Propanol ⁴	Viton, Butyl, Nitrile, Neoprene, Natural Rubber	
Propetamphos 50% in ROH ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, PVC, Viton	
Propoxy Diethylene Glycol ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, PVC, Viton	
Propoxypropanol ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	
Propyl Acetate ^{2&3}	Butyl ³ , Neoprene ³	PVA ²
N-Propyl Acetate ^{1&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	PVC
Propyl Acetone ¹	Butyl	PVC
n-Propyl Alcohol, Propanol ⁴	Viton, Butyl, Nitrile, Neoprene	PVC
Propyl Carbitol Solvent ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	
n-Propyl Cellosolve ⁴	Neoprene, Nitrile, Viton	Butyl
Propyl Cellosolve Solvent ⁴	Neoprene, Nitrile, Viton	Butyl
Propyl Dipropasol Solvent ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton, PVC	
Propyl Nitrate ¹		Butyl
Propylene ¹	Viton, PVC	
Propylene Glycol Monobutyl Ether ⁴	Neoprene, Nitrile, PVC, Butyl, Viton	Natural Rubber
Propylene Glycol Monomethyl Ether ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	
Propylene Glycol Monopropyl Ether ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	
Propylene Oxide ²		Butyl, PVA
Propyl Propasol Solvent ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton	
Pyranol ¹	Viton, Nitrile	
Pyridine ²		Butyl, PVA
Red Oil ¹	Viton, Nitrile	PVC, Neoprene
Rubber Solvent ²	Nitrile, PVA	Neoprene
Safrotin 50% in ROH ⁴	Neoprene, Nitrile, Natural Rubber, Butyl, Viton, PVC	
Sal Ammoniac ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Salicylic Acid ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Silicate Esters ¹	Viton, Neoprene	Nitrile

Chemical	Excellent	Very Good
Silicone Greases ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Silicone Oils ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Silver Nitrate ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Skydrol 500 ¹		Butyl
Skydrol 7000 ¹	Butyl	Viton
Soda Ash ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Bicarbonate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Acetate ¹	Butyl, PVC	Nitrile, Neoprene
Sodium Bisulfite ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Borate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Carbonate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Chloride ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Cyanide ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Hydroxide ³	Butyl, Neoprene	
Sodium Hydroxide, 50% ^{2&5}	Nitrile ² , Neoprene ² , Natural Rubber ² , 4H ⁵ , SilverShield ⁵	PVC ²
Sodium Hypochlorite 4-6% ⁴	Neoprene, Nitrile, Natural Rubber, PVC, Butyl, Viton	
Sodium Metaphosphate ¹	Viton, Butyl, PVC, Nitrile	Neoprene
Sodium Nitrate ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Sodium Perborate ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Sodium Peroxide ¹	Viton, Butyl, PVC	Nitrile, Neoprene
Sodium Phosphate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Silicate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Sulfide ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Sulfite ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Sodium Thiosulfate ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Stannic Chloride	Viton, PVC, Nitrile, Neoprene	
Stearic Acid ¹	Viton, PVC	Butyl, Nitrile, Neoprene
Stoddard Solvent ²	Nitrile, Neoprene, PVA	
Styrene ^{2&4}	Viton ⁴	PVA
Sulfite Liquors ¹	Viton, PVC	Butyl, Nitrile, Neoprene
Sulfur ¹	Viton, Butyl, PVC, Neoprene	
Sulfur Chloride ¹	Viton, PVC	
Sulfur Dioxide ¹	Viton, PVC	Butyl
Sulfur Hexafluoride ¹	Viton, Butyl, PVC, Neoprene	Nitrile
Sulfur Trioxide ¹	Viton, PVC	Butyl
Sulfuric Acid (20% Oleum) ¹	Viton, PVC	
Sulfuric Acid 47% (battery acid) ²	Neoprene, Natural Rubber	PVC
Sulfuric Acid, 25% ⁵	Silver Shield, 4H, Butyl, Neoprene, Nitrile	
Sulfuric Acid, Fuming ³	Butyl, Neoprene	
Sulfuric Acid, Conc ³	Butyl, Neoprene	

Chemical	Excellent	Very Good
Sulfurous Acid ¹	Viton	Butyl, PVC, Nitrile, Neoprene
Tannic Acid ²	PVC, Nitrile, Neoprene, Natural Rubber	
Tar, Bituminous ¹	Viton, PVC	Nitrile
Tartaric Acid ¹	Viton, PVC, Nitrile	Butyl, Neoprene
Terpineol ¹	Viton, PVC	Nitrile
Tertiary Butyl Alcohol ¹	Viton	Butyl, PVC, Nitrile, Neoprene
Tertiary Butyl Catechol ¹	Viton, PVC	Butyl, Neoprene
Tertiary Butyl Mercaptan ¹	Viton	PVC
Tetrabromamethane ¹	Viton	
Tetrabutyl Titanate ¹	Viton, PVC	Butyl, Nitrile, Neoprene
Tetrachloroethylene ^{2&5}	PVA ² , 4H ⁵ , SilverShield ⁵	Nitrile ²
Tetrahydrofuran, THF ³	Butyl	
Tetralin ¹	Viton	PVC
Thionyl Chloride ¹	Viton, PVC	
Titanium Tetrachloride ¹	Viton, PVC	
Toluene, Toluol ^{2,3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	PVA ²
Toluene Diisocyanate, TDI ^{3&5}	Butyl ³ , 4H ⁵ , SilverShield ⁵	
o-Toluidine ⁴	Butyl, Viton	Natural Rubber, Neoprene
Transformer Oil ¹	Viton, Nitrile	Neoprene
Transmission Fluid A ¹	Viton, Nitrile	Neoprene
Triacetin ¹	Butyl, PVC	Nitrile, Neoprene
Tributoxy Ethyl Phosphate ¹	Viton, Butyl	
Tributyl Phosphate ¹	Butyl	
Tributyl Mercaptan ¹	Viton	
Trichloroacetic Acid ¹	PVC	Butyl, Nitrile
1,2,4-Trichlorobenzene ⁴	PVC, Viton	
1,1,1-Trichloroethane ⁵	Viton, Silver Shield, 4H, PVA	
Trichloroethylene, TCE ^{2&5}	PVA ² , 4H ⁵	
Trichlorotrifluoroethane ⁴	Neoprene, Nitrile, Butyl, Viton	
Tricresyl Phosphate, TCP ²	Nitrile, Natural Rubber	PVA
Triethanolamine 85%, TEA ²	Neoprene, Nitrile, PVC	PVA, Natural Rubber
Triethyl Aluminum ¹	PVC	Viton
Triethyl Borane ¹	Viton, PVC	
Trinitrotoluene ¹		Viton, Neoprene
Trioctyl Phosphate ¹	Butyl	Viton
Triaryl Phosphate ¹	Viton, Butyl	
Tung Oil ¹	Viton, Nitrile	Neoprene
Turbine Oil ¹	Viton	Nitrile
Turpentine ²	Nitrile	PVA
Urea ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
UDMH ¹	Butyl	Nitrile, Neoprene

Chemical	Excellent	Very Good
Varnish ¹	Viton	Nitrile
Versilube ¹	Viton, Butyl, Nitrile, Neoprene	
Vinyl Acetate ¹	Viton, Nitrile, Neoprene	
Vinyl Chloride ⁵	Viton, Silver Shield, Nitrile	
Vinyl Ethylene ³	Butyl, Neoprene	
Vinyl Styrene ⁴	Viton	
Wagner 21B Fluid ¹		Butyl, Neoprene
White Pine Oil ¹	Viton	Nitrile
White Oil ¹	Viton, Nitrile	PVC, Neoprene
Xylene, Xylol ⁵	Viton, Silver Shield, 4H, PVA, Nitrile	
Zeolites ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Zinc Acetate ¹	Butyl, PVC	Nitrile, Neoprene
Zinc Chloride ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Zinc Oxide ¹	Viton, Butyl, PVC, Nitrile, Neoprene	
Zinc Sulfate ¹	Viton, Butyl, PVC, Nitrile, Neoprene	

- 1 ILC Dover, a division of ILC Industries, P. O. Box 266, Frederica, DE 19946, #302-335-3911
- 2 Ansell Edmont Industrial, 1300 Walnut Street, P.O. Box 6000, Coshocton, OH 43812, #800-800-0444
- 3 Guardian Manufacturing Company, 302 Conwell Avenue, Willard, OH 44890, #800-243-7379
- 4 Best Manufacturing Company, 4615 East 48th Street, Los Angeles, CA 90058, #213-583-9951 / 800-862-2660
- 5 Lab Safety Supply Inc, P. O. Box 1368 Janesville, WI 53547-1368, #1-800-356-0783
- 6 Chemical & Engineering News, May 12, 1997, p. 7