

Tube/Hose Chemical Resistance Chart

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(G) Good
 (F) Fair, some effect
 (-) Information not yet available
 (N) Not recommended
 (*) Predicted
 (S) Stress cracking possible with polyethylene only
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Reagent/Concentration	Tubing/Hose Material						
	Flexible PVC-Vinyl (Plasticized Polyvinyl Chloride)	PTEE, PFA, FEP Fluoropolymers	Polyethylene	Polypropylene	Polyurethane	Nylon	Acetal (Delrin Celcon)
Acetaldehyde	N/N	G/G	F/N(S)	F/F	N	-	G/G
Acetic Acid/10%	G/-	G/G	G/G	G/G	-	G	N/N
Acetic Acid/60%	G/F	G/G	G/G	G/F	N	G	N/N
Acetic Acid/glacial	N/N	G/G	F/N	-/-	-	F	N/N
Acetone	N/N	G/G	G/N(S)	G/F	N	G	G/G
Alcohol, amyl	G/-	G/G	G/(-S)	G/F	F	-	G/G
Alcohol, butyl	G/-	G/G	G/(-S)	G/-	G	G	G/G
Alcohol, ethyl	G*/G*	G/G	G/(-S)	G/G	F	-	G/G
Alcohol, furfuryl	N*/N*	G/G	G/(-S)	N/N	-	-	-/-
Alcohol, methyl/6%	G/G	G/G	F/-	-/-	-	-	-/-
Alcohol, methyl/100%	F/-	G/G	G/-	G/G	G	-	G/G
Alum	G/G	G/G	G/G	G/G	-	-	G/G
Aluminum Chloride	G/G	G/G	G/G	G/G	G	-	G/G
hydroxide	G*/G*	G/G	G/G	-/-	-	-	G/N
Aluminum Sulphate	G*/G*	G/G	G/G	G/G	-	G	G/G
Ammonia, Dry Gas	-/-	G/G	G/G	G/G	G	G	G/G
Ammonium Carbonate	G*/G*	G/G	G/G	G/G	G	-	G/G
chloride	G/G	G/G	G/G	G/G	-	-	G/G
hydroxide	G/-	G/G	G/G	-/-	G	G	G/G
nitrate	G*/G*	G/G	G/G	G/G	G	-	G/G
persulphate	G*/G*	G/G	G/G	G/G	G	-	G/G
phosphate	G*/G*	G/G	G/G	-/-	-	-	G/G
sulphate	G/G	G/G	G/G	G/G	G	-	G/G
sulphide	G/N	G/G	G/G	G/G	G	-	G/G
thiocyanate	G*/G*	G/G	G/G(S)	G/G	G	-	G/G
Amyl Acetate	N*/N*	G/G	N/-	F/N	N	G	G/G
Aniline	N/N	G/G	N/-	G/G	N	F	G/G
Animal Oils	G*/G*	G/G	F/N(S)	-/-	G	-	-/-
Antimony Trichloride	G*/G*	G/G	G/G	-/-	G	-	G/G
Barium Carbonate	G*/G*	G/G	G/G	G/G	G	G	G/G
chloride	G*/G*	G/G	G/G	G/G	-	G	G/G
hydroxide	G*/G*	G/G	G/G	G/G	G	G	G/G
sulphate	G*/G*	G/G	G/G	G/G	G	-	G/G
Beer	G/-	G/G	G/G(S)	G/G	G	G	G/G
Benzene	N/N	G/G	N/-	F/N	N	G	G/G
Benzene Sulphonic Acid	-/-	G/G	N/-	N/N	-	-	N/N
Bismuth Carbonate	G*/G*	G/G	G/G	G/G	-	-	G/G
Borax	G*/G*	G/G	G/G	G/G	-	-	G/G
Boric Acid	G*/G*	G/G	G/G	G/G	G	-	N/N
Boron Trifluoride	-/-	G/G	G/-	-/-	-	-	-/-
Brine	G*/G*	G/G	G/G	G/G	G	G	N/N
Bromine, Dry Gas	N*/N*	G/G	N/-	N/N	F	-	-
Calcium Bisulphite	G/G	G/G	G/G	G/G	-	G	G/G
carbonate	G*/G*	G/G	G/G	G/G	G	G	G/G
chlorate	G*/G*	G/G	G/G	G/G	G	G	G/G
hydroxide	G*/G*	G/G	G/G	G/G	G	G	G/G
hypochlorite	G/-	G/G	G/G	G/G	-	G	N/N
sulphate	G*/G*	G/G	G/-	G/G	G	G	G/G
Camphor Oil	-/-	G/G	N/(-S)	N/N	-	-	-G/G
Carbon Dioxide	G*/G*	G/G	G/-	G/G	G	-	G/G
monoxide	G*/G*	G/G	G/-	G/G	-	-	G/G
Carbon Tetrachloride	N/N	G/G	N/-	N/N	F	F	N/N
Castor Oil	G/-	G/G	N/(-S)	G/G	-	-	-G/G
Chloral Hydrate	N*/N*	G/G	N/-	-/-	-	-	G/G
Chlorine, Dry Gas	-/-	G/G	F/N	N/N	F	N	N/N
Chlorine, liquid	-/-	G/G	N/-	N/N	-	-	N/N
Chlorine Water/2%	-/-	G/G	G/G	-/-	-	-	N/N
Chlorine Water/saturated solution	F/N*	G/G	G/F	G/F	-	-	N/N

CAUTION

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UNITED STATES PLASTIC CORPORATION®

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	Flexible PVC-Vinyl (Plasticized Polyvinyl Chloride)	PTEE, PFA, FEP Fluoropolymers	Polyethylene	Polypropylene	Polyurethane	Nylon	Acetal (Delrin Celcon)
Chloroform	N*/N*	G/G	N/(-S)	N/N	N	F	G/G
Chirosulphonic Acid	N*/N*	G/G	N/N	N/N	-	-	N/N
Chrome Alum	G*/G*	G/G	G/G	G/G	-	-	-/-
Chromic Acid (plating solution)	-/-	G/G	G/G	F/F	N	G	N/N
Cider	G*/G*	G/G	G/-	G/G	-	-	-/-
Citric Acid	G/-	G/G	G/G	G/G	G	G	N/N
Copper Chloride	G*/G*	G/G	G/G	G/G	G	-	G/G
cyanide	G/G	G/G	G/G	G/G	-	-	G/G
nitrate	G*/G*	G/G	G/G	G/G	G	-	G/G
sulfate	G*/G*	G/G	G/G	G/G	G	-	G/G
Creosote	N/N	G/G	N/(-S)	-/-	-	G	-/-
Cyclohexanol	N*/N*	G/G	N/-	F/F	-	-	G/G
Cyclohexanone	N*/N*	G/G	N/-	F/N	N	G	G/G
Detergents, Synthetic	G*/G*	G/G	G/G(S)	G/G	-	-	G/G
Developers, Photographic	G*/G*	G/G	G/G	G/G	-	-	G/G
Dextrose	G*/G*	G/G	G/G	G/G	-	-	G/G
Dibutyl Phthalate	N*/N*	G/G	F/N(S)	G/F	N	-	G/G
Disodium Phosphate	G/G	G/G	G/N(S)	G/G	-	-	G/G
Emulsifiers	G*/G*	G/G	G/G	G/G	-	-	G/G
Emulsions, Photographic	G*/G*	G/G	G/(-S)	-/-	-	-	G/G
Ether	N/N	G/G	N/-	-/-	F	G	G/G
Ethyl Acetate	N*/N*	G/G	F/N	F/F	N	G	G/G
Ethylene Dichloride	N*/N*	G/G	N/(-S)	-/-	-	-	G/G
Ethylene Glycol	G/-	G/G	G/-	G/G	G	G	G/G
Ferric Chloride	G/G	G/G	G/-	G/G	G	-	G/G
Ferric Chloride Sulphate	G/G	G/G	G/N	G/G	G	-	G/G
Fixing Solution Photographic	G*/G*	G/G	G/G	-/-	-	-	G/G
Fluorine	N*/N*	G/G	F/N	-/-	-	-	N/N
Fluosilicic Acid	-/-	G/G	G/-	G/G	-	-	N/N
Formaldehyde 40%	G/-	G/G	G/G	G/G	G	G	G/G
Formic Acid 50%	-N*	G/G	G/G	G/G	-	-	N/N
Formic Acid 100%	N*/N*	G/G	G/G	G/G	N	G	N/N
Gasoline	G/G	G/G	N/N	F/N	G	G	G/G
Glucose	G/G*	G/G	G/-	G/G	G	G	G/G
Glycerine	G*/G*	G/G	G/-	G/G	G	G	G/G
Hydrobromic Acid 50%	G/G	G/G	G/G	-/-	-	-	N/N
Hydrobromic Acid 100%	G*/G*	G/G	G/G	G/G	G	-	N/N
Hydrochloric Acid 10%	G/G	G/G	G/G	G/G	-	-	-/-
Hydrochloric Acid 22%	G/G	G/G	G/G	G/G	-	F	N/N
Hydrochloric Acid conc.	G/F	G/G	G/G	G/F	G	-	-/-
Hydrofluoric Acid 4%	G/G	G/G	G/G	-/-	-	G	N/N
Hydrofluoric Acid 40%	G/-	G/G	G/G	G/-	-	-	N/N
Hydrofluoric Acid 60%	N/N	G/G	G/G	G/G	-	-	N/N
Hydrofluoric Acid conc.	N/N	G/G	G/F	G/-	F	-	N/N
Hydrogen	G*/G*	G/G	G/G	G/G	G	G	G/G
Hydrogen Peroxide 3%	G/-	G/G	G/-	G/G	-	-	N/N
Hydrogen Peroxide 90% & up	G/-	G/G	G/-	-/-	G	G	N/N
Hydrogen Sulphide	G/-	G/G	G/-	G/G	N	-	G/G
Hydroquinone	G/-	G/G	G/-	G/G	-	-	G/G
Hypochlorous Acid	F/N*	G/G	F/N	-/-	-	-	N/N
Lactic Acid 10%	G/-	G/G	G/G	G/G	-	-	G/G
Lactic Acid 100%	N*/N*	G/G	G/G	-/-	G	G	G/G
Lead Acetate	G*/G*	G/G	G/-	G/G	G	-	G/G
Lead Tetraethyl	G*/G*	G/G	G/-	-/-	-	-	-/-
Linseed Oil	-/-	G/G	F/N(S)	G/F	G	-	G/G

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	Flexible PVC-Vinyl (Plasticized Polyvinyl Chloride)	PTEE, PFA, FEP Fluoropolymers	Polyethylene	Polypropylene	Polyurethane	Nylon	Acetal (Delrin Celcon)
Sodium Bicarbonate	G*/G*	G/G	G/G	G/G	G	-	G/G
bisulphite	G/-	G/G	G/G	G/G	G	G	G/G
bromide	G*/G*	G/G	G/G	G/G	-	-	G/G
chlorate	G*/G*	G/G	G/G	G/G	-	-	G/G
chloride	G/G	G/G	G/G	G/G	G	G	G/G
cyanide	G/G	G/G	G/G	G/G	G	-	G/G
ferrocyanide	G*/G*	G/G	G/G	G/G	-	-	G/G
ferrocyanide	G*/G*	G/G	G/G	G/G	G	-	G/G
fluoride	G*/G*	G/G	G/G	G/G	G	-	G/N
hydroxide/10%	G/F	G/G	G/G	G/G	-	-	G/G
hydroxide/40%	G/N	G/G	G/G	G/G	-	-	G/G
hydroxide/Conc.	G/N	G/G	G/G(S)	-/-	G	G	G/G
hypochlorite	G/F	G/G	G/G	F/N	-	N	N/N
hyposulphate	G*/G*	G/G	G/G	-/-	-	-	-/-
metaphosphate	G*/G*	G/G	G/G	-/-	-	-	G/G
nitrate	G*/G*	G/G	G/G	G/G	G	G	G/G
peroxide	G*/G*	G/G	G/G	-/-	-	-	G/N
phosphate	G*/G*	G/G	G/G	G/G	-	-	G/G†
sulphate	G*/G*	G/G	G/G	G/G	G	G	G/G
sulphide cond.	G/G	G/G	G/G	G/G	G	G	G/G
thiosulphate	G/G	G/G	G/G	-/-	-	-	G/G
Soft Soap	G/-	G/G	G/G(S)	-/-	-	-	G/G
Stannic Chloride	G/G	G/G	G/G	G/G	G	-	G/G
Stannous Chloride	G/G	G/G	G/G	G/G	-	-	G/G
Starch	G*/G*	G/G	G/G	G/G	-	-	G/G
Stearic Acid	G*/G*	G/G	G/G	G/-	-	G	N/N
Sucrose	G*/G*	G/G	G/G	G/G	-	-	-/-
Sulpher, colloidal	-/-	G/G	G/-	G/G	-	G	G/G
Sulpher, dioxide	-/-	G/G	G/-	G/G	-	-	N/N
dry gas	G*/G*	G/G	G/-	G/G	G	-	G/G
moist	-N*	G/G	G/-	-/-	-	-	G/G
Sulphuric Acid/10%	G/G	G/G	G/G	G/G	-	F	N/N
Sulphuric Acid/40%	G/G	G/G	G/G	-/-	-	G/G	N/N
Sulphuric Acid/50%	G/F	G/G	G/G	G/F	-	-	N/N
Sulphuric Acid/60%	F/F	G/G	G/G	-/-	-	-	N/N
Sulphuric Acid/70%	F/-	G/G	G/F	-/-	-	-	N/N
Sulphuric Acid /95%	-/-	G/G	F/N	N/N	N	N	N/N
Sulphuric Acid/98%	N/N	G/G	F/N	N/N	N	N	N/N
Sulphuric Acid fuming	N/N	G/G	N/N	N/N	-	-	N/N
Tallow	G*/G*	G/G	G/-	G/G	-	-	-/-
Tannic Acid	G/-	G/G	G/G	G/G	F	-	N/N
Tanning Extracts	G*/G*	G/G	G/G	G/G	-	-	G/G
Toluene	N*/N*	G/G	N/N	F/N	N	G	G/G
Transformer Oil	G/N	G/G	F/N	G/N	F	-	G/G
Trichloroethylene	N/N	G/G	N/N(S)	N/N	N	F	G/G
Tricresyl Phosphate	N*/N*	G/G	N/N(S)	-/-	N	-	-/-
Triethanolamine	G/G	G/G	F/N(S)	F/F	G	-	G/G
Trisodium Phosphate	G/G	G/G	G/G(S)	G/G	G	-	G/G
Turpentine	-/-	G/G	F/N(S)	N/N	G	G	G/G
Vegetable Oils	G/-	G/G	F/N	-/-	G	-	-/-
Vinegar	G*/G*	G/G	G/G	G/G	G	-	G/G
Water	G/G	G/G	G/G	G/G	G	G	G/G
Wetting Agents	G*/G*	G/G	G/G(S)	-/-	-	-	-/-
Xylene	N*/N*	G/G	N/N(S)	N/N	F	G	G/G
Yeast	G/-	G/G	G/N	G/G	-	-	-/-
Zinc Chloride	G*/G*	G/G	G/G	G/G	G	-	N/N
oxide	G*/G*	G/G	G/G	G/G	-	-	G/G
Sulphate	G/G	G/G	G/G	G/G	G	-	G/G

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