

# Chemical Compatibility Chart

These tables alphabetically list commonly used materials of various chemical composition. After each fluid listing you will find the basic hose tube and fitting materials rated according to their chemical resistance to each individual fluid. The chart is intended to be used as a guide only. Consult Eaton Technical Support for further information.

## WARNING

Selection of Hose: Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of the hose for your application can result in serious bodily injury or property damage from spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalog.

## WARNING

Proper Selection of Hose Fittings: Selection of the proper fittings for the hose end application is essential to the proper operation and safe use of the hose and related equipment.

Inadequate attention to the selection of the fittings for your application can result in serious bodily injury or property damage resulting from spraying fluids or flying projectiles. In order to avoid serious bodily injury or property damage resulting from selection of the wrong fitting, you should carefully review the information in this catalog.

## WARNING

The following list of chemicals is offered as a guide to the chemical resistance properties of the tube material of the hoses shown. It should be used as a guide only, as the degree of resistance of any elastomer to a particular fluid depends upon such variables as temperature, concentration, pressure conditions, velocity of flow, duration of exposure, aeration, stability of the fluid, etc.

Therefore, when in doubt, it is advisable not to use the hose. If this is not practical, tests should be devised that simulate actual service conditions as nearly as possible. Eaton offers additional technical assistance. Contact your Eaton Customer Support representative for assistance or call Technical Support at 1-888-258-0222.

FLUID	HOSE MATERIAL										HOSE END FITTINGS	
	PVC	Nitrile	Vinyl/Nitrile	Neoprene	PTFE	EPM	Nylon/Nylon II	Hypalon® <sup>2</sup>	Hytex <sup>1</sup>	Polyurethane	CPE	
Acetaldehyde	X	X	X	X	G	G	F	X	X	-	X	G
Acetic Acid (Concentrated)	F	X	X	X	G	X	G	X	X	X	X	G
Acetic Acid (Diluted)	F	X	X	F	G	G	F	F	X	G	X	G
Acetic Anhydride	X	G	G	X	G	X	G	F	X	X	F	F
Acetone	X	X	X	X	G	G	F	F	X	G	G	G
Acrylonitrile	G	X	X	X	G	G	X	-	X	G	-	G
Air <sup>3</sup>	G	G	G	G	G	G	G	G	G	G	G	G
Alcohols (Methanol & Ethanol)	X	G	G	G	G	G	G	G	G	G	F	G
Aluminum Chloride	G	G	G	G	G	X	G	G	G	G	X	F
Aluminum Fluoride	G	G	F	G	X	G	G	-	G	X	X	X
Aluminum Hydroxide	G	G	G	G	G	G	G	-	G	G	X	F
Aluminum Sulfate	G	G	G	G	G	G	G	G	G	G	X	G
Alums	G	G	G	G	F	G	X	G	G	X	X	F
Ammonia, Anhydrous	X	X	X	X	X	X	X	X	X	X	X	X
Ammonia Solution (10%)	G	G	F	G	G	G	G	G	X	X	G	G
Ammonium Chloride	G	G	G	G	X	G	G	G	G	G	X	G
Ammonium Hydroxide	X	F	F	F	G	G	G	G	X	X	F	G
Ammonium Nitrate	G	G	G	G	G	G	G	G	G	G	-	G
Ammonium Phosphate	F	G	G	G	G	G	G	G	G	G	G	G
Ammonium Sulfate	G	G	G	G	G	G	G	G	G	G	X	F
Amyl Acetate	X	X	X	X	G	F	X	X	X	X	G	F
Amyl Alcohol	X	G	G	F	G	G	G	G	G	G	F	F
Aniline	X	X	X	X	G	X	X	X	X	X	X	G
Aniline Dyes	X	F	F	F	G	X	G	F	X	X	X	F
Animal Oils and Fats	G	G	G	X	G	F	G	F	G	X	F	G
Anti-Freeze (Glycol Base)	G	G	G	G	G	F	G	G	G	G	G	G
Aqua Regia	X	X	X	X	G	X	X	X	X	X	-	X
Asphalt	X	G	X	G	G	X	X	-	X	F	G	G
Barium Chloride	G	G	G	G	G	G	G	G	G	G	X	F
Barium Hydroxide	G	G	G	G	G	G	G	G	G	G	X	G
Barium Sulfide	G	G	G	G	G	X	G	X	G	G	X	X
Beet Sugar Liquors	G	G	G	G	G	G	X	G	G	G	X	G
Benzaldehyde	X	X	X	X	G	G	F	X	X	X	F	G
Benzene, Benzol	X	X	X	X	G	G	X	X	X	F	G	G
Benzoic Acid	X	X	X	G	G	X	X	X	X	F	F	F
Black Sulfate Liquor	X	F	F	G	G	F	G	F	X	F	X	G
Borax	G	F	F	G	G	G	G	G	G	G	G	G
Boric Acid	G	G	G	G	G	G	G	G	G	G	X	X
Brake Fluid (Glycol Ether Base)	X	X	X	F	G	G	X	-	X	G	G	G
Brine	G	G	G	G	G	G	G	G	G	G	-	F
Butane	X	X	X	G	G	F	X	F	X	F	G	G
Butyl Acetate	X	X	X	X	G	G	F	X	F	F	G	G

### CODES:

- G** Good resistance.
- F** Fair resistance.
- X** Incompatible.
- No data available.

**G** In all applications, the cover must be pinpricked.

**1** Hytex® is a registered trademark of DuPont.

**2** Hypalon® is a registered trademark of DuPont

**NOTE:** All data given herein is believed to be accurate and reliable, but presented without guarantee, warranty, or responsibility of any kind, express or implied, on our part. Chemical resistance will vary with the wide diversity of possible mixtures and service conditions. It is therefore not possible to give any guarantee whatsoever in individual cases..

# Chemical Compatibility Chart

FLUID	HOSE MATERIAL						HOSE END FITTINGS
	PVC	Nitrile	Vinyl/Nitrile	Neoprene	PTFE	Nylon/Nylon II	
	EPDM	Hypalon <sup>2</sup>	Hytex <sup>1</sup>	CPE	Brass	Steel	316 Stainless
Butyl Alcohol, Butanol	X	O	G	G	G	G	G
Calcium Bisulfite	G	G	G	G	G	G	G
Calcium Chloride	G	G	G	G	G	G	G
Calcium Hydroxide	G	F	F	G	G	G	G
Calcium Hypochlorite	G	F	F	G	F	G	G
Cane Sugar Liquors	G	G	G	G	G	G	G
Carbon Dioxide (Dry)	G	G	G	G	G	G	G
Carbon Dioxide (Wet)	-	G	G	G	G	G	G
Carbon Disulfide (Bisulfide)	X	X	X	X	X	X	G
Carbon Monoxide (Hot)	X	F	F	G	F	G	F
Carbon Tetrachloride	X	X	X	G	X	X	G
Carbonic Acid	X	G	G	G	X	X	F
Castor Oil	G	G	G	F	G	F	G
Cellulosolve Acetate	X	X	X	G	F	X	X
Chlorinated Solvents	X	X	X	G	F	X	X
Chloroacetic Acid	X	X	X	G	X	X	X
Chlorobenzene	X	X	X	G	X	X	F
Chloroform	X	X	X	G	X	X	G
Chlorosulfonic Acid	X	X	X	G	X	X	F
Chromic Acid (Under 25%)	F	X	X	G	X	X	X
Chromic Acid (Over 25%)	X	X	X	G	X	X	F
Citric Acid	G	F	G	X	G	X	X
Coke Oven Gas	X	X	X	F	X	X	G
Copper Chloride	G	G	F	G	G	G	X
Copper Sulfate	G	G	G	G	G	G	X
Corn Syrup (non-food)	G	G	F	G	F	G	-
Cottonseed Oil	F	G	X	G	F	G	G
Creosote	X	F	X	G	X	F	-
Cresol	X	X	X	G	X	X	G
Dextrose (food grade)	X	X	X	G	X	X	G
Diaminoethane	X	X	X	G	X	-	G
Dibromoethane	X	X	X	G	X	-	-
Dichlorobenzene	X	X	X	G	X	X	X
Diesel Fuel	X	G	G	G	X	F	G
Diethanolamine	-	F	X	G	X	X	G
Diethylterephamine	-	F	X	G	X	X	G
Dothmer A	X	X	X	G	X	X	X
Enamel (Solvent Base)	X	F	X	G	X	X	G
Ethanolamine	X	F	X	G	X	-	G
Ethers (Ethyl Ether)	X	X	X	G	F	X	G
Ethyl Alcohol (To 150°)	F	G	G	G	G	G	G
Ethyl Acetate	X	X	X	G	G	X	F

**CODES:**

- G Good resistance.
- F Fair resistance.
- X Incompatible.
- No data available.
- Use approved Freon hose.
- In all applications, the cover must be pinpricked.
- 1 Hytex® ia a registered trademarks of Dupont.
- 2 Hypalon® ia a registered trademarks of Dupont

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	EPDM	Hypalon <sup>2</sup>	Hytex <sup>1</sup>	CPE	Brass	Steel	316 Stainless
Ethyl Acrylate	X	X	X	X	X	X	X
Ethylamine	X	X	X	X	X	X	G
Ethyl Cellulose	-	F	F	F	G	F	F
Ethyl Chloride	X	X	X	X	X	X	F
Ethylene Dichloride	X	X	X	X	X	X	G
Ethylene Glycol	G	G	G	G	F	F	G
Ethylene Oxide	X	X	X	G	X	X	G
Ethyl Methacrylate	X	X	X	G	X	X	G
Fatty Acids	G	F	X	G	F	X	F
Ferric Chloride	G	G	G	G	G	G	G
Ferric Sulfate	G	G	G	G	G	G	G
Fertilizer Solution (Water Base)	G	F	F	F	G	G	-
Formaldehyde	X	F	F	G	G	X	G
Formic Acid	X	F	F	G	G	X	G
Freon 12 <sup>12</sup>	X	F	F	G	G	X	G
Fuel Oil	F	G	F	G	G	X	G
Furfural	X	X	X	G	F	G	G
Gasoline (Refined)	X	F	X	G	G	X	G
Gasoline (Unleaded)	X	G	X	G	G	X	G
Gasoline (10% Ethanol)	X	G	X	G	X	X	G
Gasoline (10% Methanol)	X	F	X	G	X	X	G
Glycerine, Glycerol	G	G	G	G	G	G	G
Greases	G	G	F	G	G	G	G
Green Sulfate Liquor	G	F	F	G	G	X	G
Heptane	X	G	F	G	G	X	G
Hexane	X	G	F	G	G	X	G
Houghto Safe 273 to 640	F	G	G	G	G	-	G
Houghto Safe 5046, 5047F	G	G	G	G	G	X	G
Houghto Safe 1000 Series	X	X	X	G	G	X	-
Hydrofluoric Oils	Straight Petroleum Base	G	G	F	G	X	F
	Water Petroleum Emulsion	-	G	G	F	G	G
	Water Glycol	-	G	G	G	G	G
	Straight Phosphate Ester	X	X	X	G	G	X
	Phos. Ester/Petroleum Blend	X	X	X	G	G	G
	Polyol Ester	-	G	G	X	G	G
	Hydrobromic Acid	G	X	X	G	X	G
	Hydrochloric Acid	G	X	X	G	X	X
	Hydrocyanic Acid	G	F	X	G	X	X
	Hydrofluoric Acid (Under 50%)	F	X	X	G	X	X
	Hydrofluoric Acid (Over 50%)	X	X	X	G	X	X
	Hydrofluosilicic Acid	G	F	X	G	G	G
	Hydrogen	X	X	X	X	X	X
	Hydrogen Peroxide	-	X	X	X	F	X
	Hydrogen Sulfide	-	X	X	X	X	F
	Hydrolyube	-	G	F	G	-	G
	Isopropyl Alcohol	G	G	G	G	G	G
	Isopropylamine	X	X	F	G	X	G
	Iso-Octane	X	G	F	G	X	G
	Jet Fuel (Transfer Only)	X	G	F	G	X	G
	Kerosene	X	G	F	G	X	G
	Laquer	X	X	X	G	X	G
	Laquer Solvents	G	X	X	G	X	G
	Lactic Acid	G	X	X	G	F	G
	Lime Sulfur	G	X	X	G	F	G
	Lindol	-	X	X	G	X	G
	Linsseed Oil	G	G	X	G	F	G
	Lubricating Oils	G	G	F	G	G	G

# Chemical Compatibility Chart

FLUID	PVC	Nitrile	Vinyl Nitrite	Neoprene	PTFE	Nylon/Nylon II	EPDM	Hypalon® <sup>2</sup>	Hytrell® <sup>1</sup>	Polyurethane	HOSE END FITTINGS
Lye	G	F	F	G	G	X	G	G	-	G	F
Magnesium Chloride	G	G	G	G	G	X	G	G	F	G	G
Magnesium Hydroxide	G	F	F	G	G	G	F	G	X	G	G
Magnesium Sulfate	G	G	G	G	G	G	G	G	F	G	G
Mercuric Chloride	F	F	F	G	G	G	G	-	G	X	X
Mercury	F	G	G	G	G	G	G	G	G	X	G
Methanol	X	G	G	G	G	G	G	F	G	F	G
Methyl Acrylate	X	X	X	X	X	X	X	X	X	F	G
Methyl Chloride	X	X	X	X	G	X	X	X	F	G	G
Methylene Chloride	X	X	X	X	G*	X	X	X	X	G	G
Methyl t-Butyl Ether (MTBE)	X	F	F	X	G	X	X	-	-	G	G
Methyl Ethyl Ketone	X	X	X	X	G	F	G	X	G	X	G
Methyl Isobutyl Ketone	X	X	X	X	G	F	G	X	X	G	G
Methyl Isopropyl Ketone	X	X	X	X	G	F	X	X	X	G	G
Methyl Methacrylate	X	X	X	X	G	F	X	X	X	G	G
Mineral Oil	F	G	G	F	G	G	X	F	G	G	G
Mineral Spirits	X	G	F	G	G	X	X	G	G	G	G
Naphtha	X	F	F	G	F	G	X	G	F	G	G
Naphthalene	X	X	X	G	G	X	X	F	G	F	G
Nickel Acetate	G	X	X	G	G	G	G	-	-	-	-
Nickel Chloride	G	G	F	G	G	G	G	X	X	F	G
Nitric Acid (Under 35%)	G	X	X	X	G	X	F	X	X	X	G
Nitric Acid (35% to 60%)	F	X	X	X	G	X	X	X	X	X	G
Nitric Acid (Over 60%)	X	X	X	X	G	X	X	X	X	X	G
Nitrogen Dioxide	G	G	G	G	G	G	-	G	G	-	-
Nitrous Oxide	X	X	X	X	G	X	X	X	G	G	G
Oleic Acid	F	F	F	X	G	F	F	G	F	F	G
Oleum (Fuming Sulfuric Acid)	X	X	X	X	G	X	X	X	X	F	G
Oxalic Acid	G	X	X	X	G	X	G	X	-	G	G
Paint (Solvent Base)	X	F	F	X	G	G	X	-	-	G	G
Palmitic Acid	F	F	F	G	F	G	X	G	X	F	G
Pentane	X	G	F	G	F	G	X	F	G	G	G
Perchloroethylene	X	X	X	G	G	X	X	X	F	G	G
Petroleum Ether	X	G	F	X	G	X	X	G	G	G	G
Petroleum Oils	G	G	F	G	G	X	F	G	G	G	G
Phenol	X	X	X	G	X	X	X	X	G	X	G
Phosphoric Acid (to 85%)	G	X	X	G	X	G	X	X	X	F	G
Picric Acid (Molten)	X	X	X	X	G	X	X	X	X	F	G
Potassium Chloride	G	G	G	G	G	G	G	G	F	X	G
Potassium Cyanide	G	G	G	G	G	G	G	G	G	G	G
Potassium Dichromate	G	X	X	G	F	G	X	G	G	X	G
Potassium Hydroxide	G	F	F	G	G	G	G	F	X	G	G
Potassium Sulfate	G	G	G	G	G	G	G	G	F	F	G
Propane Liquid	Use H366 Hose Only										
Propylene Glycol	F	G	F	G	G	G	I	-	G	F	G
Pyridine	X	X	X	G	X	F	X	X	X	F	G
Sea Water	G	G	G	G	G	G	G	G	G	F	G
Skydrol (Transfer Only)	X	X	X	G	G	G	-	X	G	G	G
Soap Solution	G	G	F	G	G	G	G	G	G	G	G
Sodium Bisulfate	G	G	G	G	G	G	X	G	F	F	G
Sodium Carbonate	G	G	G	G	G	G	G	G	G	X	G
Sodium Chloride	G	G	G	G	G	G	G	G	G	X	G
Sodium Cyanide	G	G	G	G	G	G	G	G	G	X	G
Sodium Hydroxide	G	F	F	G	X	G	G	F	X	F	G
Sodium Hypochlorite	G	X	X	G	X	G	G	X	F	X	G
Sodium Nitrate	G	G	F	G	G	G	G	F	F	G	G

FLUID	PVC	Nitrile	Vinyl Nitrite	Neoprene	PTFE	Nylon/Nylon II	EPDM	Hypalon® <sup>2</sup>	Hytrell® <sup>1</sup>	Polyurethane	HOSE END FITTINGS
Sodium Perborate	G	G	G	X	G	G	G	X	F	X	F
Sodium Peroxide	X	F	F	F	G	X	G	F	F	F	G
Sodium Phosphates	G	G	G	F	G	G	G	G	F	F	G
Sodium Silicate	G	G	G	G	G	G	G	G	G	G	G
Sodium Sulfate	G	G	G	G	G	G	G	G	G	G	G
Sodium Sulfide	G	G	G	G	G	G	G	G	G	G	G
Sodium Thiosulfate	G	G	G	G	G	G	G	G	-	G	G
Soybean Oil	F	G	G	F	G	F	G	G	G	G	G
Stannic Chloride	G	G	G	X	G	X	G	G	G	X	X
Steam 450°	X	X	X	X	G	X	G	X	X	F	F
Stearic Acid	F	F	F	G	G	F	G	F	G	X	G
Stoddard Solvent	X	G	G	G	G	X	X	F	G	G	G
Sulfur	F	X	X	X	X	X	F	-	G	X	G
Sulfur Chloride	X	X	X	G	F	X	X	G	X	X	X
Sulfur Dioxide	X	X	X	G	X	G	X	-	X	-	G
Sulfuric Acid (Under 50%)	G	X	X	X	G	X	G	X	X	X	X
Sulfuric Acid (51% to 70%)	G	X	X	X	G	X	F	G	X	X	X
Sulfuric Acid (71% to 95%)	X	X	X	X	G	X	F	X	X	X	X
Sulfuric Acid (96% to 98%)	X	X	X	X	G	X	X	X	X	X	X
Styrene	X	X	X	G	G	X	X	X	X	X	X
Tannic Acid	G	F	F	G	G	G	G	G	F	X	G
Tar	X	F	F	F	G	X	X	G	F	F	G
Tartaric Acid	G	G	G	F	G	X	G	G	G	F	X
Tetrachloroethane	X	X	X	X	G	X	X	X	X	-	G
Tetrahydrofuran (THF)	X	X	X	X	G	G	G	X	-	X	G
Toluene	X	X	X	G	G	X	X	X	X	G	G
Transmission Oil (Petrol. Based)	G	G	G	F	G	G	X	F	G	G	G
Trichloroethane	X	X	X	G	X	X	X	X	X	G	G
Trichloroethylene	X	X	X	G	G	G	X	X	X	G	G
Tung Oil	-	G	G	F	G	G	X	F	G	X	G
Turpentine	X	F	F	X	G	G	X	F	X	F	G
Urea (Water Solution)	G	X	X	G	G	G	G	G	G	-	G
Varnish	X	X	X	G	G	X	X	-	X	F	G
Vegetable Oil (Non-food)	F	G	X	G	G	X	G	-	G	G	G
Vinyl Acetate	X	X	X	X	G	F	X	X	-	F	G
Water	G	G	G	G	G	G	G	G	G	F	G
Water-Glycol mixture	-	G	G	G	G	G	G	G	G	G	G
Water-Petroleum mixture	-	G	G	F	G	G	X	F	G	G	F
Xylene	X	X	X	G	G	X	F	X	X	G	G
Zinc Chloride	G	G	G	G	G	G	G	G	G	X	X
Zinc Sulfate	G	G	G	G	G	G	G	-	G	X	X

### CODES:

G Good resistance.

F Fair resistance.

X Incompatible.

- No data available.

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\*This chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.

For compatibility of fluids not listed with this chart, contact Technical Support at 1-888-258-0222.