



FLEX-PRO[®] Tubing Selection Guide

THE RIGHT TUBE FOR YOUR APPLICATION

This datasheet will guide you through the tube selection process.

Selecting a suitable tubing material is important to the success of the Flex-Pro peristaltic pump in a specific application.

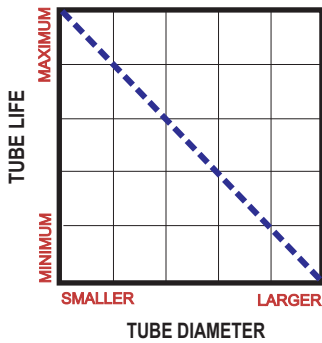
Variables that will affect tube performance include: system pressure, output volume, and chemical being dosed.

TUBING CHARACTERISTICS

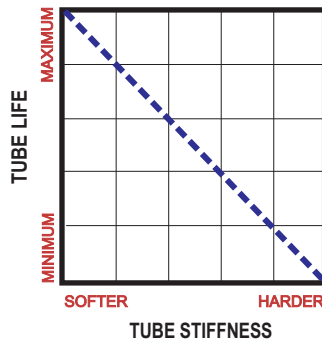
Shown below are the three primary application variables that will affect the life of the tube and the tubing characteristics that are affected by these variables. Chemical resistance is not depicted graphically.

APPLICATION VARIABLES	TUBING CHARACTERISTICS		
	Tube Diameter	Material Formulation	Material Stiffness
Discharge Pressure	X		X
Output Volume	X		
Chemical		X	

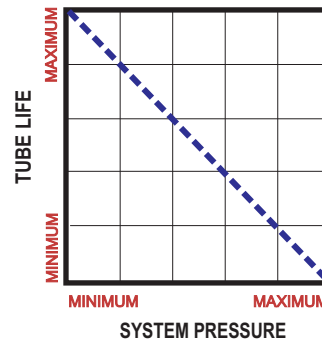
Tube Life vs Tube Diameter



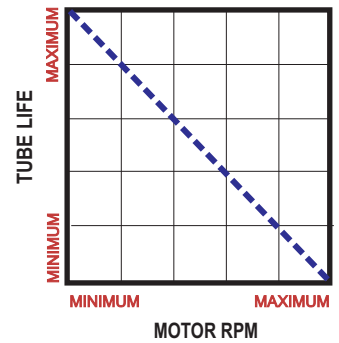
Tube Life vs Tube Stiffness



Tube Life vs Pressure



Tube Life vs Output Volume



MATERIALS AND DIAMETERS

- The first letter in the tubing designation always indicates the tube’s material.
- The second letter indicates the tube size. Two of the same letters indicate a dual tube assembly.
- The letter “L” at the end of the code indicates a “low pressure” or “softer” version of the tube.

N = Flex-A-Prene® - An excellent material for most water treatment applications. Chemically resistant to 25% Sodium Hypochlorite, 50% Sulfuric Acid, 30% Fluosilicic Acid, Ferric Chloride, Alum and many others. Available in a wide stiffness range for both low and high pressure applications.

T = Flex-A-Chem® - This tubing material consists of an outer Norprene jacket with an inner liner that is virtually unaffected by acids, bases, salts, ketones and alcohols. Available in a medium stiffness for applications up to 50 psi.

G = Flex-A-Thane® - This polyurethane material can be used with a variety of chemicals including Oil and Water based Polymers, Sodium Hypochlorite, Alum, Ferric Chloride, fuels and lubricants and many others. Available in a medium stiffness for applications up to 65 psi.

Flex-Pro Peristaltic Pump Tubing Options								
Material Designation	Tube Material	Tube Size Code	Tube Size ID Inches	Tube Stiffness Code	Maximum Pressure Capability			Max Temp F (C)
					A2 PSI (bar)	A3 PSI (bar)	A4 PSI (bar)	
ND	Flex-A-Prene®	D	0.075	Medium	125 (8.6)	125 (8.6)	NA	185 (85)
NEE	Flex-A-Prene®	EE	0.093	Medium	110 (7.6)	110 (7.6)	NA	185 (85)
NGG	Flex-A-Prene®	GG	0.187	Medium	110 (7.6)	110 (7.6)	NA	185 (85)
NHL	Flex-A-Prene®	HL	0.250	Medium	65 (4.5)	65 (4.5)	65 (4.5)	185 (85)
NHHL	Flex-A-Prene®	HHL	0.250	Medium	65 (4.5)	65 (4.5)	65 (4.5)	185 (85)
NJ	Flex-A-Prene®	J	0.312	Hard	NA	125 (8.6)	100 (6.9)	185 (85)
NK	Flex-A-Prene®	K	0.375	Hard	NA	125 (8.6)	80 (5.5)	185 (85)
NKL	Flex-A-Prene®	KL	0.375	Soft	NA	30 (2.1)	30 (2.1)	185 (85)
NL	Flex-A-Prene®	L	0.500	Medium	NA	NA	50 (3.4)	185 (85)
NP	Flex-A-Prene®	P	0.750	Medium	NA	NA	30 (2.1)	185 (85)
TH	Flex-A-Chem®	H	0.250	Medium	50 (3.4)	50 (3.4)	30 (2.1)	130 (54)
TK	Flex-A-Chem®	K	0.375	Medium	NA	50 (3.4)	30 (2.1)	130 (54)
GE	Flex-A-Thane®	E	0.125	Medium	65 (4.5)	65 (4.5)	NA	130 (54)
GG	Flex-A-Thane®	G	0.187	Medium	65 (4.5)	65 (4.5)	NA	130 (54)
GH	Flex-A-Thane®	H	0.250	Medium	NA	65 (4.5)	65 (4.5)	130 (54)
GK	Flex-A-Thane®	K	0.375	Medium	NA	65 (4.5)	65 (4.5)	130 (54)
G2G	Flex-A-Thane®	GG	0.187	Medium	65 (4.5)	65 (4.5)	NA	130 (54)

VISCOSITY EFFECTS

The viscosity of your chemical will have an affect on the pump output volume.

- As the viscosity increases, pump output is reduced.
- Long suction lines will reduce the pump output. Use a flooded suction where possible.
- A small inside diameter suction line will reduce output. Use a large ID pipe or tube where possible.
- Pump tube assemblies with 1/2" pipe thread or 1/2" ID barb connections have the largest through holes. Use these options when pumping viscous fluids.

SUCTION LIFT EFFECTS

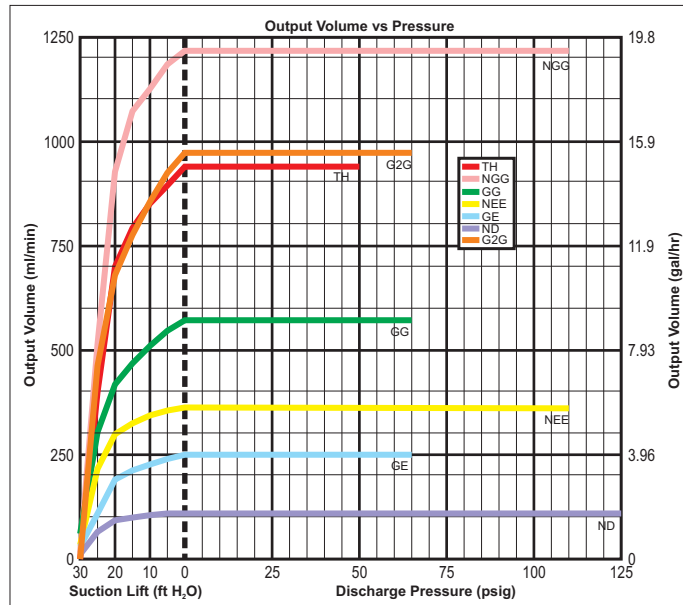
Note that the pump's output specification is based on laboratory tests with water at 72 degrees Fahrenheit (Sp.gr. = 1.0) and 3 feet of suction lift. When lifting fluids with a Specific Gravity other than water, your output rate will vary. Use the following equation and the graphs below to calculate your pump output.

Fluid Sp.Gr. x Suction Lift Height = the equivalent height in water

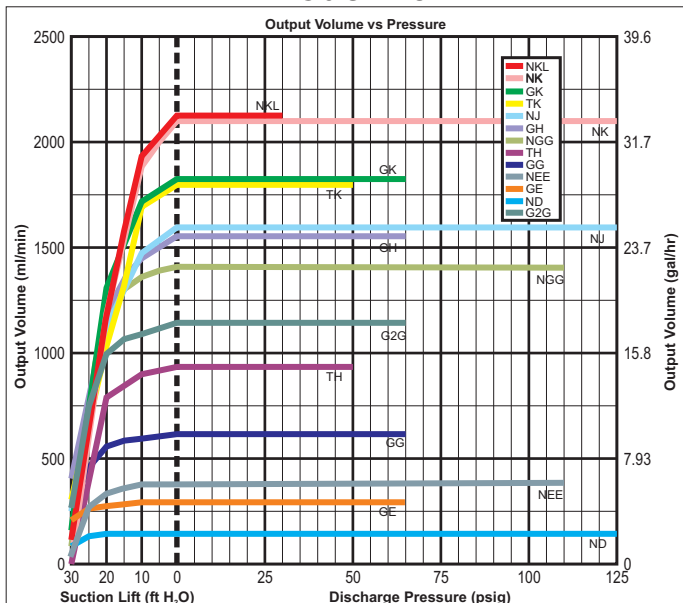
Example: The Sp.Gr. of 12.5% Sodium Hypochlorite at 60 degrees F is 1.20. If the required suction lift is 8 feet, the equivalent suction lift using water is 1.20 x 8 = 9.6 feet.

Model A2

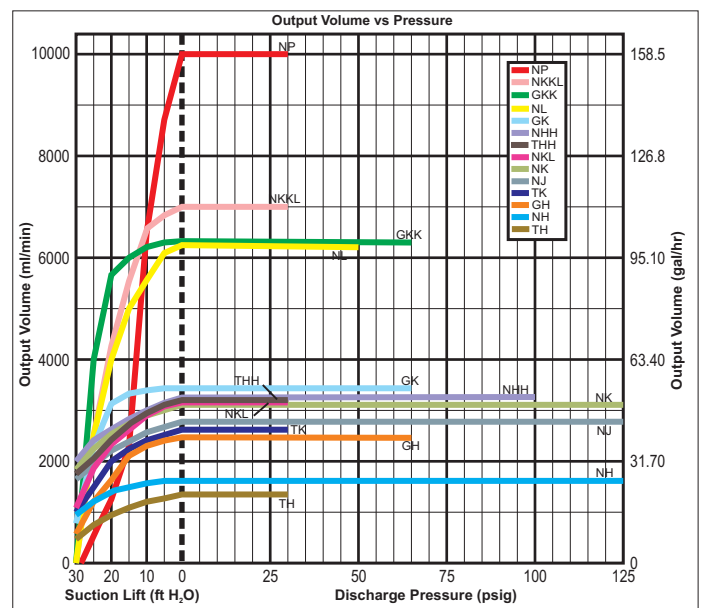
Note: All tests performed after approximately 30 minutes tube break-in period. Tested using 72°F water at atmospheric conditions at sea level. Output volume shown with the pump operating at 125 rpm motor speed.

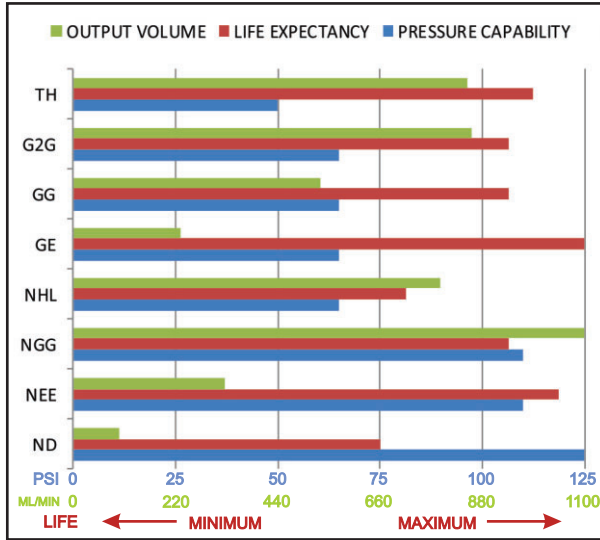


Model A3



Model A4



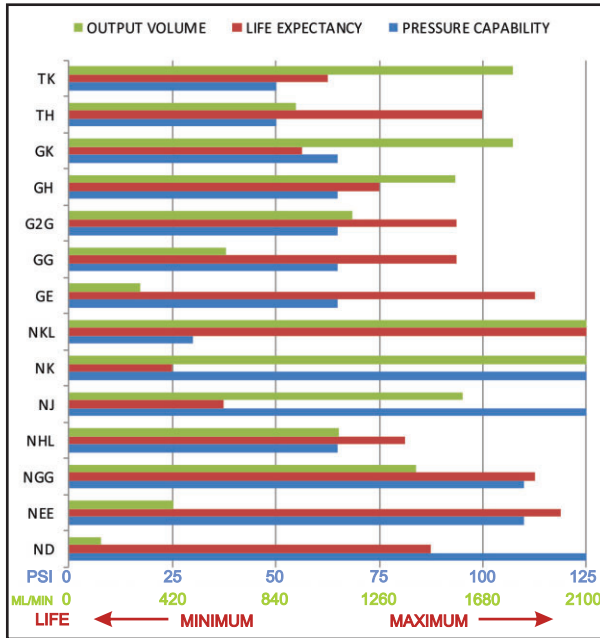


How to use this data:

- 1: Select the tube materials that are resistant to the chemical. See the following pages for chemical resistance data.
- 2: Select the tube sizes that meet the system pressure requirement.
- 3: Select the tube with the highest output volume and life expectancy.

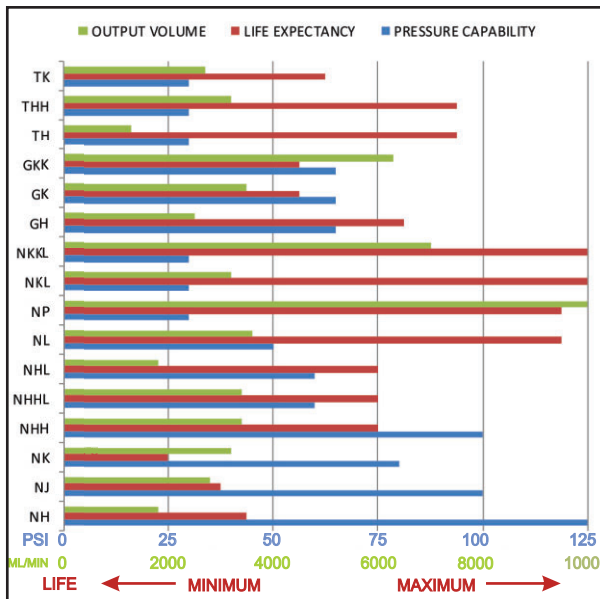
Model A2 Pump Tubes and Output Ranges

Tube Material	Tube Size	Max Pressure (PSI (bar))	Max Temp (F (C))	Output Range (ML/Min)	Roller Size Code
Flex-A-Prene®	ND	125 (8.6)	185 (85)	1 - 108	A2-SND-R
Flex-A-Prene®	NEE	110 (7.6)	185 (85)	3.6 - 361	A2-SNGG-R
Flex-A-Prene®	NGG	110 (7.6)	185 (85)	12 - 1215	A2-SNGG-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	9 - 870	A2-SNGG-R
Flex-A-Chem®	TH	50 (3.4)	130 (54)	7.4 - 740	A2-STH-R
Flex-A-Thane®	GE	65 (4.5)	130 (54)	3 - 253	A2-SGE-R
Flex-A-Thane®	GG	65 (4.5)	130 (54)	6 - 586	A2-SGE-R
Flex-A-Thane®	G2G	65 (4.5)	130 (54)	9.5 - 945	A2-SGE-R



Model A3 Pump Tubes and Output Ranges

Tube Material	Tube Size	Max Pressure (PSI (bar))	Max Temp (F (C))	Output Range (ML/Min)	Roller Size Code
Flex-A-Prene®	ND	125 (8.6)	185 (85)	.05 - 133	A3-SND-R
Flex-A-Prene®	NEE	110 (7.6)	185 (85)	.2 - 425	A3-SNGG-R
Flex-A-Prene®	NGG	110 (7.6)	185 (85)	.6 - 1407	A3-SNGG-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	.4 - 1097	A3-SNGG-R
Flex-A-Prene®	NJ	125 (8.6)	185 (85)	.6 - 1596	A3-SNGG-R
Flex-A-Prene®	NK	125 (8.6)	185 (85)	.8 - 2100	A3-SNGG-R
Flex-A-Prene®	NKL	30 (2.1)	185 (85)	.8 - 2100	A3-STH-R
Flex-A-Chem®	TH	50 (3.4)	130 (54)	.4 - 950	A3-STH-R
Flex-A-Chem®	TK	50 (3.4)	130 (54)	.9 - 2220	A3-SNGG-R
Flex-A-Thane®	GE	65 (4.5)	130 (54)	.1 - 290	A3-SGE-R
Flex-A-Thane®	GG	65 (4.5)	130 (54)	.3 - 637	A3-SGE-R
Flex-A-Thane®	GH	65 (4.5)	130 (54)	.6 - 1570	A3-SGE-R
Flex-A-Thane®	GK	65 (4.5)	130 (54)	.7 - 1800	A3-SGE-R
Flex-A-Thane®	G2G	65 (4.5)	130 (54)	.5 - 1150	A3-SGE-R



Model A4 Pump Tubes and Output Ranges

Tube Material	Tube Size	Max Pressure (PSI (bar))	Max Temp (F (C))	Output Range (ML/Min)	Roller Size Code
Flex-A-Prene®	NH	125 (8.6)	185 (85)	.7 - 1800	A4-MNH-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	.7 - 1800	A4-MNH-R
Flex-A-Prene®	NJ	100 (6.9)	185 (85)	1.1 - 2800	A4-MNH-R
Flex-A-Prene®	NK	80 (5.5)	185 (85)	1.3 - 3200	A4-MNH-R
Flex-A-Prene®	NHH	100 (6.9)	185 (85)	1.4 - 3400	A4-MNH-R
Flex-A-Prene®	NHHL	65 (4.5)	185 (85)	1.4 - 3400	A4-MNH-R
Flex-A-Prene®	NL	50 (3.4)	185 (85)	2.5 - 6300	A4-MNL-R
Flex-A-Prene®	NP	30 (2.1)	185 (85)	4.0 - 10000	A4-MNL-R
Flex-A-Prene®	NKL	30 (2.1)	185 (85)	1.46 - 3650	A4-MNH-R
Flex-A-Prene®	NKKL	30 (2.1)	185 (85)	3.10 - 7760	A4-MNH-R
Flex-A-Chem®	TH	30 (2.1)	130 (54)	.5 - 1300	A4-MTH-R
Flex-A-Chem®	TK	30 (2.1)	130 (54)	1.1 - 2700	A4-MTH-R
Flex-A-Chem®	THH	30 (2.1)	130 (54)	1.3 - 3200	A4-MTH-R
Flex-A-Thane®	GH	65 (4.5)	130 (54)	1.0 - 2500	A4-MGH-R
Flex-A-Thane®	GK	65 (4.5)	130 (54)	1.4 - 3500	A4-MGH-R
Flex-A-Thane®	GKK	65 (4.5)	130 (54)	2.5 - 6300	A4-MGH-R

28 Day Immersions at 73° F

E = Excellent
G = Good
F = Fair
U = Not Recommended

Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®
Acetate Solvents	F	U	U	Bromine, Anhydrous Liquid	U	U	U	Ethylene Chlorohydrin	E	E	U
Acetic Acid, 10% in w	F	F	G	Butadiene	F	G	F	Ethylene Diamine	F	U	U
Acetic Acid, 50-60% in w	G	F	U	Butane	F	G	F	Ethylene Dichloride	F	U	U
Acetic Acid, Glacial, 100%	G	F	U	Butyl Acetate	G	U	F	Ethylene Glycol	F	F	F
Acetic Anhydride	F	F	U	Butyl Alcohol	G	F	U	Ethylene Oxide	F	F	F
Acetone	U	G	U	Butyric Acid	G	U	U	Fatty Acids	F	F	G
Acrylonitrile	G	G	U	Calcium Bisulfite, 1% in w	F	F	F	Ferric Chloride, 43% in w	F	F	F
Adipic Acid, 100% in alc	G	U	U	Calcium Bromide 52%	F	F	F	Ferric Hydroxide	F	F	F
Air	F	F	F	Calcium Carbonate, 25% acids	F	F	F	Ferric Nitrate, 60% in w	F	F	F
Alcohols General	F	F	U	Calcium Chlorate, 30% in w	F	F	F	Ferric Salts	F	F	F
Aliphatic Hydrocarbons	F	U	G	Calcium Chloride, 30% in w	F	F	F	Ferric Sulfate, 5% in w	F	F	F
Allyl Alcohol	F	F	U	Calcium Hydroxide, 10% in glycerol	F	F	U	Ferrous Chloride, 40% in w	F	F	F
Alum, 5% in w	F	F	F	Calcium Hypochlorite, 20% in w	F	F	G	Ferrous Sulfate, 5% in w	F	F	F
Aluminum Chloride, 53% in w	F	F	F	Calcium Nitrate, 55% in w	F	F	F	Fluoborate Salts	F	F	F
Aluminum Chlorohydrate 50%	F	F	-	Calcium Oxide, 3% in w	F	F	F	Fluoboric Acid, 48% in w	U	F	U
Aluminum Fluoride, 0.1% in w	F	F	F	Calcium Salts	F	F	F	Fluorine Gas	U	U	U
Aluminum Hydroxide, 2% in w	F	F	F	Calcium Sulfate, 1% in w	F	F	F	Fluosilicic Acid, 30% in w (Fluoride)	F	F	F
Aluminum Nitrate, 39% in w	F	F	F	Carbon Dioxide, Wet/Dry	F	F	F	Formaldehyde, 37% in w	U	F	U
Aluminum Potassium Sulfate	F	F	F	Carbon Disulfide	U	U	U	Formic Acid, 25% in w	F	F	F
Aluminum Sulfate	F	F	F	Carbon Monoxide	F	F	F	Formic Acid, 40-50% in w	G	F	U
Aluminum Sulfate, 50% in w	F	F	F	Carbon Tetrachloride	U	U	U	Formic Acid, 98% in w	G	F	U
Aluminum Salts	F	F	F	Carbonic Acid	F	F	F	Fruit Juice	F	F	F
Amines	F	U	U	Castor Oil	F	G	F	Fuel Oil	U	U	G
Ammonia, Anhydrous Liquid	G	F	G	Cellosolve	F	U	U	Furfural	U	U	U
Ammonium Acetate, 45% in w	F	F	G	Cellosolve Acetate	F	U	U	Gallic Acid, 17% in acetone	G	U	U
Ammonium Bifluoride, 50% in w	F	F	F	Chloroacetic Acid, 20% in w	G	F	U	Gasoline, Automotive	U	U	G
Ammonium Bisulfite, 50%	F	F	-	Chlorobenzene, Mono, Di, Tri	U	U	U	Gelatin	F	F	F
Ammonium Carbonate, 50% in w	F	F	F	Chloroform	U	U	U	Glucose, 50% in w	F	F	F
Ammonium Chloride, 23% in w	F	F	F	Chlorosulfonic Acid	U	U	U	Glycerol, (Glycerin)	F	F	F
Ammonium Hydroxide, 5-10% in w	F	F	F	Chromic Acid, 10-20% in w	F	F	U	Glycolic Acid, 70% in w	G	F	U
Ammonium Hydroxide, 30% in w	F	F	F	Chromic Acid, 50% in w	F	G	U	Heptane	U	U	G
Ammonium Nitrate, 54% in w	F	F	F	Chromium Salts	F	F	F	Hexane	U	U	G
Ammonium Persulfate, 30% in w	F	F	F	Citric Acid, 50% in w	F	F	G	Hydrazine	F	U	U
Ammonium Phosphate, 21% in w	F	F	F	Coconut Oil	F	G	F	Hydrobromic Acid, 20-50% in w	U	F	U
Ammonium Salts	F	F	F	Copper Salts	F	F	F	Hydrobromic Acid, 100% in w	U	F	U
Ammonium Sulfate, 30% in w	F	F	F	Corn Syrup	F	F	F	Hydrochloric Acid, 10% in w	F	F	F
Amyl Acetate	G	U	U	Cottonseed Oil	F	G	F	Hydrochloric Acid, 37% in w	G	F	F
Amyl Alcohol	U	F	F	Cresol (m, o, or p)	U	F	U	Hydrocyanic Acid	F	F	G
Amyl Chloride	F	U	U	Cresylic Acid	G	U	U	Hydrofluoric Acid, 10% in w	U	F	U
Aniline	F	U	U	Cupric Chloride, 40% in w	F	F	F	Hydrofluoric Acid, 25% in w	U	F	U
Aniline Hydrochloride	F	U	U	Cupric Cyanide, 10% in dilute bases	F	F	F	Hydrofluoric Acid, 40-48% in w	U	F	U
Antimony Salts	F	F	F	Cupric Nitrate, 70% in w	F	F	F	Hydriodic Acid, 55-58% in w	G	F	U
Antimony Trichloride	F	F	F	Cupric Sulfate, 13% in w	F	F	F	Hydrogen Peroxide, 3% in w	F	F	F
Aqua Regia	U	F	F	Cyclohexane	U	U	G	Hydrogen Peroxide, 10% in w	F	F	F
Aqueous Ammonia	F	F	F	Cyclohexanone	U	F	U	Hydrogen Peroxide, 30% in w	F	F	F
Aromatic Hydrocarbons	U	U	U	Detergent Solutions	G	F	F	Hydrogen Peroxide, 90% in w	G	G	U
Arsenic Acid, 20% in w	F	F	F	Diacetone Alcohol	U	F	F	Hydrogen Sulfide	F	F	F
Arsenic Salts	F	F	F	Dibutyl Phthalate	F	F	U	Hydroquinone, 7% in w	G	F	F
ASTM Reference No. 1 Oil	F	U	F	Dichlorobenzene	U	U	U	Hypochlorous Acid, 25% in w	F	F	F
ASTM Reference No. 2 Oil	U	U	F	Diesel Fuel	U	U	G	Iodine, 50 ppm in w	F	F	F
ASTM Reference No. 3 Oil	U	U	F	Diethylamine, 2.5% in w	F	F	F	Isobutyl Alcohol	F	F	U
Barium Carbonate, 1% in w	F	F	F	Diethylene Glycol	F	F	F	Isooctane	U	U	G
Barium Chloride, 27% in w	F	F	F	Diethyl Ether	F	U	U	Isopropyl Acetate	G	U	U
Barium Hydroxide, 5% in w	F	F	F	Dimethylformamide	G	F	U	Isopropyl Alcohol	F	F	U
Barium Salts	F	F	F	Dimethylsulfoxide	F	G	U	Isopropyl Ether	F	U	U
Barium Sulfate, <1% in dilute acids	F	F	F	Diocetyl Phthalate	F	F	U	Jet Fuel, Jp8	U	U	G
Barium Sulfide	F	F	F	Dioxane	U	U	U	Kerosene	U	U	G
Beer	F	F	F	Ether	F	U	U	Ketones	U	F	U
Benzaldehyde	U	F	U	Ethyl Acetate	F	G	U	Lacquer Solvents	G	U	U
Benzene	U	U	U	Ethyl Alcohol (Ethanol)	F	F	U	Lactic Acid, 3-10% in w	F	F	G
Benzenesulfonic Acid	U	U	U	Ethyl Benzoate	U	U	U	Lactic Acid, 85% in w	G	F	U
Benzoic Acid	F	F	U	Ethyl Chloride	F	U	U	Lard, Animal Fat	F	G	F
Benzyl Alcohol	F	F	G	Ethyl Ether	F	U	U	Lead Acetate, 35% in w	F	F	F
Bleach Liquor, 22% in w	F	F	G	Ethylamine, 70% in w	U	G	U	Lead Nitrate, 27% in w	F	F	F
Borax, 6% in w	F	F	F	Ethylene Bromide	U	F	U	Lead Salts	F	F	F
Boric Acid, 4% in w	F	F	F								

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Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % (1)	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®
Lemon Oil	U	U	G	Paraffins	U	U	G	Sodium Peroxide, 20% in w	E	E	E
Lime Slurry (Calcium Hydroxide)	E	E	U	Peracetic acid	U	U	-	Sodium Phosphate, 30% in w	E	E	E
Limonene-D	U	U	G	Perchloric Acid, 67% in w	E	E	U	Sodium Salts	E	E	E
Linoleic Acid	F	F	G	Perchloroethylene	F	U	U	Sodium Sulfate, 38% in w	E	E	E
Linseed Oil	F	G	E	Phenol, 5-10% in w	E	E	U	Sodium Sulfide, 45% in w	E	E	E
Lubricating Oils, Petroleum	U	U	E	Phenol, 91% in w	E	E	U	Sodium Sulfite, 10% in w	E	E	E
Magnesium Carbonate, 1% in w	E	E	E	Phosphoric Acid, <10% in w	E	E	E	Stannic Chloride, 50% in w	E	E	F
Magnesium Chloride, 35% in w	E	E	E	Phosphoric Acid, 25% in w	E	E	E	Stannous Chloride, 45% in w	E	E	E
Magnesium Hydroxide	E	E	E	Phosphoric Acid, 85% in w	E	E	U	Stearic Acid, 5% in alc	F	F	G
Magnesium Hydroxide, 10% in acids	E	E	E	Phosphorous Trichloride Acid	G	E	U	Styrene Monomer	U	U	U
Magnesium Nitrate, 50% in w	E	E	E	Photographic Solutions	G	E	E	Sulfur Chloride	U	E	U
Magnesium Sulfate, 25% in w	E	E	E	Phthalic Acid, 9% in alc	E	E	U	Sulfur Dioxide, Gas Dry	E	E	F
Maleic Acid, 30% in w	F	F	G	Phthalic Anhydride, 9% in alc	E	E	U	Sulfur Dioxide, Gas Wet	E	E	F
Malic Acid, 36% in w	E	E	G	Picric Acid, 1% in w	U	E	U	Sulfur Trioxide, Wet	G	G	U
Manganese Salts	E	E	E	Plating Solutions	E	E	U	Sulfuric Acid, 10% in w	E	E	E
Manganese Sulfate, 34% in w	E	E	E	Polyaluminum Chloride (PAC) in w	E	E	-	Sulfuric Acid, 30% in w	E	E	U
Mercuric Chloride, 6% in w	E	E	E	Potassium Amyl Xanthate (PAX)	-	G	-	Sulfuric Acid, 95-98% in w	U	E	U
Mercuric Cyanide, 8% in w	E	E	E	Potassium Carbonate, 55% in w	E	E	E	Sulfurous Acid	E	E	E
Mercurous Nitrate, 10% in dilute acids	E	E	E	Potassium Chloride, 20% in w	E	E	E	Tannic Acid, 75% in w	G	E	U
Mercury	E	E	E	Potassium Chloride, 33% in w	E	E	E	Tanning Solutions	E	E	F
Mercury Salts	E	E	E	Potassium Dichromate, 5% in w	E	E	E	Tartaric Acid, 56% in w	E	E	E
Methane Gas	E	E	E	Potassium Hydroxide, 43% in w	E	E	U	Tetrahydrofuran	U	U	U
Methyl Acetate	G	U	U	Potassium Hypochlorite, 70% in w	E	E	E	Thionyl Chloride	E	E	F
Methyl Alcohol (Methanol)	E	E	U	Potassium Iodide, 56% in w	E	E	E	Tin Salts	E	E	E
Methyl Bromide	F	U	U	Potassium Nitrate, 10% in w	E	E	E	Titanium Salts	E	E	E
Methyl Chloride	F	U	U	Potassium Oxide, 50% in w	E	E	E	Toluene	U	U	U
Methyl Ethyl Ketone	U	F	U	Potassium Permanganate, 6% in w	U	E	E	Trichloroacetic Acid, 90% in w	G	E	U
Methyl Isobutyl Ketone	U	F	U	Potassium Salts	E	E	E	Trichloroethane	F	U	U
Methylene Chloride	F	U	U	Potassium Sulfate, 10% in w	E	E	E	Triethanolamine	F	U	U
Methyl Methacrylate	U	U	U	Potassium Sulfide, 20% in w	E	E	E	Trichloroethylene	U	U	U
Milk	E	E	E	Propyl Alcohol (Propanol)	F	E	U	Trichloropropane	F	U	U
Mineral Oil	U	U	E	Propylene Glycol	E	E	E	Tricresyl Phosphate	E	E	U
Mineral Spirits	U	U	G	Propylene Oxide	E	E	E	Trisodium Phosphate	E	E	E
Molasses	E	E	E	Pyridine	F	F	U	Turpentine	U	U	G
Monoethanolamine	F	U	U	Salicylic Acid, 1% in w	E	E	G	Urea, 20% in w	E	E	E
Motor Oil	U	U	E	Silicone Oils	F	E	E	Uric Acid	E	E	F
Naphtha	U	U	G	Silver Nitrate, 55% in w	E	E	E	Vinegar	E	E	G
Naphthalene	U	U	G	Skydrol 500A	U	U	G	Vinyl Acetate	G	U	U
Nickel Chloride, 40% in w	E	E	E	Soap Solutions	G	E	E	Water, Brine	E	E	E
Nickel Nitrate, 75% in w	E	E	E	Sodium Acetate, 55% in w	E	G	U	Water, Deionized	E	E	E
Nickel Salts	E	E	E	Sodium Aluminate	E	E	U	Water, Distilled	E	E	E
Nickel Sulfate, 25% in w	E	E	E	Sodium Benzoate, 22% in w	E	E	E	Xylene	U	U	U
Nitric Acid, 10% in w	E	E	U	Sodium Bicarbonate, 7% in w	E	E	E	Zinc Chloride, 80% in w	E	E	E
Nitric Acid, 35% in w	E	E	U	Sodium Bisulfate, 50% in w	E	E	E	Zinc Salts	E	E	E
Nitric Acid, 68-71% in w	U	E	U	Sodium Bisulfite	E	E	E	Zinc Sulfate, 30% in w	E	E	E
Nitrobenzene	U	U	U	Sodium Carbonate, 7% in w (soda ash)	E	E	E				
Nitromethane	U	U	U	Sodium Chlorate, 45% in w	E	E	E				
Nitrous Acid, 10% in w	E	E	F	Sodium Chloride, 20% in w	E	E	E				
Oils, Animal	F	G	E	Sodium Chlorite, 12% in	E	-	-				
Oils, Essential	U	U	F	Sodium Cyanide, 30% in w	E	E	U	(1) - If a concentration is not indicated, assume			
Oils, Hydraulic (Phosphate Ester)	U	U	G	Sodium Dichromate, 70% in w	E	E	E	100% concentration or the maximum percent			
Oils, Hydrocarbon	U	U	E	Sodium Fluoride, 3% in w	E	E	E	solubility in water.			
Oils, Vegetable	F	G	E	Sodium Hydroxide, 10-15% in w	E	E	U				
Oleic Acid	F	F	G	Sodium Hydroxide, 30-50% in w	E	E	U	NOTE - Concentrations of room temperature			
Oleum, 25% in w	E	E	U	Sodium Hypochlorite, 25% in w	E	E	G	liquids are given in % volume. Concentrations of			
Ortho Dichlorobenzene	U	U	U	Sodium Nitrate, 3.5% in w	E	E	E	room temperature solids are given in % weight.			
Oxalic Acid, 12% in w	G	E	U	Sodium Perborate, 25% in w	E	E	E	w = Water			
Ozone, 300pphm	E	E	E	Sodium Permanganate, 40% in w	E	-	-	alc = Alcohol			
Palmitic Acid, 100% in ether	F	F	G	Sodium Persulfate	E	E	E	- = no data			

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