

## Chemical Resistance Chart - Industrial Hose

This Chemical Guide is offered as a general indication of the compatibility of the various materials used in hoses with the chemicals and fluids listed. The basis for the ratings in this guide include actual service experience, the advice of various polymer suppliers, and the considered opinion of rubber chemists.

Variables that come into play in the resistance of a compound to a chemical attack are:

1. Temperature of the Material Transmitted: Higher temperatures increase the effect of chemicals on rubber compounds. The increase varies with the polymer and the chemical. A compound quite suitable at room temperature might fail very quickly at higher temperatures.
2. Service Conditions: A rubber compound usually swells when exposed to a chemical. With a given percent of swell, a hose tube may function satisfactorily if the hose is in a static condition, but may fail quickly if the hose is subject to flexing.
3. The Grade or Blend of the Rubber Compound: Basic rubber polymers are sometimes mixed or blended together to enhance a particular property for a specific service. The reaction to a particular chemical may be somewhat different.

General Chemical Resistance to Hose Compounds:

Common Name	Composition	General Properties
Butyl	Isobutene-isoprene	Very good weathering resistance, low permeability to air. Good physical properties. Poor resistance to petroleum based fluids.
EPDM or EPT	Ethylene-propylene-dieneterpolymer	Good general purpose polymer. Excellent heat, ozone, and weather resistance. Not oil resistant.
Hypalon	Chloro-sulfonated polyethylene	Excellent ozone, weathering and acid resistance. Good abrasion and heat resistance. Can be compounded for good oil resistance.
Natural	Isoprene Rubber	Excellent physical properties, including abrasion resistance. Not oil resistant.
Neoprene	Chloroprene	Excellent weathering resistance. Flame retarding. Good oil resistance. Good physical properties.
Nitrile or Buna-N	Nitrile-Butadiene	Excellent oil resistance. Good physical properties.
Nylon	Nylon Polymer	
SBR or GRS	Styrene-Butadiene	Good physical properties, including abrasion resistance. Not oil resistant
Teflon - Fluorocarbon Resin	Polytetra-flouroethylene	Excellent chemical and solvent resistance, inert to most materials. Smooth anti-adhesive surface, easily cleaned.
UHMW	Ultra-High Molecular Weight Polyethylene	Excellent chemical resistance.
Urethane	Urethane	
Viton	Fluorocarbon rubber	Excellent high temperature resistance, particularly in air or oil. Very good chemical resistance.
XLPE	Cross Linked Polyethylene	Excellent resistance to most solvents, oil and chemicals. Do not confuse with chemical properties of standard polyethylene.

Warning! The following data is based on tests and believed to be reliable; however the tabulation should be used as a guide only, since it does not take into consideration all variables, such as elevated temperatures, fluid contamination, concentration, etc. that may be encountered in actual use. All critical applications should be tested. When in doubt, a sample of the compound should always be tested with the particular chemical it is going to handle.

Key:

E = Excellent	G = Good	C = Condition	X = Unsatisfactory	Blank = No Data
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Use the Find Text Button or **Ctrl +F** to search for a specific Chemical or Material

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
1 Undecanol	E		E	E		E			E			G	E
1,4-Dioxane	G	G	X	X	X	X	E	X	E		X	X	E
1-Amino-2-Propanol	E		C	G		G			E			X	
1-Aminobutane	X	C	C	X	X	C		X	E		X	X	
1-Aminopentane	G	X	G	G	X	C			E			X	
1-Bromo-2 Methyl Propane	X		X	X	X	X			E			G	
1-Bromo-3 Methyl Butane	X	X	X	X	X	X			E			G	
1-Bromobutane	X		X	X		X			E			G	
1-Chloro-2 Methyl Propane	X		X	X		X			E			G	
1-Chloro-3 Methyl Butane	C	X	X	X	X	X	E		E			E	
1-Decanol	C		E	C	X	E			E			G	E
1-Hendaconal													
2 (2Aminoethylamino) Ethanol	E		G	G		G							
2 (2Ethoxyethoxy) Ethanol	E	G	G	C	C	G	E	G	E		X	G	
2 (2Ethoxyethoxy) Ethyl Acetate	G	X	G	X	X	C		X	E		X	G	
2,4-Di-Sec-Pentylphenol													
2-Aminoethanol	E	G	G	G	G	G			E		C	X	
2-Chloro-1-Hydroxy-Benzene													
2-Chlorophenol	G	X	C	X	X	X	X	X	E		X	E	G
2-Chloropropane	X	X	X	X	X	X	X	X	E		X	E	E
2-Ethoxyethanol	G	G	C	C	C	G		X	E		X	C	
2-Ethoxyethyl Acetate	G	G	X	X	X	X	G	X	E		X	X	
2-Ethyl (Butyraldehyde)	G		X	X		X			E			X	E
2-Ethyl-1-Hexanol	E	E	E	E	E	E		E	E		X	E	E
2-Ethylhexanoic Acid	C		G	C		C			E				
2-Ethylhexyl Acetate	E		E	X		X			E			X	
2-Octanone	G		X	X		X			E			X	
3-Bromopropene	X		X	X	X	X			E			G	
3-Chloro-2-Methyl Propane													
3-Chloropropane	C	X	X	X	X	G		E	E			G	
4-Hydroxy-4-Methyl-2-Pentanone	E	E	C	C	C	X	G	C	E		X	X	
Acetaldehyde	E	E	C		X	X	E	X	E	G	X	X	E
Acetic Acid, Glacial	G	G	C	X	X	G	X	C	E	E	X	X	E
Acetic Acid - 10%	E	E	E			X	E	C	E	E	X	E	E
Acetic Acid - 50%	E	E	E	X	C	C	C	X	G	E	X	G	G
Acetic Anhydride	G	G	E	C	G	X	X	X	E	G	X	X	E
Acetic Oxide	G		E	X					E		G	X	E
Acetone	E	E	X	C	X	X	E	C	E	E	X	X	E
Acetone Cyanohydrin	E		C	C		X			E	G	X	X	E
Acetonitrile	E	E	G		E	C			E				
Acetophenone	G	E	X	X	X	X		X	C	X	X	X	X
Acetyl Acetone	E	E	X	X	X	X		X	E	E	X	X	E
Acetyl Chloride	X	C			X	X	X	X	E	G	X	G	G
Acetyl Oxide	E	G	X	C		X			E	E		X	E
Acetylene	E	E	C	G	E	E	E	C	E	E	G	E	E
Acetylene Dichloride	C	C	X	X	X	X			E			G	
Acetylene Tetrachloride	X	X	X	X	X	X			E			E	
Acrolein	E	E	G	G	C	C		C	E	X	X		E
Acrylic Acid													
Acrylonitrile	X	X	C	C			E	C	E	C	X		C
Adipic Acid		E		E	E	E			E		E	E	
Air, +300F	G	G	G	X	G	G		X		X	C		
Alk-Tri	X		X	X		X			E			E	E
Allyl Alcohol	E	E	E	E	E	E			E	E		G	E
Allyl Bromide	X		X	X					E	G		G	G
Allyl Chloride			X	X		G		G	E	G		G	G
Alum	E	E	E	E	E	E	G		E	E		E	E
Aluminum Acetate (AQ)	G	E		E	G	G		X	E	E	X	X	E
Aluminum Chloride (AQ)-40%	G			E	E	G	X			E			E
Aluminum Fluoride	E	E	E	E	E	E	G	E	E	E	C	E	E
Aluminum Formate	G		X	X					E	E		E	
Aluminum Hydroxide	E	E	G	E	E	E	G	G	E	E	G		
Aluminum Nitrate (AQ)	E	E	E	E	E	E		E	E	E	C	E	E
Aluminum Sulfate (AQ)	E	E	E	E	E	E	E	G	E	E	G	E	E
Alums-NH3-CR-K	E	E	E	E	E	E	C	E	E	E	G		E
Amines-Mixed	G	G	X	G		X		G			X	X	
Amino Xylene	G	C										C	
Aminobenzene							C						
Aminodimethylbenzene	G								E				
Aminoethane	G	E	C	C	X	X		C	E		X	X	
Ammonium Carbonate (AQ)	E	E	G	E	E	G	G	E	E		E	E	
Ammonium Chloride (AQ)	E	E	G	E	E	G		E	E	E	G	E	E
Amonium Hydroxide	E	E	E						E	E	X	E	E
Amonium Nitrate (AQ)	E	E	E	E	E	E	G	E	E	E	E	E	E
Amonium Phosphate, Diabasic	E	E	E	E	E	E	E	E	E	E		E	E
Amonium Sulphate (AQ)	E	E	E	E	E	E	G	G	E	E	E	E	E
Amonium Sulphite	E	E	E	E	E	E		E	E			E	E

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Amonium Thiosulphate	E	E	E	E	E	E			E			E	E
Amyl Acetate	G	E	X	X	X	X	G	X	E	E	X		E
Amyl Acetone	G		X	X					E			X	E
Amyl Alcohol	E	E	E	E	E	G	E	E	E	E	X	E	E
Amyl Amine	G		C	C		C			E				
Amyl Bromide									E			G	
Amyl Chloride	X	X	X	X	X		E	X	E	E	C	E	G
Amyl Ether			C			C			E				
Anethole	X		X	X			G		E	G		G	G
Aniline	E	G	X	X	X	X	C	C	E	E	X	C	E
Aniline Dyes	G	G	G	G	C	X	X	X	E	E	X	C	E
Aniline Oil	G	C							E		X	C	
Animal Fats	C	E	C		G	E	E	X	E	E	C	E	E
Antimony Chlorides	E	E	G		X	G			E			E	E
Aqua Regia	X	G	X	X	X	X		X	E	X	X	E	X
Argon	G	E	X	X	X	E	E	X	E	E	E	E	E
Arsenic Acid	E	E	E	G	E	E	G	E	G	E	C	E	E
Asphalt	X	X	X	X	X	X	E	X	E	X	G	E	X
ASTM Fuel A	X	X	G	X	G	E	E	X	E	G	G	E	G
ASTM Fuel B	X	X	X	X	X	X	E	X	E	G	G	E	G
ASTM Fuel C	X	X	X	X	X		E	X	E	G			G
ASTM Oil No. 1	X	X	G	X	E	E	E	X	E	E	E	E	E
ASTM Oil No. 2	X	X	X	X	G	E	E	X	E	E	G	E	E
ASTM Oil No. 3	X	X	G	X	C	E	E	X	E	E	E	E	E
ASTM Oil No. 4	X	X	X	X	X	G		X		E	X	E	E
Automatic Transmission Fluid	X	X	C	X	G	E	G	X	E	E	G	E	E
Banana Oil		G	C			X		X	E	E			E
Barium Chloride (AQ)	E	E	E	E	E	E	G	E	E	E	E	E	E
Barium Hydroxide (AQ)	E	E	E	E	E	E	G	E	E	E	E	E	E
Barium Sulfide (AQ)	E	E	E	E	E	E		G	E	E	E	E	E
Beer	E	E	E	E	G	E		E	E	E		E	E
Beet Sugar Liquors	E	E	E	E	G	E	E	E	E	E	X	E	E
Benzal Chloride	G								E	E			E
Benzaldehyde	G	E	X	X	X	X	E	X	E	E	X	X	E
Benzene	X	X	X	X	X	X	G	X	E	G	X	G	E
Benzene Carboxylic Acid	E		X		E	X			E			E	
Benzine	X	X	X	X	C	C	G	X	E		C	E	E
Benzoic Acid	X			X	E	X	E	X	E	E		E	E
Benzol		X				X	G		E	G		G	
Benzotrithloride									E	G			G
Benzyl Acetate	E		G	X					E	E		X	E
Benzyl Alcohol	G	G	G	X	X	X	C	X	E	E	X	E	E
Benzyl Chloride	X	X	X	X	X	X		X	E	E		E	E
Benzyl Ether	G	C	X	X	X	X		X	E		G	X	
BIS (2-Chloroethyl) Ether	X		X	X	X	X		X	E				
Black Sulfate Liquor	G	G	G	G	G	G	C	G	E	E	X	E	
Bleach (2-15%)	G	E	E	X	X	X	C	X	E	E	X	E	G
Borax Solution	E	E	E	G	E	G	G	G	E	E	E	E	E
Boric Acid	E	E	E	E	E	E	G	E	E	E	E	E	E
Brake Fluid (HD-557) 12 Days	G	E	G		G	C	E	E	E			X	
Brine	E	E	E	E	G	E	G		E	E		E	E
Bromacil		E											
Bromobenzene	X	X	X	X	X	X		X	E	C	X	E	C
Bromochloromethane	X	G	X	X	X	X			E			C	
Bromoethane	X	X	X	C	X	G		X	E		X	E	
Bromotoluene	X		X	X				X	E			G	C
Bugdioxane													E
Bunker Oil	X	X	X	X	X	E		X	E	E	G	E	E
Butadiene	X	X	X	X	X	X		X	E	E	X	G	E
Butane	X	X	X	X	C	E	E	X	E	E	X	E	E
Butanoic Acid		G	C						E			G	
Butanol (Butyl Alcohol)	G	G	E	E	E	E	G	E	E	E	X	E	E
Butanone	E	E	X			X	G		G	E	X		E
Butoxyethanol	E	E	X	X	X	C			E		E		
Butyl Acetate	X	X	X	X	X	X	G	X	X	E	X	X	E
Butyl Acrylate	X	X	X	X	X	X			E	G		X	G
Butyl Alcohol	G	G	E	E	E	E	G	E	E	E		E	E
Butyl Aldehyde	G	G	C		C				E	E	C	X	E
Butyl Benzyl Phthalate	E		X	X				X	E	E		C	E
Butyl Carbitol	E	E	X	X	C	X		X	E	E		C	C
Butyl Cellusolve	E	G	X	X	X	C		X	E	E		X	E
Butyl Chloride	C		X	X					E	C		E	G
Butyl Ether	X	X	X	X	X	X		X	E	E	G	X	E
Butyl Ether Acetaldehyde	G		X	X			X		E	E		X	E
Butyl Ethyl Ether	X		X	X		G			E	E			E
Butyl Oleate	G	G	X	X	X	X		X	E			E	
Butyl Phthalate	G	E	X	X				X	E			C	E



Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Butyl Stearate	X	X	X	X	X	G		X	E	E	G	E	E
Butylene	X	X	X	X	C	E	G	X	E		C	E	
Butyraldehyde	G	C		X	X	X		X		E	X	X	E
Butyric Acid	G	G	C	X	X	X		X	E	E		G	
Butyric Anhydride	C		G	C		C			E				E
Cadmium Acetate	E		E	X					E	E			E
Calcium Acetate	E		C	E	G	G		X	E	E	X	X	E
Calcium Aluminate	E		E	E		E			E			E	E
Calcium Bichromate	E		C						E				G
Calcium Bisulfide		X			C	E	G	G	E		C	E	
Calcium Chloride	E	E	E	E	E	E	E	E	E	E	E	E	E
Calcium Hydroxide	E	E	G	E	E	E	E	E	E	E	E	E	E
Calcium Hypochlorite	E	E	E	X	C	X	X	X	E	C	X	E	C
Calcium Nitrate	E	E	E	E	E	E	E	E	E	E	X	E	E
Calcium Sulfide	E	E	E	X	E	E	E	X	E	E	E	E	E
Caprylic Acid	C		G	C		C			E	E			E
Carbamide	G		E	E	G	G			E				
Carbitol	E	G	G	X	C	G	E	G	E	E	X	G	E
Carbolic Acid (Phenol)	G	X	X	X	X	X	X	X	E	E	X	E	E
Carbon Dioxide	G	G	G	G	G	E	E	G	E	E	E	G	E
Carbon Disulfide	X	X	X	X	X	X	X	X	E	E	X	X	C
Carbon Monoxide	E	E	E	C	E	E	E	G	E	E	G	E	E
Carbon Tetrachloride	X	X	X	X	X	C	X	X	E	G	X	E	E
Carbonic Acid	E	E	E	E	G	G	G	G	E		E	G	E
Castor Oil	G	G	E	E	E	E	G	E	E	E	G	E	E
Caustic Soda (See Sodium Hydroxide)	E	E			E		G		E			G	
Cellosolve Acetate	G	G	X	X	X	X	G	X	E	E	X	X	E
Celluguard	E	E	X	E	E	E	G	E	E	E	E	E	
Cetylic Acid	G	G	C	E	G	E	C		E		E	E	
China Wood Oil (Tung Oil)	X	X	E	X	E	E	G	X	E		C	E	
Chlordane	X	X	C	X	C	G	G	X			C	E	
Chlorinated Solvents	X	X	X	X	X	X	X	X	E		X	E	G
Chloro-2-Propanone	X	E	X	X	C	X		X	E		X	X	
Chloroacetic Acid	G	G	G	X	X	X	X	X	E	E	X	G	E
Chloroacetone	X	E	X	X	C	X		X	E	E	X	X	E
Chlorobenzene, Mono, Di, Tri	X	X	X	X	X	X	E	X	E	G	X	E	G
Chlorobutane	C		X	X		X			E	G	C	E	G
Chloroethyl Benzene	X	X	X	X				X	E	E	G	G	E
Chloroform	X	X	X	X	X	X	X	X	E	E	X	G	G
Chloropentane	C		X	X				X	E	E		E	E
Chlorosulfonic Acid	X	X	X	X	X	X	X	X	E	X	X	X	X
Chlorotoluene	X	X	X	X	X	X		X	E	G	X	E	G
Chlorox	G	G	G	X	G	G		X	E	G	X	E	G
Chrome Plating Solutions	X	X	X	X	X	X		X	E		X	E	
Chromic Acid	G	X	X	X	X	X	X	X	E		X	E	
Chromium Trioxide	G	X	X	X	X	X	X	X	E		X	E	
Cinnamene	X	X	X	X	X	X		X	E		C	G	
Cis-9-Octadecenoic Acid	X	C	G	X	C	E	E	X	E		G	E	E
Citric Acid	E	E	E	E	E	E	G	E	E	E	E	C	E
Coal Oil	X	X	C	X	G	E	E		E	E	C	E	E
Coal Tar	X	X	X	X	C	G		X	E	E	C	E	E
Coal Tar Naptha	X	X	X	X		X		X	E		X	E	E
Coconut Oil	G	G	C	X	C	E		X	E	E	C	E	E
Coke Oven Gas	X	X	X	X	X	X	E	X	C		X	E	E
Coolanol (Monsanto)	X	X	G	X	G	E		X			X	E	
Copper Chloride	E	E	G	G	G	E	C	E	E	E	G	E	E
Copper Cyanide	E	E	G	E	E	E	G	E	E	E	E	E	E
Copper Hydrate	E		G	C		G			E	E		C	
Copper Hydroxide	E		G	C		G		G	E			C	E
Copper Sulfate	E	E	E	G	E	E	G	G	E	E	G	E	E
Corn Oil	G	X	G	X	C	E	G	X	E	E	E	E	E
Cottonseed Oil	C	C	G	X	C	G	E	X	E	E	E	E	E
Creosote	X	X	X	X	X	G	X	X	E	E	C	E	E
Cresols	X	X	X	X	X	X	X	X	E	E	X	E	E
Cresylic Acid	X	X	X	X	X	X		X	E	E	X	G	E
Crotonaldehyde	E	E	X	X	X	X		C	E	E	X	X	E
Crude Oil		X			X	G	E	X	E	E	G	E	E
Cumene	X	X	X	X	X	X		X	E	E	X	E	E
Cupric Carbonate	E		E	C	E	E			E	E		E	E
Cupric Hydroxide	E		G	C		G			E			C	
Cupric Nitrate	E	E	E	G	E	E			E	E		E	E
Cupric Sulfate	E	E	E	G	E	E		E	E	E	X	E	E
Cutting Oil	X	X	G	X	G	E		X	E		E	E	
Cyclohexane	X	X	X	X	X	G	G	X	E	E	G	E	G
Cyclohexanol	X	X		X	G	G	G	X	E	E		E	E
Cyclohexanone	X	C	X	X	X	X	G	X	E	E	X	X	E
Cyclopentane	X	X	X	X	E	G			E	E		E	E

Chemical or Material Conveyed	BUTYL	EPDM	HYALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Cyclopentanol	X		X	X		G		X		E		G	E
Cyclopentanone	X		X	X		X			E			X	E
Cyclopentyl Alcohol	X		X	X		G		X		E		G	E
DDT in Deionized Kerosene	X	X	X	X	C	E	E	X	E		G	E	E
Decahydronaphthalene	X	X	X	X	X	X	G	X	E		X	E	
Decahydroxynaphthalene													
Decalin	X	X	X	X	X	X	G	X	E	X	X	E	E
Decyl Alcohol	X		E	X	X	E			E	E		G	E
Decyl Aldehyde	C		X	X					E	E		X	E
Decyl Butyl Phthalate	E		X	X		X			E	E		C	E
Decyl Carbinol	E		E	E		E			E			G	
Detergent, Water Solution	E	E			G	E		G	E	E	G	E	
Developing Fluid (Photo)	G	G	E	E	E	E		G	E			E	
Dextron	X	X	X	X	G	E		X			G	E	
DI(2Ethylhexyl) Adipate	E	G	X	X	X	X			E			C	
DI(2Ethylhexyl) Phthalate	G	G	X	X	X	X	E	X	E		X	G	
Diacetone Alcohol	E	E	X	X	X	X		X	E	E	X	X	C
Diacetylmethane	E	E	X	X	X	X		X	E		X	X	
Diallylphthalate													
Diammonium Phosphate	E	E	E	E	E	E		E	E			E	
Diamyl Napthalene	E		X	X					E			C	E
Diamyl Phenol	X		X	X		X		X	E			E	E
Diamylamine	E	E	C	G		G		X	E		X	X	
Diamylene	X		X	X	X	C	G		E			E	E
Dibenzyl Ether	G	C	X	X	X	X		X	E	E	G	X	E
Dibromobenzene	X		X	X					E	G		E	E
Dibromomethane	X	C	X	X	X	X			E			G	
Dibutyl Ether	X	X	X	X	X	X		X	E	E	X	X	E
Dibutyl Phthalate	C	E	X	X	X	X	E	X	E	E	X	C	E
Dibutyl Sebacate	G	G	X	X	X	X		X	E	E	X	E	E
Dibutylamine	X	X	X	X	X	X		X	E	E	X	X	
Dicalcium Phosphate	E		E	E		E			E			E	E
Dichloro Difluoro Methane	X	C	E	X	G	C	G	E	E		E	G	
Dichloro Ethylene	C	X	X		X		C		E		C	G	
Dichloroacetic Acid	C		X	G					E	E	C	X	E
Dichlorobutane	X	C	X	X	X	G		X	E	E	X	E	G
Dichloroethane	C	X	X	X	X	X	C	X	E		X	G	E
Dichloroethyl Ether	X		X	X		X		X	E				E
Dichlorohexane	X		X	X					E	E		E	E
Dichloromethane	X	C	X	X	G	X	C	X	E	E		G	E
Dichloropentane	X		X	X	X	X		X	E	E	X	E	E
Dichloropropane	X		X	X	X	X			E	E		E	E
Dichloropropene									E	E		E	E
Dichlorotoluene													
Diesel Oil	X	X	C	X	C	E	E	X	E	E	C	E	C
Diethanolamine	E	E	C	G			G	X	E	E			
Diethyl Ether	X	X	X	X	X	X	E	X	E		E	X	
Diethyl Ketone	G	E	X	X	X				E			X	E
Diethyl Oxalate	X	X	X	X	X	X			E				E
Diethyl Phthalate	E		X	X					E	E		C	E
Diethyl Sebacate	G	G	C	X	X	X		X	E		X	G	
Diethyl Sulfate	G	E	X	X	E	X		E	E		X	X	
Diethyl Triamine	E		C	G		G			E				
Diethylamine	G	G	C	G	G	C		G	E	E	C	X	C
Dichlorobenzene	X	X	X	X	X	X		X	E	E	X	E	E
Diethylene Glycol	E	E	E	E	E	E		E	E	E	X	E	C
Diethylene Oxide	X	E							E				
Diethylene Triamine	E	E	C	G				X	E	E	X		
Dihydroxy Diethyl Ether	E	E	E	E	E	E			E			E	
Dihydroxy Succinic Acid	G	G	E	E	C	G			E		E	E	
Diisobutyl Ketone	G	E	X	X	X	X		X	E	E	X	X	E
Diisobutylene	X	X	X	X	C	E		X	E		X	E	E
Diisodecyl Phthalate	E	E	X	X				X	E	E		C	E
Diisodecyl Phthalate	E	E	X	X	X	X			E			C	
Diisooctyl Adipate	E		X	X		X		X	E	E		C	E
Diisooctyl Phthalate	E	G	X	X					E	E		C	E
Diisopropanolamine	E		C	G		G			E				
Diisopropyl Ether	X	X	C	X	X	G		X	E		G	X	E
Diisopropyl Ketone	E	E	X	X	X	X		X	E		X	X	E
Dimethyl Phthalate	G	G	X	X	X	X		X	E	E	X	E	E
Dimethyl Sulfate	G		X			X			E	E		X	
Dimethyl Sulfide	C			X		X			E				
Dimethylamine	G	X	X		X	X			E	E		X	E
Dimethylaniline	X	G	X	X	X	X		X	E	G	X	X	G
Dimethylbenzene	X	X	X	X	X	X	G	X	X	E	X	E	
Dimethylbutane													
Dimethylcarbinol	E	G	E	E	E	G			E	E		E	

Chemical or Material Conveyed	BUTYL	EPDM	HYALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Dimethylketone	E	E	X		X	X	E	C	E	E	X	X	
Diocetyl Adipate	E	G	X	X	X	X			E	E		C	
Diocetyl Phthalate	G	G	X	X	X	X	E	X	E	E	X	G	E
Dioxalanes	X	G	X	X	X	X		X	E	E	X	X	E
Dioxane	G	G	X	X	X	X	E	X	E	E	X	X	E
Depentene	X	X	X	X	X	G		X	E		X	E	
Dipentylamine	E	E	C	G		G		X	E		X	X	
DI-P-Mentha-1,8-Diene	X	X	X	X	X	G		X	E		X	E	
Dipropylamine	E		C	G		G			E				
Dipropylene Glycol	E		E	E		E			E			E	
Disodium Phosphate	E	E	E	E		E			E	E	E	E	E
Divinyl Benzene	X		X	X				X	E	E		E	E
Dowell Inhibitor													
Dowfax 2A1 Solvent													
Dowfax 2A1 TA													
Dowfax 6A1 Solvent													
Dowfax 6A1 TA													
Dowtherm, A and E	X	X	X	X	X	X	X	X	C	E	X	E	E
Dry Cleaning Fluids	X	X	X		X	C		X	E		X	E	
Ducgkirioebaane	X												
Duro AW 16, 31		X				E	E		E				
Duro FR-HD		X				E	E		E				
Ethylene Dibromide	X	C	X	X	X	X		X	E	G	X	G	G
Ethanoic Acid	G	E	C	X	G	C	C	G	E		X	X	
Ethanol (Grain Alcohol)	E	E	E	E	E	E	X	E	E	E	X	C	E
Ethanolamine	G	G	X	G	G	G		X	E	E	C	X	E
Ethers	X	C	X	X	X	X	E	X	E		X	X	
Ethyl Acetate	G	E	X	X	X	X	E	X	E	E	X	X	C
Ethyl Acetoacetate	G	G	X	C	X	X		C	E	E		X	E
Ethyl Acetone	G	G	X	X	X	X		X	E			X	
Ethyl Acrylate	G	G	X	X	X	X		X	E	E	X	X	G
Ethyl Alcohol	E	E	E	E	E	E	X	E	E	E	X	E	E
Ethyl Aldehyde	G	E	C	X	X	X			E	E	C	X	E
Ethyl Aluminum Dichloride	X		X	X		X			E			G	G
Ethyl Benzene	X	X	X	X	X	X		X	E	E	X	E	E
Ethyl Bromide	X	X	X	C	X	G		X	E		X	E	
Ethyl Butanol	E		E	E		E			E	E		G	E
Ethyl Butyl Acetate	E		G	X		X			E	E		X	E
Ethyl Butyl Ketone	G		X	X		X			E	E		X	E
Ethyl Cellulose	G	G	G	G	G	G	C	G	E	E	G	X	E
Ethyl Chloride	E	E	C	C	X	E	E	G	E	G	C	E	G
Ethyl Dichloride	C	C	X	X	X	X		X	E	E	X	G	G
Ethyl Diisobutylthio-Carbamate				E				E		E			E
Ethyl Ether	X	X	X	X	X	X	E	X	E	E	C	X	E
Ethyl Formate	G	G	G	X	G	X		X	E	E		E	E
Ethyl Iodide	C	C	X	X	X	X			E	G		G	E
Ethyl Oxalate	X	C	X	C	X	X		X	E	E	E	E	E
Ethyl Phthalate	E		X	X		X			E	E			
Ethyl Silicate	E	E	G	G	E	E		G	E	E	X	E	E
Ethylamine	G	E	C	C	X	X		C	E	E	X	X	
Ethylene Chlorohydrin	G	G	C	C	G	X			E	E		E	E
Ethylene Diamine	E	E	G	G	E	G		G	E	G	X	X	E
Ethylene Dichloride	C	X	C	X	X	X	C	X	E	G	X	G	G
Ethylene G. Monoethyl E Acetate	E	E	X	C	X	C			E		X	E	
Ethylene G. Monobutyl Ether	E	E	C	X	C	C		X	E		X	X	E
Ethylene G. Monohexyl Ether													E
Ethylene G. Monomethyl Ether	E	G	G	X	E	C			E			X	E
Ethylene Glycol	E	E	E	E	E	E	E	E	E	E	G	E	C
Ethylene Oxide	X	C	X	X	X	X	G	X	E		X	X	
Fatty Acids	X	X	C	X	G	E	E	X	E	E	C	E	E
Ferric Bromide	E		E	E		E			E	E		E	
Ferric Chloride	E	E	E	E	E	E	C	E	E	E	E	E	E
Ferric Nitrate	E	E	E	E	E	E	E	E	E	E	E	E	E
Ferric Sulfate	E	E	E	E	E	E	E	E	E	E	G	E	E
Ferrous Acetate	E		E	X		X			E			X	E
Ferrous Chloride	G	E	G	E	G	E	E		E	E	G	E	E
Ferrous Sulfate	E	E	E	E	E	E	E	E	E	E	E	E	
Fluoboric Acid	G	E	E	E	E	E		E	E	C	X	E	C
Fluorine	X	E	X	X	X	X	X		G	X	X	E	X
Fluosilicic Acid	E	E	E	E	E	E		G	E	C		C	G
Formaldehyde	E	E	G		G	C	E	C	E	E	X	E	E
Formalin	E	E	G		G	C	E	C	E		X	E	E
Formic Acid	E	E	E	C	E	C	X	E	E	E	X	X	C
Freon 113	X	X	E	X	E	E	X	G	E		G	G	
Freon 12	C	C	E	C	E	E	G	E	E		E	G	
Freon 22	X	E	E	C	E	X	G	E	E		X	C	
Freon 502	E	E		E	E	G	E	E				G	



Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Fuel A (ASTM)	X	X	G	X	G	E	E	X	E	G	G	E	G
Fuel B (ASTM)	X	X	X	X	X	X	E	X	E	G	G	E	G
Fuel Oil	X	X	C	X	G	E	G	X	E	E	C	E	E
Furaldehyde	E	G	C	X	C	X	C	X	E		X	X	
Furan	X	X	X	X	X	X		X	E		X	C	
Furfural	E	G	C	X	C	X	C	X	E	E	X	X	E
Furfuran	X	X	X	X	X	X		X	E		X	C	
Furfuryl Alcohol	G	G	X	X	X	X	G	X	E	E	X	C	E
Gallic Acid	G	G	G	E	G	G	G	G	E	E	X	E	C
Gallotannic Acid	G	E	E	E	E	E			E		E	E	
Gas, 100 Octane	X	X	X	X	C	E	G	X	E	C	C	E	
Gas, Coal		E			E	X	E				G	E	
Gasoline	X	X	X	X	X	E	G	X	E	G	C	G	G
Glacial Acrylic Acid													E
Gluconic Acid	C		G	X		C			E	E			
Glucose	E	E	E	E	G	E	G	E	E	E	C	E	E
Glycerine	E	E	E	E	E	E	G	E	E		C	E	C
Glycerol	E	E	E	E	E	E	G	E	E		C	E	
Glycogenic Acid	C		G	X		C			E				
Gycols	E	E	E	E	E	E	G	E	E	E	X	E	E
Glyconic Acid	C		G	X		C			E	E			
Glycyl Alcohol	E	E	E	E	E	E	G	E	E		C	E	
Grease Petroleum Base	X	X	X	X	C	E	E	X	E	E	E	E	G
Green Sulfate Liquor	E	E	G	G	G	G	X	G	E	E	E	E	E
Halon 1211					E	E							
Helium	E	E	E	E	E	E	E	E	E		E	E	
Heptaldehyde	X		X	X		E			E			X	
Heptanal	X		X	X		E			E	E		X	E
Heptane	X	X	G	X	G	E	E	X	E	E	G	E	G
Heptane Carboxylic Acid	C		G	X		C			E				
Heptanoic Acid													
Heptanone													
Hexadecanoic Acid	G	G	C	E	G	E	C		E		E	E	
Hexaldehyde	G	E	C	X	E	X		X	E	E	G	X	E
Hexane	X	X	E	X	E	E	E	X	E	G	G	E	G
Hexanol	C	G	G	E	G	E		E	E	E	X	E	E
Hexene	X	X	G	X	G	G		X	E		G	E	E
Hexyl Alcohol	C	G	G	E	G	G		E	E	E	X	G	E
Hexyl Methyl Ketone	G		X	X		X		X		E		X	E
Hexylamine	G		C	C		C				E		X	
Hexylene Glycol	E	C	E	E	E	E				E		E	
Histowax													
Hydraulic Oil, Petroleum		X	G	X	G	E	E	E	E			E	E
Hydrazine	E	E	G	X	G	G	X	G	E			E	
Hydrobromic Acid	E	E	E	E	X	X	X	X	E	G	X	E	C
Hydrochloric Acid	E	C	C	C	C	C	C	X	E	E	C	G	E
Hydrocyanic Acid	G	E	E	G	G	G	X	G	E	E	X	E	
Hydrofluoric Acid	G	C	E	C	C	C	X	C	E	E	X	G	C
Hydrofluosilicic Acid	E	E	E	E	G	G	X	G	E	G	C	E	C
Hydrogen Chloride Anhydrous													
Hydrogen Dioxide (10%)	C	G	G	G	X	C			E			E	
Hydrogen Gas	E	E	E	G	E	E	E	G	E	E	E	E	E
Hydrogen Peroxide (10%)	G	G	E	G	X	C	G	C	E	G	G	E	G
Hydrogen Peroxide (Over 10%)	X	C	G	X	X	X	X	X	E	E	C	E	C
Hydrogen Sulfide (Wet)	E	E	E	X	E	C	X	X	E	E	C	C	E
Hydroxy Benzene	G	C	C	X	X	X			E		C	E	
Hydroxyisobutyronitrile													
Hydroxytoluene													
Hyvar XL		E											
Iminodi-2-Propanol													
Immodiethanol													
Iodine	G	G	G	X	X	G	E	G	E	G	X	E	C
Iodine Pentafluoride	X	X	X	X	X	X		X	E	C	X	X	C
Iodoform		X		X	X	E		X					
Isobutanal													
Isobutylamine	E		C	C		X			E			X	
Isobutylbromide	X		X	X		X			E			G	
Isobutylcarbinol	E	E	E	E	E	E			E		C	E	
Isocyanates						G	G			E	G	G	E
Isooctane	X	X	G	X	G	E	E	X	E	E	G	E	E
Isopropyl Acetate	G	G	X	X	X	X	G	X	E	E	X	X	E
Isopropyl Alcohol	E	E	E	E	G	E	E	E	E	E	X	E	E
Isopropyl Ether	X	X	C	X	X	G		X	E	E	G	X	E
Jet Fuels	X	X	X	X	X	E	C	X	E	E	C	E	E
JP-4 Oil	X	X	X	X	X	E	C	X	E		C	E	
Kerosene	X	X	X	X	C	E	E	X	E	E	G	E	E
Ketones	G	E	C	C	X	X	E	G	E	E	X	X	

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Lacquer Solvents	X	X	X	X	X	X	E	X	E	G	X	X	G
Lactic Acid - Cold	E	E	E	E	E	E	E	E	E	E	G	E	E
Lactic Acid - Hot		X	C	X	X	X	X	X	E			E	
Lard	C	G	G	X	G	E	E	X	E	G	C	E	C
Lavender Oil	X	X	X	X	X	G		X	E	G	X	E	G
Lead Acetate	E	E	C	E	G	G		X	E	E	C	E	E
Lead Nitrate	E	E	C	E	E	E		E	E			E	
Lead Sulfate	E	E	E	E	G	E	G		E	E		E	E
Lime	E	E	E	E	E	E	G		E		G	E	
Lime Bleach	E	E	G	E	G	E		E	E			E	
Lime Sulfar, Wet	E	C	G	C	E	E			E	E		E	E
Limonene	X	X	X	X	X	X			E			E	
Linoleic Acid	X	X	X	X	C	G		X	E			G	
Linseed Oil	G	C	G	X	E	E	E	X	E	E	G	E	E
Lubricating Oils	X	X	X	X	C	E	E	X	E	E	E	E	E
Lye Solutions	E	E	E	E	E	C	G	G	E		G	G	
M E X	G	E	X	X	X	X	E	X	E	E	X	X	E
Magnesium Acetate	E	E	E	X	X	X		X	E		X	X	E
Magnesium Chloride	E	E	E	E	E	E	E	E	E	E	E	E	E
Magnesium Hydrate	E	E	E	E	G	G			E	E	E	G	
Magnesium Hydroxide	E	E	E	E	E	E	E	G	E	E	C	E	E
Magnesium Sulfate	E	E	E	G	E	E	E	G	E	E	C	E	E
Magnesium Sulfite	E	E	E	G	E	E		G				E	
Maleic Acid	X	E	X	X	X	C		X	E	E	C	E	G
Maleic Anhydride	X	X	X	X	X	X		X	E			E	
Malic Acid	X	X	G	E	G	E	E	G	E	E		E	
Manganese Sulfate	G	E	E	G	E	E			E	E	E	E	E
Mapp		G			E	E		G					
Mercury	E	E	E	E	E	E	E	E	E	E	E	E	E
Mercury Vapors	E	E	E	C	C	E		E	E			E	
Mesityl Oxide	C	G	X	X	X	X		X	E	E	X	X	E
Methallyl Alcohol	E		E	E		E			E			G	E
Methallyl Chloride													
Methane Carboxylic Acid (see Acetic Acid)													
Methanoic Acid	E	E	E	C	E	C	X	E	E		X	X	
Methanol (Methyl Alcohol)	E	E	E	E	E	E	G	E	E	E	X	C	C
Methanol (Wood Alcohol)	E	E	E	E	E	E	G	E	E	E	X	C	C
Methoxy Ethanol													
Methoxyethoxy Ethanol													
Methyl 1-2,4-Pentanediol													
Methyl Acetate	G	G	C	X	C	X	E	X	E	E	X	X	E
Methyl Acetoacetate	G	G	X	X	X	X			E		X	X	E
Methyl Acetone	G	E	X	C	X	X			E	E		X	
Methyl Acetylene Propadiene		G			E	E		G					
Methyl Alcohol	E	E	E	E	E	E	G	E	E	E	X	C	E
Methyl Allyl Alcohol	E		E	E		E			E			G	
Methyl Allyl Chloride	C		X	X				X				C	G
Methyl Amyl Carinol	E		E	E		E			E			G	E
Methyl Benzene	X	X	X	X	X	X	E	X	E		X	E	E
Methyl Bromide	C	C	X	X	X	G	G	X	E	G	X	E	G
Methyl Butane	X	X	X	X	X	E			E		G	E	
Methyl Butanol	E	E	E	E	E	E	E	G	E		X	E	
Methyl Butyl Ketone	E	E	X	X	X	X		X	E	E	X	X	
Methyl Carbitol	E		E	X		C			E				E
Methyl Cellosolve	G	G	C	X	G	C		X	E	E	X	X	E
Methyl Chloride	X	X	X	X	X	X	C	X	E	E	X	E	G
Methyl Cyanide	E	E	G	G	E	C			E			X	
Methyl Ethyl Ketone	E	E	X	X	X	X	G	X	E	E	X	X	E
Methyl Hexanol	E		E	E		E			E	E		G	E
Methyl Isoamyl Ketone													
Methyl Methacrylate	C	X	X	X	X	X	C	X	E	G	X	X	G
Methyl Normal Amyl Ketone	G		X	X		X			E			X	E
Methyl Propyl Ether	X		G	X		X			E				E
Methyl Salicylate	G	C		X	X	X			E			G	
Methyl Styrene													
Methyl Sulfide	C		X	X		X			E				
Methyl Tertiary Butyl Ether	G				X	X		X	G	G		X	
Methyl-1-Propanol	E	E	E	E	E	G		E	E		X	E	
Methyl-2-Butanol	E		E	E				E				C	E
Methyl-2-Butanone	G	C	X	X	X	X	E	X	E		X	X	E
Methyl-2-Hexanone	G		X	X				X				X	E
Methyl-2-Pentanol	E	E	E	G	E	G			E			C	
Methyl-2-Pentanone	C	G	X	X	X	X	G	X	E		X	X	
Methyl-2-Propen-1-OL	E	E	E	G	E	G			E			C	
Methyl-3-Penten-1-One													
Methyl-4-Isopropyl Benzene													
Methylallyl Acetate	E		G	X		X			E			X	E





Chemical or Material Conveyed	BUTYL	EPDM	HYALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Methylamyl Alcohol	E	E	E	G	E	G			E			C	E
Methylcyclohexane	X		X	X		X			E			G	G
Methylene Bromide	X	X	X	X	X	X			E	G		C	
Methylene Chloride	X	C	X	X	X	X	C	X	E	E	X	G	G
Methylethyl Ketone	E	E	X	X	X	X	G	X	E	E	X	X	E
Methylhexyl Ketone	G		X	X		X			E			X	E
Methylisobutyl Carbinol	E	E	E	G	E	G			E			C	C
Methylisobutyl Ketone	C	G	X	X	X	X	G	X	E	E	X	X	E
Methylisopropyl Ketone	G	C	X	X	X	X	E	X	E		X	X	E
Methylacetonitrile	E		C	C		X			E		X	X	
Methylphenol	X	X	C	X	X	X			E		X	E	
Methylpropyl Carbinol	E		E	E		E			E			G	
Methylpropyl Ketone	G	G	X	X	X	X		X	E			X	E
Mil-A-6091	E	E	E	E	E	G		E			X	E	
Mil-E-9500	E	E	E	E	E	E		E			X	E	
Mil-F-16884	X	X	C	X	C	E		X			C	E	
Mil-F-17111	X	X	X	X	G	E		X			C	E	
Mil-F-25558B	X	X	G	X	G	E		X			G	E	
Mil-F-25576C	X	X	C	X	C	E		X			C	E	
Mil-F-7024A	X	X	X	X	X	E		X			G	E	
Mil-G-10924B	X	X	G	X	X	E		X			G	E	
Mil-G-25013D	X	X	G	X	G	E		X			C	E	
Mil-G-25537A	X	X	G	X	G	E		X			G	E	
Mil-G-4343B	C	C	G	C	G	G		C			E	E	
Mil-G-5572	X	X	X	X	X	E		X			G	E	
Mil-G-7711A	X	X	X	X	X	E		X			E	E	
Mil-H-13910B	G	E	G	G	G	G		E			X	E	
Mil-H-19457B	E	E	X	X	X	X		X			X	C	
Mil-H-22251	E	E	G		G	G		G				E	
Mil-H-27601A	X	X	C	X	G	G		X			C	E	
Mil-H-5606B	X	C	G	X	G	E		X			G	E	
Mil-H-6083C	X	X	G	C	G	E		X			G	E	
Mil-H-8446B	X	X	C	X	G	G		X			C	E	
Mil-J-5161F	X	X	X	X	X	G		X			C	E	
Mil-J-5624G (JP-3, JP-4, JP-5)	X	X	X	X	X	E		X			C	E	
Mil-L-15016	X	X	G	X	G	E		X			E	E	
Mil-L-17331D	X	X	G	X	G	E		X			E	E	
Mil-L-2104B	X	X	C	X	G	E		X			E	E	
Mil-L-21260	X	X	G	X	G	E		X			E	E	
Mil-L-23699A	X	X	C	X	C	G		X			C	E	
Mil-L-25681C	E	E	G	G	G	G		G			C	E	
Mil-L-3150A	X	X	G	X	G	E		X			G	E	
Mil-L-3545B	X	X	C	C	G	G		X			C	E	
Mil-L-4339C	X	X	X	X	X	E		X			X	E	
Mil-L-6082C	X	X	G	X	G	E		X			E	E	
Mil-L-6085	X	X	X	X	X	G		X			C	E	
Mil-L-7870A	X	X	X	X	G	E		X			X	E	
Mil-L-9000F	X	X	C	X	G	E		X			C	E	
Mil-L-9236B	X	X	X	X	X	G		X			X	E	
Mil-O-5606						E						E	
Mil-O-7808	X	X	X	X	X	G		X	E		X	E	
Mil-P-27402	E	E	G		G	G		G					
Mil-S-3136B Type 1 Fuel	X	X	G	X	G	E		X			G	E	
Mil-S-3136B Type 2 Fuel	X	X	X	X	X	C		X			G	E	
Mil-S-3136B Type 3 Fuel	X	X	X	X	X	C		X			G	E	
Mil-S-3136B Type 4 Oil, Low Swell	X	X	E	X	E	E		X			E	E	
Mil-S-3136B Type 5 Oil, Med Swell	X	X	G	X	G	E		X			G	E	
Mil-S-3136B Type 6 Oil, Hi Swell	X	X	X	X	X	E		X			G	E	
Mil-S-81087	E	E	E	E	E	E		E			E	E	
Mineral Oil	X	X	E	X	E	E	E	X	E	E	E	E	E
Mineral Spirits	X	X	G	X	X	E		X	E	E	G	E	E
Mobile HFA		X				E	E		E				
Molten Sulfur	G	E	E	G	E	G			E	X	G	E	X
Monobutyl Ether	X	X	X	X	C	C		X	E		X	X	E
Mono-Chloroacetic Acid	G	C	X	C	E	X	X	X	E		X	G	E
Monochlorobenzene	X	X	X	X	X	X	G	X	E	G	X	E	G
Monochlorodifluoromethane	X	E	E	C	E	X		E	E			X	C
Monoethanol Amine	G	G	C	G	G	G		G	E	E	X	X	E
Monoethyl Amine	G	E	C	C	X	X		C	E		X	X	C
Monomethyl Amine	C	E	C	C	C	G			E			C	E
Morpholine		X			X	X	X		E				
Motor Oil		X	G		G	E	G		E	E	G	E	E
MTBE	G				X	X		X	G	G		X	
Muriatic Acid	C	C	C	C	C	C	X	X	E	E	C	C	E
Na-K		X				X			X				
Naphtha	X	X	X	X	X	E	E	G	E	E	C	E	E
Naphthalene	X	X	X	X	X	X	G	X	E	E	G	E	E

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Napthenic Acids		X	X	X	X	G		X	E			E	
N-Butanal	G	G	C	X	C	X			E		C	X	
N-Butylamine	X	C	X	X	X	X		X	E		X	X	
N-Butylbenzene			X	X		X			E			E	E
N-Butylbromide	X		X	X		X			E			G	G
N-Butylbutyrate	E	E	X	X	X	X		X	E			E	G
N-Butylcarbinol	E	E	E	E	E	G	E	E	E		X	E	
Neohexane	X		X	X		E			E			E	E
Neon Gas	E	E	E	E	E	E	E	E	E		E	E	
Neu-Tri	X		X	X		X			E			E	E
Nickel Acetate	E	E	X	E	G	G		X	E	E	X	X	E
Nickel Chloride	E	E	E	E	G	E	C	E	E	E	C	E	E
Nickel Nitrate	E	E	E	E	E	E			E	E		E	E
Nickel Sulfate	E	E	E	G	E	E	C	G	E	E	C	E	E
Nietylene				E									
Nitric Acid, 10%	E	E	G	X	G	X	C	X	E	E	X	X	C
Nitric Acid, 13N	X	X	X	X	X	X	X	X	E		X		
Nitric Acid, 13N + 5%	X	X	X	X	X	X	X	X	E		X		
Nitric Acid, 20%	G	E	G	X	X	X	X	X	E	E	X	C	E
Nitric Acid, 30%	C	G	C	X	X	X	X	X	E	E	X	C	E
Nitric Acid, 30% - 70%	X	X	X	X	X	X	X	X	E	E	X	C	G
Nitric Acid, Conc (16N)	X	X	X	X	X	X	X	X	E	E	X	E	G
Nitric Acid, Red Fuming	C	X	X	X	X	X	X	X	E	X	X	C	X
Nitritotriethanol	G	E	E	G	X	C		G	E		X	X	
Nitrobenzene	G	X	X	X	X	X	C	X	E	E	X	C	E
Nitroethane	G	G	C	G	C	X		G	E	E	X	X	E
Nitrogen	E	E	E	E	E	E		E	E	E	E	E	E
Nitromethane	G	G	C	G	X	X		C	E	E	X	X	E
Nitrous Oxide Gas	E	E	E	E	G	E	C		E	E	G	E	
N-Nonyl Alcohol	E		E	E		E			E			G	
N-Octane	X	X	X	X	C	E		X	E	G	X	E	G
Nonanoic Acid	E		X	X		E			E				
Nonanol	E		E	E		E			E			G	
N-Serv (75% Xylene)							E		E			E	C
Nuto H		X				E		E					
Nyvac Light		E				X	E		E				
O-Aminotoluene													
Octanoic Acid	C		G	C		C			E				
Octanol	G	E	G	G	G	G		G	E	E	X	E	E
Octyl Acetate	E		E	X		X			E	E		X	
Octyl Alcohol	G	G	G	G	G	G		G	E	E	X	G	E
Octyl Aldehyde	C		X	X		X			E			X	E
Octyl Amine	E		C	C		C			E			X	C
Octyl Carbinol	E		E	E		E			E			G	E
Octylene Glycol	E		E	E		E			E			E	C
Oil-Petroleum	X	X	G	X	G	E	G	X	E	E	G	E	E
Oleic Acid	X	C	G	X	C	E	E	X	E	E	G	E	E
Oleum (Fuming Sulfuric Acid)	X	X	X	X	X	X	X	X	E	X	X	G	X
Olive Oil	G	G	G	X	G	E	E	X	E	G	E	E	C
Ortho-Dichlorobenzene	X	X	X	X	X	X	E	X	E		X	E	
Ortho-Dichlorobenzol	X	X	X	X	X	X	E	X	E		X	E	G
Orthoxylene	X	C	X	X	X	X	G	X	E		X	E	E
Oxalic Acid	E	E	E	C	G	G	G	G	E	E	C	E	C
Oxdiethanol													
Ozone	G	E	E	X	C	X	C	X	E	C	E	E	C
Paint Thinner	X	X	X	X	X	X	G	X	E	E	X	G	E
Palmitic Acid	G	G	C	E	G	E	C		E	E	E	E	G
Papermakers Alum	E		E	E	E	E			E	G		E	
Para Methoxypropenyl Benzene	X		X	X			G		E			G	
Para-Dichlorobenzene	X	X	X	X	X	X		X	E		X	E	G
Paraffin Wax	X	X	X	X	X	G	E		E	E	G	E	X
Paraldehyde	E	E	X	C	C	C			E			X	E
Paraxylene	X	X	X	X	X	C			E		C	E	E
PCB									E			E	
P-Cymene	X	X	X	X	X	X		X	E	E	X	E	E
Pelargonic Alcohol	E		E	E		E			E			G	E
Pentachloroethane	X		X	X	X	X			E			E	E
Pentadione													
Pentamethylene	X	X	X	X	E	G			E			E	
Pentane	X	X	C	X	C	E	G	X	E	G	C	E	G
Pentanol	E	E	E	E	E	E			E		C	G	
Pentanone	G	G	X	X	X	X			E			X	E
Pentasol	E	E	E	E	E	G		G	E		X	G	E
Pentyl Acetate	G	E	X	X	X	X	G	X	E		X		
Pentyl Alcohol	E	E	E	E	E	G	E	E	E		X	E	
Pentyl Bromide									E			G	
Pentyl Chloride	X	X	X	X	X		E	X	E		C	E	G



Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Pentyl Ether			C			C			E				
Pentylamine	G	X	C	C	X	C			E			X	
Perchloric Acid-2N	G	G	G	X	G	X	X	X	E		X	E	E
Perchloroethylene	X	X	X	X	X	C	C	X	E	G	X	E	G
Perchloromethane	X			X	X	X			E				
Petroleum Crude	X	X	G	X	G	E	G	X	E	E	E	E	E
Petroleum Ether	X	X	X	X	C	E	E	X	E		G	E	E
Petroleum Oils	X	X	G	X	G	E	G	X	E	E	G	E	E
Phenbo										E	X		
Phenol	G		X	X	X	X	X	X	E	E	X	E	E
Phenolsulfonic Acid	C		X	X		X			E	G	G	X	G
Phenylamine	E	G	X	X	X	X			E		C	E	
Phenylbromide	X	X	X	X	X	X			E		X	G	
Phenylbutane													
Phenylchloride	X	X	X	X	X	X		X	E		X	E	E
Phenylethylene	X	X	X	X	X	X		X	E		C	G	
Phenylmethane	X	X	X	X	X	X			E		X	E	
Phenylmethanol	G	G	G	X	X	X	C	X	E	E	X	E	E
Phenylmethyl Acetate	E		G	X					E	E		X	E
Phosphate Esters	E	E	X	X	X	X	E	X	E		X	C	
Phosphoric Acid 10%	G	E	E		E	E	E	G	E	E	E	E	E
Phosphoric Acid 10% - 85%	G	E	E	G	E	X	C	G	E	E	C	E	E
Phosphorus Trichloride Acid	E	E	X	X	X	X		X	E			E	
Picric Acid, H2o Solution	C	C	E	C	C	C	X	G	C		G	E	
Pine Oil	X	X	X	X	X	G		X	E	E	E	E	E
Pinene	X	X	X	X	X	G		X	E	E	G	E	E
Poly Chlorinated Biphenol									E			E	
Polyethylene Glycol E-400	E		E	E				E		E		E	
Polyol Ester					G		G				X		
Polypropylene Glycol	E		E	E		E			E			E	
Potassium Acetate	E	E	C	E	G	G	G	X	E	E	X	C	E
Potassium Bisulfate	E	E	E	E	E	E	G	G	E	E		E	E
Potassium Bisulfite	E	E	E	E	E	E	G	G	E	E	E	E	
Potassium Carbonate	E	E	E	E	E	E	C	E	E	E	C	E	E
Potassium Chloride	E	E	E	E	E	E	E	E	E	E	E	E	
Potassium Chromate	G	E	C	G	E	E	G	G	E	G	G	E	G
Potassium Cyanide	E	E	E	E	G	E	E	E	E	E	E	E	E
Potassium Dichromatae	E	E	E	C	E	E	G	G	E	G	G	E	G
Potassium Hydrate	E	G	E	C	G	G	G	G	E		G	C	E
Potassium Hydroxide	G	E	E	G	G	G	G	G	E	G	C	G	E
Potassium Nitrate	E	E	E	E	E	E	G	E	E	E	E	E	E
Potassium Permanganate 5%	E	E	E	E	E	C	X	G	E	E	X	E	
Potassium Silicate	E	E	E	E	E	E	G	E	E		E	E	E
Potassium Sulfate	E	E	E	E	E	E	E	G	E	E	E	E	E
Potassium Sulfide	E	E	E	G	E	E	E	G	E	E	E	E	
Potassium Sulfite	E	E	E	G	E	E	E	G	E		E	E	E
Prestone Antifreeze	E	E	E	E	C	E	G	E	E		X	E	
Producer Gas	X	X	G	X	G	E		X	E		E	E	
Propanediol	C	E	E	E	C	E		E	E		G	E	
Propanetriol	E	E	E	E	E	E	G	E	E		C	E	
Propanol	E	E	E	E	E	E		E	E		X	E	E
Propanolamine													
Propanone	E	E	X	C	X	X	E	C	E		X	X	
Propen-1-OL	E	E	E	E	E	E			E	E		G	E
Propenediamene													
Propenenitrile	X			G	X	X			E				
Propenyl Alcohol	E	E	E	E	E	E			E	E		G	E
Propenylanisole	X		X	X	X	X			E			G	
Propionic Acid	E	E	G	E	C	C		X	E		X	X	E
Propionitrile	E	E	E	E	G	X			E			X	
Propyl Acetate	G	E	X	X	X	X		X	E	E	X	X	E
Propyl Alcohol	E	E	E	E	E	E		E	E	E	X	E	E
Propyl Aldehyde	G		X	C		X			E	E		X	E
Propyl Benzene													
Propyl Chloride	C		X	X		X			E	E		G	E
Propyl Ether													
Propyl Nitrate	G	G	X	X	X	X		X	E		X	X	
Propylene	X	X	X	X	X	X		X	E		X	E	
Propylene Diamine	E		C	G		G			E				
Propylene Glycol	C	E	E	E	C	E		E	E	E	G	E	
Quintolubric 822 Series	X	X	X	X	X	G						G	
Red Oil	X	C	G	X	C	E	E	X	E		G	E	
Refrigerant 11	X	X	E	X	X	G		X	E		C	C	
Refrigerant 12	C	C	E	C	E	E	G	E	E		E	G	C
Refrigerant 22	X	E	E	C	E	X	G	E	E		X	C	C
Resorcinol		G			X		X	G	E		X	E	
SAE No. 10 Oil	X	X	X	X	C	E	E	X	E		E	E	

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Sal Ammoniac	E	E	E	E	E	E	C	E	E	E	G	E	
Sea Water	E	E	E	E	G	E	E	E	E	E	C	E	E
Sewage	G	E	E	G	G	E	E	G	E	E	X	E	E
Silicate Esters	C	X	G	X	E	G	G	X	E		E	E	
Silicate of Soda	E	E	E	E	E	E			E			E	E
Silicone Grease	E	E	E	E	E	E	E	E	E		E	E	
Silicone Oil	E	E	E	C	E	E	E	E	E	E	E	E	
Silver Nitrate	E	E	E	E	E	G	E	E	E	E	E	E	E
Skydrol 500 Type 2	G	E	X	X	X	X	G	X	E		X	X	
Skydrol 500B	G	E	X		X		E		E		C	X	
Skydrol; 500C	G		X		X				E			X	
Skydrol 7000 Type 2	E	E	X	X	X	X	E	X	E		X	G	
Soap Solutions	G	E	E	G	G	E	E	G	E	E	E	E	E
Soda Ash	E	E	E	E	E	E	G	E	E	E	G	E	E
Soda Lime	E	E	G	E	G	G			E	E	C	G	E
Soda Niter	E	E	E	G	G	G	E	G	E		G	E	E
Soda, Caustic	E	E	E	G	E	C	G	E	E	E	G	X	E
Sodium Acetate	E	E	C	E	G	G	G	X	E	E	X	X	E
Sodium Aluminate	E	E	E	G	E	E	G	G	E	E		E	E
Sodium Bicarbonate	E	E	E	E	E	E	E	E	E	E	E	E	E
Sodium Bisulfate	E	E	E	E	E	G	C	G	E	E	E	E	E
Sodium Bisulfite	E	E	E	E	E	E	E	G	E	E	E	E	C
Sodium Borate	E	E	E	E	E	E	E	E	E	E	G	E	E
Sodium Carbonate 10% - 15%	G	E	E	E	E	E	G	E	E	E	G	E	E
Sodium Chloride	G	E	E	E	E	E	G	E	E	E	E	E	E
Sodium Cyanide	E	E	E	E	E	E	E	E	E	E	G	E	E
Sodium Dichromate	E	C	G	X	C	E	G	G	E	E	G	C	G
Sodium Hydrate	E	E	G	E	G	G	G	G	E		C	G	E
Sodium Hydrochlorite	G	G	E	C	C	C	G	G	E		C	E	G
Sodium Hydroxide (Caustic Soda)	E	E	E	E	G	C	G	G	E	E	C	C	E
Sodium Hypochlorite	G	G	G	X	C	X	X	C	E	E	C	C	G
Sodium Metaphosphate	G	E	G	E	G	E	E	E	E	E	G	E	E
Sodium Nitrate	E	E	E	G	G	G	E	G	E	E	G	E	E
Sodium Perborate	E	E	G	G	G	G	E	G	E	E	G	E	E
Sodium Peroxide	E	E	G	E	G	G	X	G	E	E	X	E	E
Sodium Phosphate	E	E	E	E	C	E	C	E	E	E	E	E	E
Sodium Silicate	E	E	E	E	E	E	E	E	E	E	G	E	
Sodium Sulfate	E	E	E	G	E	E	E	G	E	E	E	E	E
Sodium Sulfide	E	E	E	G	E	E	E	G	E		E	E	E
Sodium Sulfite	E	E	E	G	E	E	E	G	E	E	E	E	E
Sodium Thiosulfate	E	E	E	E	E	E	G	G	E	E	E	E	E
Soybean Oil	C	X	E	X	E	E	E	X	E	E	G	E	E
Stannic Chloride	G	E	C	G	C	E	C	E	E	E	G	E	E
Stannic Sulfide	E		E	E		E			E				E
Stannous Chloride	G	C	E	E	E	E	C	E	E	E	C	E	
Stannous Sulfide	E		E	E		E			E				E
Stearic Acid	G	G	C	C	G	E	E	G	E	E	E	E	E
Stoddard Solvent	X	X	X	X	C	E	E	X	E	E	G	E	E
Styrene Monomer	X	X	X	X	X	X		X	E	G	C	G	G
Sulfamic Acid	E	X	E	G	G	C			E		X	E	C
Sulfur	C	C	C	X	X	X		X	E	E		G	X
Sulfur Chloride	X	X	C	X	C	C	C	X	E	E	C	E	E
Sulfur Dioxide	G	E	C	C	X	X	X	C	E	G		E	C
Sulfur Trioxide, Dry	G	G	C	C	X	X		X	E	X	G	E	G
Sulfuric Acid 60% (200&#9617;F)	X	X			X	X	X	X		X		C	X
Sulfuric Acid, 25%	G	E	E	G	E	E	X	G	E	E	X	E	E
Sulfuric Acid, 25% - 50%	G	E	G	G	E	E	X	G	E	E	X	E	E
Sulfuric Acid, 50% - 96%	X	G	C	X	C	C	X	X	E	E	X	E	E
Sulfuric Acid, Conc. to 98%	X	X	X	X	X	X	X	X	E	E	X	G	E
Sulfuric Acid, Fuming	X	X	X	X	X	X	X	X	E	X	X	G	X
Sulfurous Acid, 10%	E	E	E	G	G	C	C	G	E	E		E	E
Sulfurous Acid, 10% - 85%	E	G	E	G	C	C	X	C	E	E	X	G	E
Sutan									E			C	E
Tall Oil	X	X	C	X	C	E		X	E	E	E	E	C
Tallow	G	E	C	C	G	E		X	E	E	E	E	C
Tannic Acid	E	E	E	E	E	E	G	G	E	E	E	E	E
Tar, Bituminous	X	X	C	C	C	G	G	X	E		G	E	
Tar, Camphor	X	X	X	X	X	X	G	X	E	X	G	E	X
Tartaric Acid	G	C	E	E	E	E	E	G	E	E	E	E	E
T-Butylamine		G	X										
Telone 2													E
Terpinol	C	C	X	X	X	G		X	E	G	G	E	G
Tertiary Butyl Alcohol	G	G	G	G	G	G		G	E	E	X	E	E
Tertiary Butyl Amine		G	X										
Tertiary Butyl Mercaptan	X	X	X	X	X	X		X	E		X	E	
Tetrachlorobenzene	X		X	X		X			E		G	G	G

Chemical or Material Conveyed	BUTYL	EPDM	HYPALON	NATURAL	NEOPRENE	NITRILE	NYLON	SBR	TEFLON	UHMW	URETHANE	VITON	XLPE
Tetrachloroethane	X	X	X	X	X	X		X	E	C	X	E	
Tetrachloromethane	X	X	X	X	X	X			E		C	E	E
Tetrachloronaphthalene	X		X	X		X			E			G	G
Tetraethylene Glycol	E		E	E		E			E			E	
Tetraethylorthosilicate	E			X	X	X			E				
Tetrahydrofuran	G	X	X	X	X	X	G	X	E	G	X	X	X
THF	G	X	X	X	X	X	G	X	E	G	X	X	X
Tin Chlorides	G	E	E	E	C	E			E	E	G	E	E
Titanium Tetrachloride	X	X	X	X	X	C		X	E	G	X	E	
Toluene	X	X	X	X	X	X	E	X	E	E	X	E	E
Toluidine	X		X	X		X			E			G	
Toluol	X	X	X	X	X	X	E	X	E		X	E	
Transformer Oil	X	X	C	X	G	E		X	E	E	E	E	
Tri (2-Hydroxyethyl) Amine	G	E	E	G	X	C		G	E		X	X	
Tributyl Amine	E		C	G		G			E				
Tributyl Phosphate	G	E	X	C	X	X	G	X	E	E	X	X	E
Trichloroacetic Acid	G	G	C	C	X	C	X	X	E	E	X	X	E
Trichlorobenzene	X		X	X	X	X		X	E		X	G	
Trichloroethane	X	X	X	X	X	X	X	X	E		X	E	
Trichloroethylene	X	X	X	X	X	X	C	X	E	G	X	E	G
Trichloromethane	X	X	X	X	X	X	C	X	E		X	E	
Trichlorotoluene						X			E				
Tricresyl Phosphate	E	E	X	C	C	X	G	X	E	E	X	E	E
Triethanolamine	G	E	E	G	X	C		G	E	E	X	X	E
Triethylamine	C	E		G	G	E		X	E		X	E	
Triethylene Glycol	E		E	E		E			E			E	
Trihydroxybenzoic Acid	G	G	G	E	G	G	G	G	E		X	E	
Trimethyl Pentanes (Mixed)	X	X	C	X	C	E	E	X	E		G	E	
Trimethyl Pentene													
Trimethylamine									E	E			E
Trisodium Phosphate	E	E	E	E	E	E	E	E	E		E	E	E
Tritoyl Phosphate	E	E	X	X	X	X	G	X	E		X	E	
Tung Oil	X	X	E	X	E	E	G	X	E	E	C	E	E
Tung Oil (China Oil)	C	X	E	X	E	E	G	X	E	E	C	E	E
Turpentine	X	X	X	X	X	X	E	X	E	G	E	E	G
UDMH	E	E	E	E	G	G		X	E		X	X	
Undecyl Alcohol	E		E	E		E			E			G	
Urea	E	E	E	E	G	G	E		E	E	G	E	E
Urethane Formulations						E	E		E				
Uric Acid							G		E		X		
Varnish	X	X	X	X	X	G	E	X	E		C	E	
Vegetable Oils	C	C	G	X	C	E	G	X	E	E	E	E	E
Versilube F44	E	E	E	E	E	E	E	E	E		E	E	
Versilube F55	E	X	E	E	E	E	E	E	E		E	E	
Vinegar	E	E	E	G	G	G	E	G	E	X	C	E	X
Vinegar Acid													
Vinyl Acetate	E	G	C	X	X	X		X	X	E	X	E	E
Vinyl Benzene	X	X	X	X	X	X		X	E	E	C	G	G
Vinyl Chloride (Gas)	X	G		G					E	E			E
Vinyl Cyanide	X	X	C	C	C	X	E	C	E		X	C	
Vinyl Ether	X		G	X		G			E	E		X	E
Vinyl Styrene	X		X	X				X	E	E		E	E
Vinyl Toluene	X		X	X		X			E	E		E	E
Vinyl Trichloride	X		X	X	X	X			E	E		E	E
Vital, 4300, 5310		X				X	E		E				
VM&P Naphtha	X	X	X	X	C	C			E			E	X
Water	E	E	E	E	G	E	E	G	E	E	E	E	E
Water, Boiling	E	E	E		G	G		X	G	X	G	G	X
Water, Soda							E		E				
Wemco C	X	X	X	X	G	E		X			E	E	
Whiskey	E	E	E	E	E	E	E	E	E	X	X	E	X
White Oil	X	X	X	X	G	E		X	E	E	E	E	X
White Pine Oil	X	X	X	X	X	G		X				E	
Wines	E	E	E	E	E	E	E	E	E	X	X	E	X
Wood Alcohol	E	E	E	E	E	E			E	E	X	C	E
Wood Oil	C	X	C	X	G	E	G	X	E	E	C	E	E
Xenon	E	E	E	E	E	E			E		E	E	
Xylene, Xylol	X	X	X	X	X	X	G	X	E	E	C	E	G
Xylidine	G	C	X	X	X	C		X	E	G		C	G
Zeolites	E	E	E	E	E	E			E			E	
Zinc Acetate	E	E	C	E	G	G		X	E		X	C	
Zinc Carbonate	E	E	E	E	E	E			E	E	E	E	E
Zinc Chloride	E	E	E	E	E	E	E	E	E	E	G	E	E
Zinc Chromate	E		C						E				G
Zinc Sulfate	E	E	E	E	E	E	X	G	E	E	G	E	E