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BUBBLE TUBING IS MADE OF PVC

CHEMICAL RESISTANCE GUIDELINE

As a designer and manufacturer of hose and tubing, our manufacturer is using many of the new polymer compounds developed to resist deterioration when exposed to the wide range of chemicals used industry. Resistance to chemical attack is based on many factors including temperature, exposure to UV, pressure, chemical concentration, duration of exposure, intermittent or constant exposure, and the velocity of the solution. For these reasons the following table should be used as a guideline only. Since each pair of ratings listed is for ideal conditions, all factors affecting chemical resistance must be considered. The first letter of each pair applies to conditions at 68F/20C, and the second to those at 122F/50C. In all cases, the product should be tested in a controlled, secure and safe setting prior to use. No guarantee is expressed or implied by Canadianpond.

LDPE =Low Density Polyethylene HDPE =High Density Polyethylene PP/PA =Polypropylene/Polyallomer PMP =Polymethylpentene

FEP
PFA =Fluoroplastics/Fluoropolymers
PTFE

PC =Polycarbonate
PVC =Polyvinylchloride
PSF =Polysulfone

Legend: E=excell	ent G=	t G=good F=		=fair N=not recommended			NA= No Data		
-					FEP PFA				
Chemical	LDPE	HDPE	PP/PA	PMP	PTFE	PC	PVC	PSF	
Acetaldehyde	GN	GF	GN	GN	EE	FN	GN	NN	
Acetamide, Sat.	EE	EE	EE	EE	EE	NN	NN	NN	
Acetic Acid, 5%	EE	EE	EE	EE	EE	EG	EE	EE	
Acetic Acid, 50%	EE	EE	EE	EE	EE	EG	EG	GG	
Acetone	EE	EE	EE	EE	EE	NN	NN	NN	
Acetonitrile	EE	EE	FN	FN	EE	NN	NN	NN	
Acrylonitrile	EE	EE	FN	FN	EE	NN	NN	NN	
Adipic Acid	EG	EE	EE	EE	EE	EE	GG	GG	
Alanine	EE	EE	EE	EE	EE	NN	NN	NN	
Allyl Alcohol	EE	EE	EE	EG	EE	GF	GF	GF	
Aluminum Hydroxide	EG	EE	EG	EG	EE	FN	EG	GG	
Aluminum Salts	EE	EE	EE	EE	EE	EG	EE	EE	
Aluminum Sulfate	EE	EE	GG	NA	EE	NA	EE	NA	
Amino Acids	EE	EE	EE	EE	EE	EE	EE	EE	
Ammonia	EE	EE	EE	EE	EE	NN	EG	GF	
Ammonium Acetate, Sat.	EE	EE	EE	EE	EE	EE	EE	EE	
Ammonium Glycolate	EG	EE	EG	EG	EE	GF	EE	GG	
Ammonium Hydroxide, 5%	EE	EE	EE	EE	EE	FN	EE	GG	
Ammonium Hydroxide, 30%	EG	EE	EG	EG	EE	NN	EG	GG	
Ammonium Oxalate	EG	EE	EG	EG	EE	EE	EE	EE	
Ammonium Salts	EE	EE	EE	EE	EE	EG	EG	EE	
n-Amyl Acetate	GF	EG	GF	GF	EE	NN	NN	NN	
Amyl Chloride	NN	FN	NN	NN	EE	NN	NN	NN	
Aniline	EG	EG	GF	GF	EE	FN	NN	NN	
Benzaldehyde	EG	EE	EG	EG	EE	FN	NN	FF	
Benzene	FN	GG	GF	GF	EE	NN	NN	NN	
Benozic Acid, Sat.	EE	EE	EG	EG	EE	EG	EG	FF	
Benzyl Acetate	EG	EE	EG	EG	EE	FN	NN	NN	
Benzyl Alcohol	NN	FN	NN	NN	EE	GF	GF	NN	
Bromine	NN	FN	NN	NN	EE	FN	GN	NN	
Bromobenzene	NN	FN	NN	NN	EE	NN	NN	NN	
Bromoform	NN	NN	NN	NN	EE	NN	NN	NN	
Butadiene	NN	FN	NN	NN	EE	NN	FN	NN	
n-Butyl Acetate	GF	EG	GF	GF	EE	NN	NN	NN	
n-Butyl Alcohol	EE	EE	EE	EG	EE	GF	GF	GF	
sec-Butyl Alcohol	EG	EE	EG	EG	EE	GF	GG	GF	

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Chemical	LDPE	HDPE	PP/PA	PMP	FEP PFA PTFE	PC	PVC	PSF
tert-Butyl Alcohol	EG	EE	EG	EG	EE	GF	EG	GF
Butyric Acid	NN	FN	NN	NN	EE	FN	GN	GG
Calcium Hyfroxide, Conc.	EE	EE	EE	EE	EE	NN	ĒE	GG
Calcium Hypochlorite, Sat.	EE	EE	EE	EG	EE	FN	GF	EE
Carbazole	EE	EE	EE	EE	EE	NN	NN	NN
Carbon Disulfide	NN	NN	NN	NN	EE	NN	NN	NN
Carbon Tetrachloride Cedarwood Oil	FN NN	GF FN	GF NN	NN NN	EE EE	NN GF	GF FN	NN FF
Cellosolve Acetate	EG	EE	EG	EG	EE	FN	FN	NN
Chlorine, 10% in Air	GN	EF	GN	GN	EE	EG	EE	NN
Chlorine, 10% (Moist)	GN	GF	FN	GN	EE	GF	EG	NN
Chloroacetic Acid	EE	EE	EG	EG	EE	FN	FN	NN
p-Chloroacetophenone	EE	EE	EE	EE	EE	NN	NN	NN
Chloroform	FN	GF	GF	NN	EE	NN	NN	NN
Chromic Acid, 10% Chromic Acid, 50%	EE EE	EE EE	EE GF	EE GF	EE EE	GF FN	EG EF	NN NN
Cinnamon Oil	NN	FN	NN	NN	EE	GF	NN	FF
Cirtric Acid, 10%	EE	EE	EE	EE	EE	EG	GG	EE
Cresol	NN	FN	GF	NN	ĒĒ	NN	NN	NN
Cyclohexane	FN	FN	FN	NN	EE	EG	GF	NN
Decalin	GF	EG	GF	FN	EE	NN	EG	NN
o-Dichlorobenzene	FN	FF	FN	FN	EE	NN	NN	NN
p-Dichlorobenzene	FN	GF	GF	GF	EE	NN	NN	NN
Diethyl Benzene	NN	FN	NN	NN	EE	FN	NN	NN
Diethyl Ether Diethyl Ketone	NN GF	FN	NN	NN GF	EE	NN	FN	NN
Diethyl Malonate	EE	GG EE	GG EE	EG	EE EE	NN FN	NN GN	NN FF
Dietry Majoriate Dietry Majoriate Dietry Majoriate	EE	EE	EE	EE	EE	GF	FN	GG
Diethylene Glycol Ethyl Ether	EE	EE	EE	EE	EE	FN	FN	FF
Dimethyl Formamide	ĒĒ	ĒĒ	ĒĒ	ĒĒ	ĒĒ	NN	FN	NN
Dimethylsulfoxide	EE	EE	EE	EE	EE	NN	NN	NN
1,4-Ďioxane	GF	GG	GF	GF	EE	GF	FN	GF
Dipropylene Glycol	EE	EE	EE	EE	EE	GF	GF	GG
Ether	NN	FN	NN	NN	EE	NN	FN	NN
Ethyl Acetate	EE	EE	EE	EG	EE	NN	NN	NN
Ethyl Alcohol (absolute) Ethyl Alcohol, 40%	EG EG	EE EE	EG EG	EG EG	EE EE	EG EG	EG EE	EG EG
Ethyl Benzene	FN	GF	FN	FN	EE	NN	NN	NN
Ethyl Benzoate	FF	GG	GF	GF	EE	NN	NN	NN
Ethyl Butyrate	GN	GF	GN	FN	EE	NN	NN	NN
Ethyl Chloride	FN	FF	FN	FN	EE	NN	NN	NN
Ethyl Cyanoacetate	EE	EE	EE	EE	EE	FN	FN	FN
Ethyl Lactate	EE	EE	EE	EE	EE	FN	FN	FF
Ethylene Chloride, Liquid	GN	GF	FN	NN	EE	NN	NN	NN
Ethylene Glycol	<u>EE</u>	EE	EE	EE FF	EE	GF	EE	EE FF
Ethylene Glycol Methyl Ether Ethylene Oxide	EE FF	EE GF	EE FF	EE FN	EE EE	FN FN	FN FN	FF EE
Ferrous Chloride	EE	EE	EE	NA	EE	NA	EE	NA
Fluorides	EE	EE	EE	EE	EE	EE	EE	EE
Fluorine	FN	GN	FN	FN	EG	GF	EG	NN
Formaldehyde, 10%	EE	EE	EE	EG	EE	EG	GF	GF
Formaldehyde, 40%	EG	EE	EG	EG	EE	EG	GF	GF
Formic Acid, 3%	EG	EE	EG	EG	EE	EG	GF	GG
Formic Acid, 50%	EG EG	EE	EG EG	EG EF	EE EE	EG EF	GF FN	GG FF
Formic Acid, 98-100% Fuel Oil	FN	EE GF	EG	GF	EE	EG	EE E	EG
Gasoline	FN	GG	GF	GF	EE	FF	GN	FF
Glacial Acetic Acid	EG	EE	EG	EG	EE	NN	EG	FN
Glycerin	EE	ĒĒ	EE	EE	EE	EE	EE	EE
n-Heptane	FN	GF	FF	FF	EE	EG	GF	EG
Hexane	NN	GF	GF	FN	EE	FN	GN	EG
Hydrochloric Acid, 1-5%	EE	EE	EE	EG	EE	EE	EE	EE
Hydrochloric Acid, 20%	EE	EE	EE	EG	EE	GF	EG	EE
Hydrochloric Acid, 35% Hydrofluoric Acid, 4%	EE EG	EE EE	EG EG	EG EG	EE EE	NN GF	GF GF	EE GF
Hydrofluoric Acid, 4% Hydrofluoric Acid, 48%	EE	EE	EE	EE	EE	NN	GF	FN
Hydrogen Peroxide, 3%	EE	EE	EE	EE	EE	EE	EE	EE
Hydrogen Peroxide, 30%	EG	EE	EG	EG	EE	EE	EE	EE
Hydrogen Peroxide, 90%	EG	EE	EG	EG	EE	EE	EG	EE
Isobutyl Alcohol								
130butyl Alcohol	EE	EE	EE	EG	EE	EG	EG	EG
Isopropyl Acetate Isopropyl Alcohol	EE GF EE	EE EG EE	GF EE	EG GF EE	EE EE EE	EG NN EE	EG NN EE	EG NN EE

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Chemical	LDPE	HDPE	PP/PA	PMP	PTFE	PC	PVC	PSF
Isopropyl Benzene	FN	GF	FN	NN	EE	NN	NN	NN
Kerosene	FN	GG	GF	GF	EE	EE	EE	GF
Lactic Acid, 3%	EG	EE	EG	EG	EE	EG	GF	EE
Lactic Acid, 85%	EE	EE	EG	EG	EE	EG	GF	EE
Methoxyethyl Oleate	EG	EE	EG	EG	EE	FN	NN	NN
Methyl Alcohol	EE	EE	EE	EE	EE	GF	EF	GF
Methyl Ethyl Ketone Methyl Isobutyl Ketone	EG GF	EE EG	EG GF	NN FF	EE EE	NN NN	NN NN	NN NN
Methyl Propyl Ketone	GF	EG	GF	FF	EE	NN	NN	NN
Methylene Chloride	FN	GF	FN	FN	EE	NN	NN	NN
Mineral Oil	GN	EE	EE	EG	EE	EG	EG	EE
Nitric Acid, 1-10%	EE	EE	EE	EE	EE	EG	EG	EF
Nitric Acid, 50%	GG	GN	FN	GN	EE	GF	GF	GF
Nitric Acid, 70%	FN	GN	NN	GF	EE	NN	FN	NN
Nitrobenzene	NN	FN	NN	NN	EE	NN	NN	NN
n-Octane	EE	EE	EE	EE	EE	GF	FN	GF
Orange Oil	FN	GF	GF	FF	EE	FF	FN	FF
Ozone Perchloric Acid	EG GN	EE GN	EG GN	EE GN	EE GF	EG NN	EG GN	EE NN
Perchloroethylene	NN	NN	NN	NN	EE	NN	NN	NN
Phenol, Crystals	GN	GF	GN	FG	EE	EN	FN	FF
Phosphoric Acid, 1-5%	EE	EE	EE	EE	EE	EE	EE	EE
Phosphoric Acid, 85%	EE	EE	EG	EG	EE	EG	EG	EE
Pine Oil	GN	EG	EG	GF	EE	GF	FN	FF
Potassium Hydroxide, 1%	EE	EE	EE	EE	EE	FN	EE	EE
Potassium Hydroxide, Conc.	EE	EE	EE	EE	EE	NN	EG	EE
Propane Gas	NN	FN	NN	NN	EE	FN	EG	FF
Propylene Glycol	EE	EE	EE	EE	EE	GF	FN	GG
Propylene Oxide Resorcinol, Sat.	EG EE	EE EE	EG EE	EG EE	EE EE	GF GF	FN FN	GG NN
Resorcinol, 5at. Resorcinol, 5%	EE	EE	EE	EE	EE	GF	GN	NN
Salicyaldehyde	EG	EE	EG	EG	EE	GF	FN	FF
Salicylic Acid, Powder	EE	ĒĒ	EE	EG	EE	EG	GF	EE.
Salicylic Acid, Sat.	EE	EE	EE	EE	EE	EG	GF	EE
Salt Solutions, Metallic	EE	EE	EE	EE	EE	EE	EE	EE
Silver Acetate	EE	EE	EE	EE	EE	EG	GG	EE
Silver Nitrate	EG	EE	EG	EE	EE	EE	EG	EE
Sodium Acetate, Sat.	EE	EE	EE	EE	EE	EG	GF	EE
Sodium Hydroxide, 1%	EE	EE	EE	EE	EE	FN	EE	EE
Sodium Hydroxide, 50% to Sat. Sodium Hypochlorite, 15%	GG EE	EE EE	EE EE	EE EE	EE EE	NN GF	NN EE	EG EE
Stearic Acid, Crystals	EE	EE	EE	EE	EE	EG	EG	GG
Sulfuric Acid, Crystals Sulfuric Acid, 1-6%	EE	EE	EE	EE	EE	EE	EG	EE
Sulfuric Acid, 20%	EE	EE	EG	EG	EE	EG	EG	EE
Sulfuric Acid, 60%	EG	EE	EG	EG	EE	GF	EG	EE
Sulfuric Acid, 98%	GG	GG	FN	GG	EE	NN	GN	NN
Sulfuric Dioxide, Liq., 46psi	NN	FN	NN	NN	EE	GN	FN	GG
Sulfuric Dioxide, wet or dry	EE	EE	EE	EE	EE	EG	EG	GG
Sulfur Salts	FN	GF	FN	FN	EE	FN	NN	GG
Tartaric Acid	EE	EE	EE	EE	EE	EG	EG	EE
Tetrahydrofuran Thionyl Chloride	FN NN	GF NN	GF NN	FF NN	EE EE	NN NN	NN NN	NN NN
Toluene	FN	GG	GF	FF	EE	FN	NN	NN
Tributyl Citrate	GF	EG	GF	GF	EE	NN	FN	FF
Trichloroethane	NN	FN	NN	NN	EE	NN	NN	NN
Trichloroethylene	NN	FN	NN	NN	EE	NN	NN	NN
Triethylene Glycol	EE	EE	EE	EE	EE	EG	GF	EE
Tripropylene Glycol	EE	EE	EE	EE	EE	EG	GF	EE
Turpentine	FN	GG	GF	FF	EE	FN	GF	NN
Undecyl Alcohol	EF	EG	EG	EG	EE	GF	EF	FF
Urea	EE	EE	EE	EG	EE	NN	GN	NN
Vinylidene Chloride	NN GN	FN	NN	NN	EE	NN NN	NN	NN
Xylene Zinc Stearate	EE	GF EE	FN EE	FN EE	EE EE	EE	NN EG	NN EE
Zinc Otearate					L LL	ᆫᆫ	LG	