



## TUBING SELECTION GUIDES

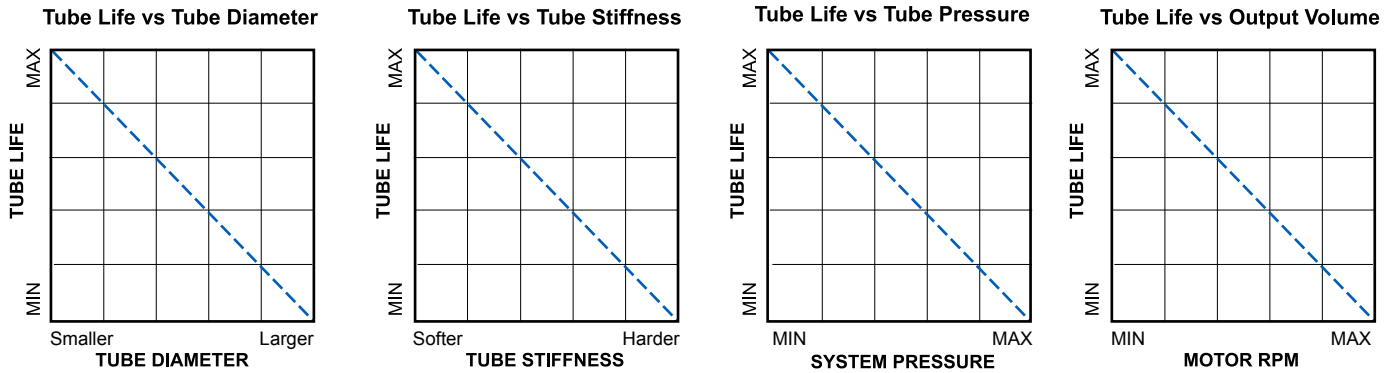
# The Right Tube for Your Application

Selecting a suitable tubing material is important to the success of the FLEXFLO® 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	Tube Diameter	Material Formulation	Material Stiffness
Discharge Pressure	•		•
Output Volume	•		
Chemical		•	



## Materials and Diameters

- The first letter in the tubing designation always indicates the tube's material. (exception M1 pump)
- 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.

### 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.

### 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.

### N = Flex-A-Prene®

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

Material Designation	Tube Material	Tube Size Code	Tube Size ID Inches	Tube Stiffness	Maximum Pressure Capability			Max Temp °F (°C)
					M2 PSI (bar)	M3 PSI (bar)	M4 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	Soft	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)

Material Designation	Tube Material	Tube Size	Tube Size	Tube Stiffness	Maximum Pressure Capability		Max Temp
					M1	M5	
Code	Material	Code	ID Inches	Code	PSI (bar)	PSI (bar)	°F (°C)
1	Flex-A-Thane®	1	0.075	Medium	65 (4.5)	NA	130 (54)
2	Flex-A-Thane®	2	0.187	Medium	65 (4.5)	NA	130 (54)
3	Flex-A-Thane®	3	0.312	Medium	50 (3.4)	NA	130 (54)
4	Flex-A-Prene®	4	0.075	Medium	100 (6.9)	NA	185 (85)
6	Flex-A-Prene®	6	0.150	Medium	100 (6.9)	NA	185 (85)
7	Flex-A-Prene®	7	0.250	Medium	50 (3.4)	NA	185 (85)
8	Flex-A-Chem®	8	0.250	Medium	50 (3.4)	NA	130 (54)
GKK	Flex-A-Thane®	KK	0.375	Medium	NA	50 (3.4)	130 (54)
NHHL	Flex-A-Prene®	HHL	0.250	Medium	NA	65 (4.5)	185 (85)
NLL	Flex-A-Prene®	LL	0.500	Medium	NA	50 (3.4)	185 (85)
NPP	Flex-A-Prene®	PP	0.750	Soft	NA	30 (2.1)	130 (54)

## Viscosity Effects

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

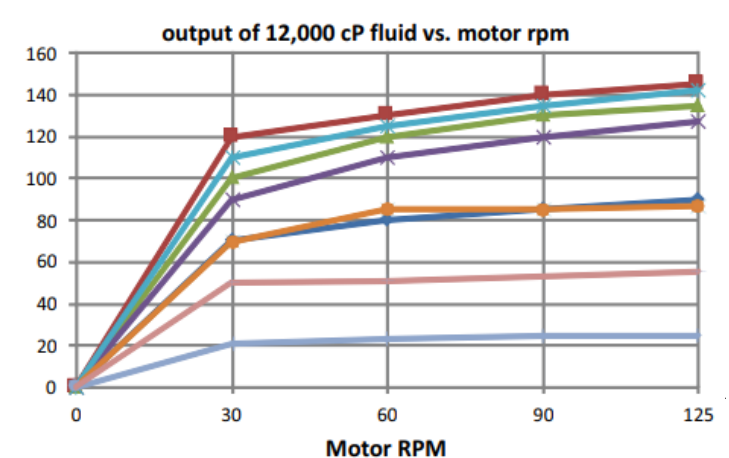
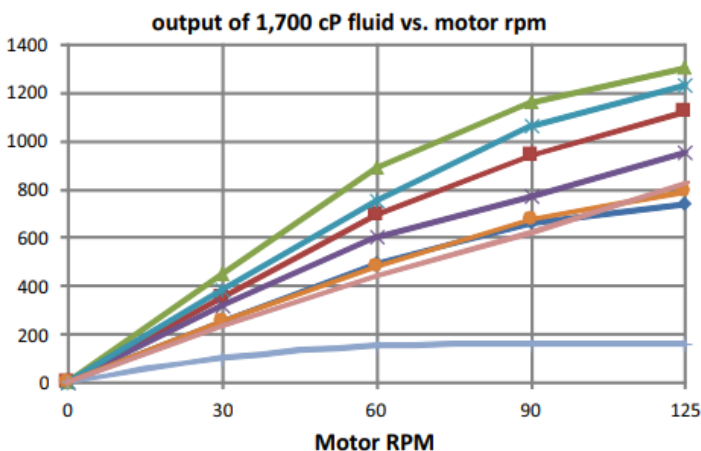
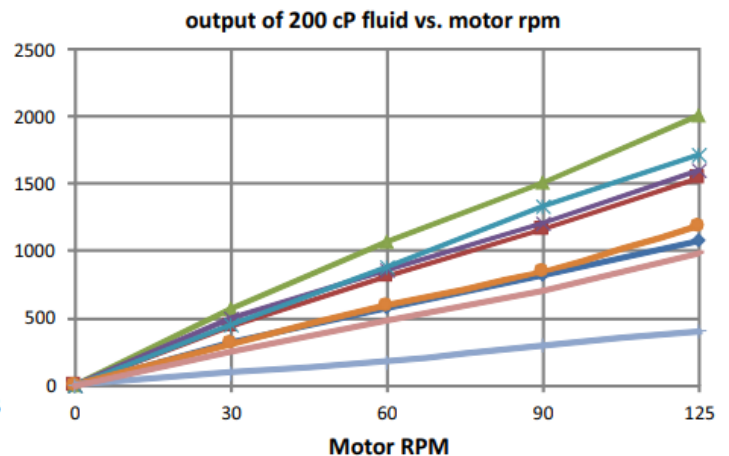
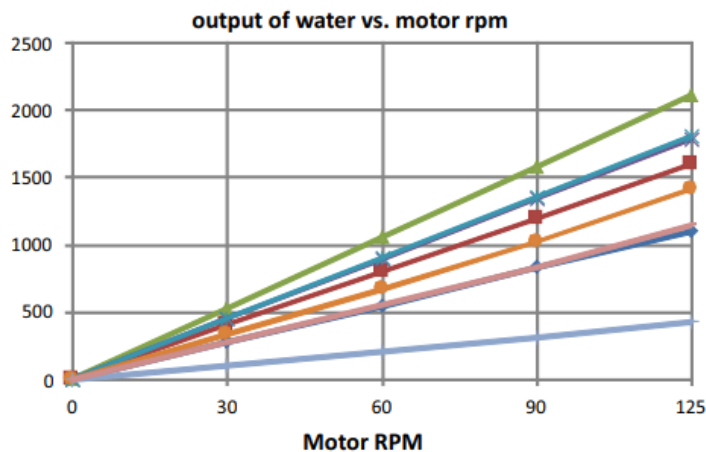
- As the viscosity increases, pump output is reduced.
- Long suction lines will reduce the pump output. Use a flooded suction where possible.
- A small inside diameter suction line will reduce output. Use a large ID pipe or tube where possible.
- Pump tube assemblies with ½" pipe thread or ½" ID barb connections have the largest through holes. Use these options when pumping viscous fluids.

### Tube Material

- ◆ MNH
- MNJ
- ▲ MNK
- ✕ MTK
- ✱ MGK
- MNGG
- ◆ MNEE

## Example of viscosity effects on M3 pump

(Reference the instruction Manuals for specific viscosity curves on M1, M2, M3, M4, M5 pumps)



# 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.

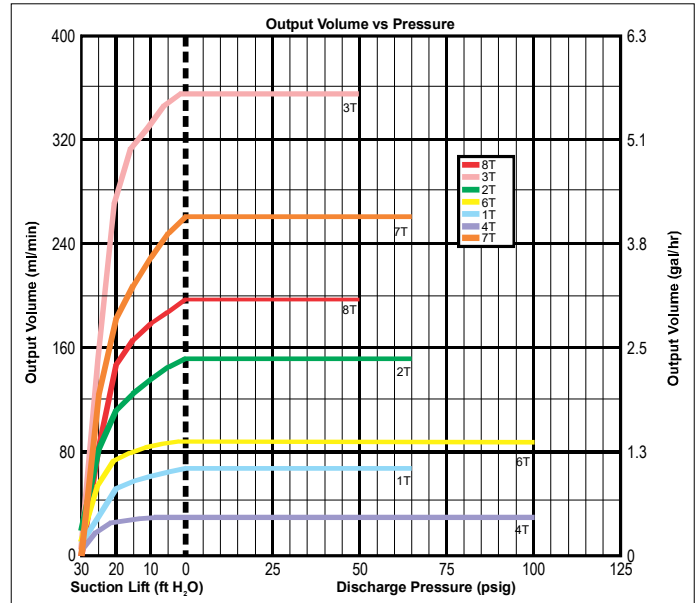
When lifting fluids with a Specific Gravity other than water, your output rate will vary. Use the following equation and the graphs below to calculate your pump output.

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

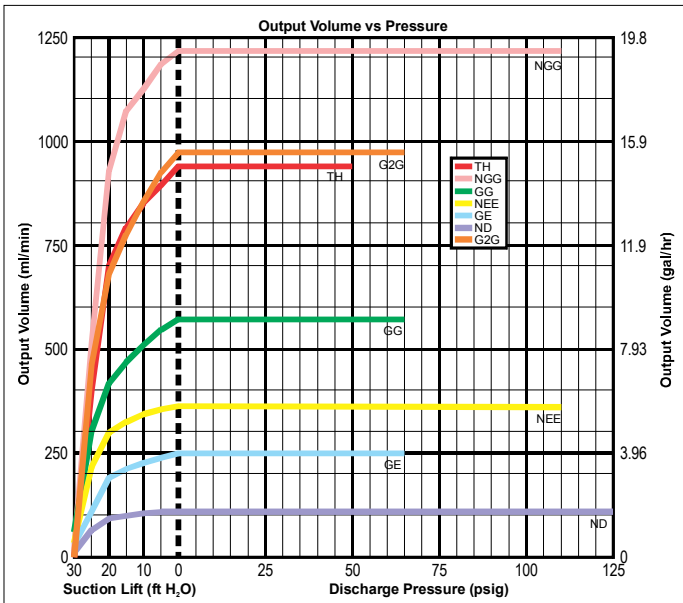
Example: The Sp.Gr. of 12.5% Sodium Hypochlorite at 60 degrees F is 1.20. If the required suction lift is 8 feet, the equivalent suction lift using water is 1.20 x 8 = 9.6 feet.

**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.

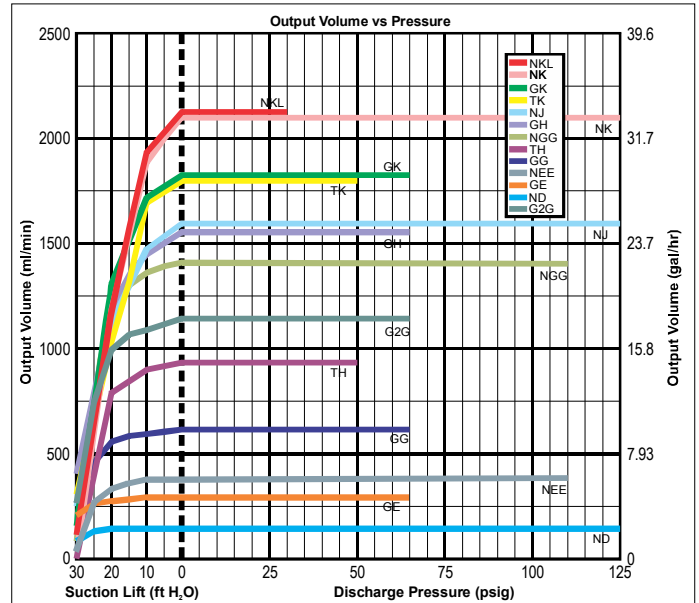
## Model M1



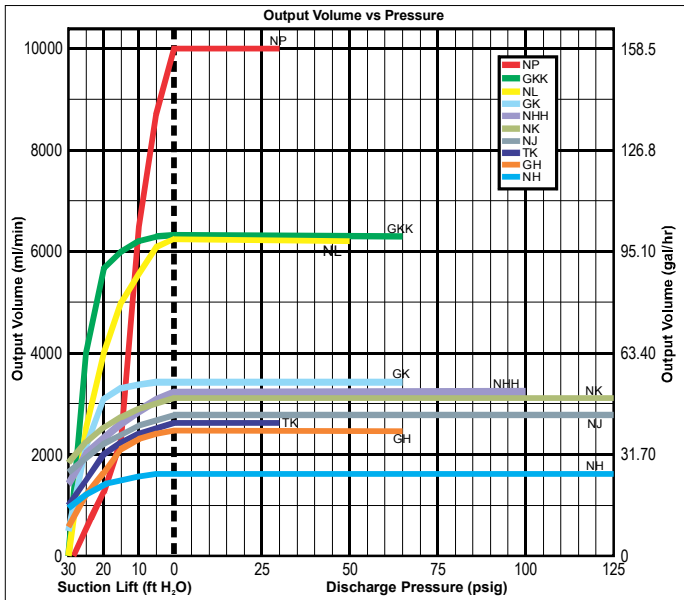
## Model M2



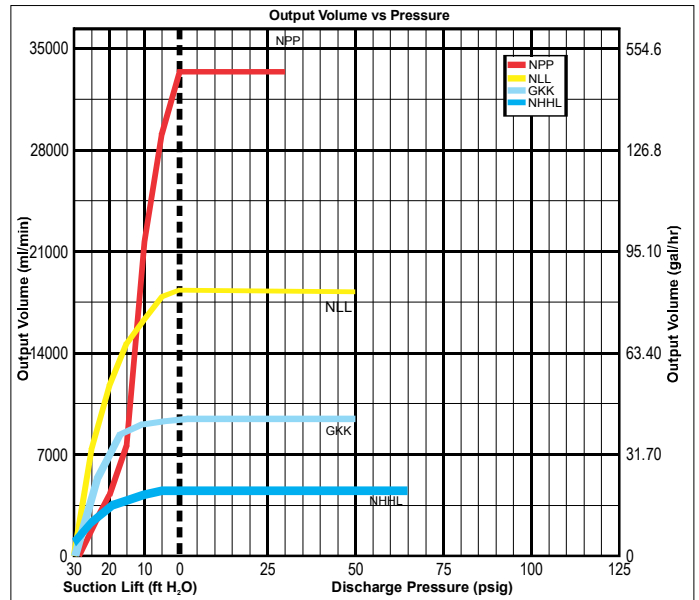
## Model M3



## Model M4



## Model M5

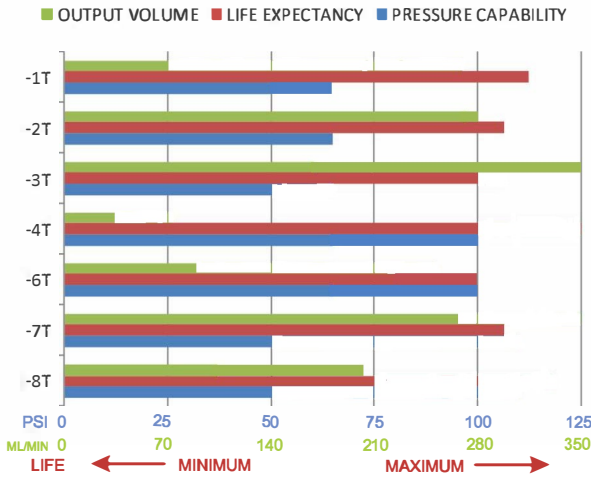


# Tube Performance and Selection

## HOW TO USE THIS DATA:

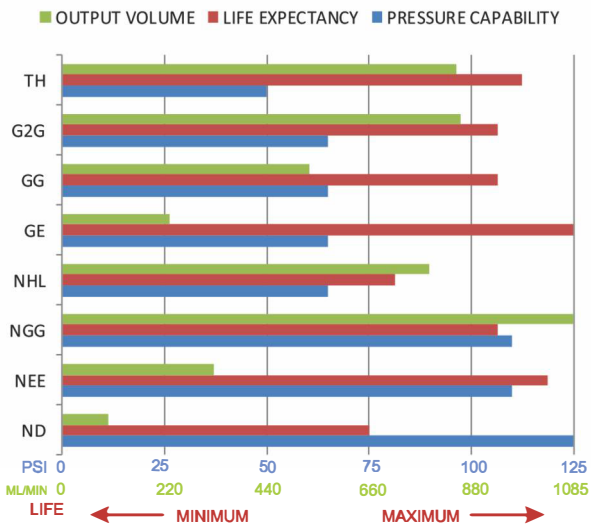
- 1: Select the tube materials that are resistant to the chemical. See the following pages for chemical resistance data.
- 2: Select the tube sizes that meet the system pressure requirement.
- 3: Select the tube with the highest output volume and life expectancy.

### Model M1 Pump Tubes and Output Ranges



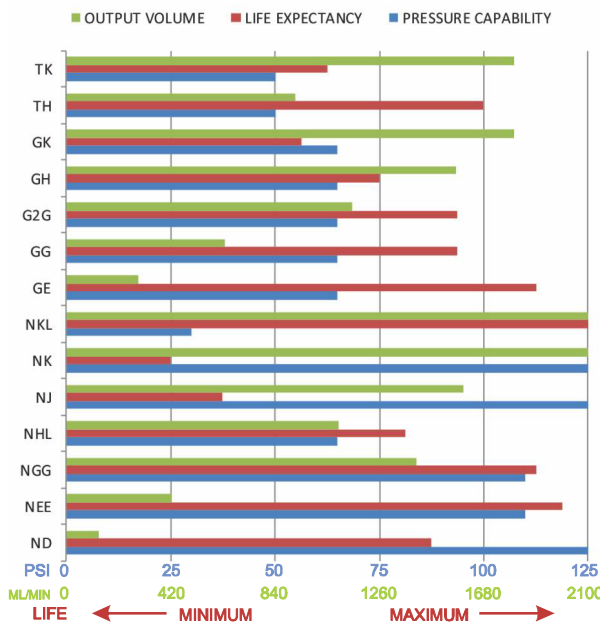
Tube Material	Tube Size	Max Pressure	Max Temp	Output Range	Roller Size
Material	Code	PSI (bar)	°F (°C)	ml/Min	Code
Flex-A-Thane®	1	65 (4.5)	130 (54)	.007 - 69	71000-350
Flex-A-Thane®	2	65 (4.5)	130 (54)	.028 - 280	71000-350
Flex-A-Thane®	3	50 (3.4)	130 (54)	.035 - 353	71000-350
Flex-A-Prene®	4	100 (6.9)	185 (85)	.003 - 28	71000-159
Flex-A-Prene®	6	100 (6.9)	185 (85)	.009 - 85	71000-159
Flex-A-Prene®	7	50 (3.5)	185 (85)	.026 - 263	71000-350
Flex-A-Chem®	8	50 (3.5)	130 (54)	.019 - 195	71000-255

### Model M2 Pump Tubes and Output Ranges



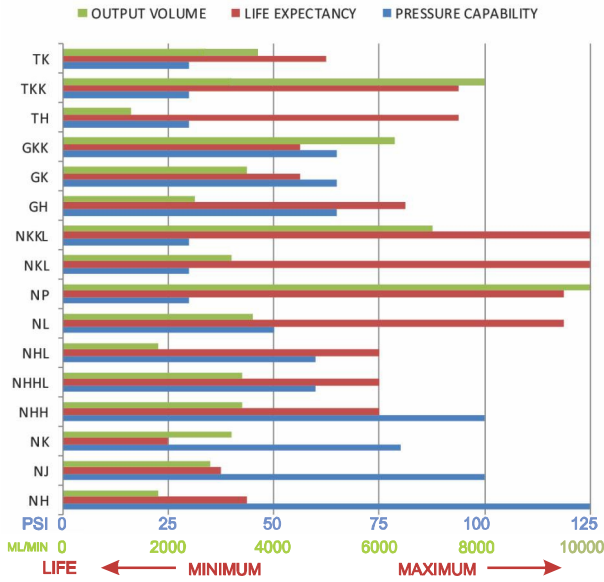
Tube Material	Tube Size	Max Pressure	Max Temp	Output Range	Roller Size
Material	Code	PSI (bar)	°F (°C)	ml/Min	Code
Flex-A-Prene®	ND	125 (8.6)	185 (85)	.5 - 108	A2-SND-R
Flex-A-Prene®	NEE	110 (7.6)	185 (85)	1.4 - 280	A2-SNGG-R
Flex-A-Prene®	NGG	110 (7.6)	185 (85)	5.4 - 1085	A2-SNGG-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	4.4 - 870	A2-SNGG-R
Flex-A-Chem®	TH	50 (3.4)	130 (54)	4.5 - 900	A2-STH-R
Flex-A-Thane®	GE	65 (4.5)	130 (54)	1 - 253	A2-SGE-R
Flex-A-Thane®	GG	65 (4.5)	130 (54)	3 - 587	A2-SGE-R
Flex-A-Thane®	G2G	65 (4.5)	130 (54)	4.7 - 945	A2-SGE-R
Flex-A-Thane®	GH	65 (4.5)	130 (54)	6.7 - 1340	A2-SGE-R

### Model M3 Pump Tubes and Output Ranges



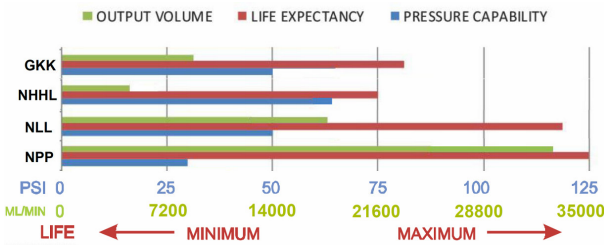
Tube Material	Tube Size	Max Pressure	Max Temp	Output Range	Roller Size
Material	Code	PSI (bar)	°F (°C)	ml/Min	Code
Flex-A-Prene®	ND	125 (8.6)	185 (85)	.013 - 132	A3-SND-R
Flex-A-Prene®	NEE	110 (7.6)	185 (85)	.03 - 300	A3-SNGG-R
Flex-A-Prene®	NGG	110 (7.6)	185 (85)	.12 - 1200	A3-SNGG-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	.11 - 1097	A3-SNGG-R
Flex-A-Prene®	NJ	125 (8.6)	185 (85)	.16 - 1596	A3-SNGG-R
Flex-A-Prene®	NK	125 (8.6)	185 (85)	.21 - 2100	A3-SNGG-R
Flex-A-Prene®	NKL	30 (2.1)	185 (85)	.21 - 2100	A3-STH-R
Flex-A-Chem®	TH	50 (3.4)	130 (54)	.095 - 950	A3-STH-R
Flex-A-Chem®	TK	50 (3.4)	130 (54)	.18 - 1800	A3-SNGG-R
Flex-A-Thane®	GE	65 (4.5)	130 (54)	.029 - 290	A3-SGE-R
Flex-A-Thane®	GG	65 (4.5)	130 (54)	.064 - 637	A3-SGE-R
Flex-A-Thane®	GH	65 (4.5)	130 (54)	.157 - 1570	A3-SGE-R
Flex-A-Thane®	GK	65 (4.5)	130 (54)	.18 - 1800	A3-SGE-R
Flex-A-Thane®	G2G	65 (4.5)	130 (54)	.115 - 1150	A3-SGE-R

## Model M4 Pump Tubes and Output Ranges



Tube Material	Tube Size	Max Pressure	Max Temp	Output Range	Roller Size
Material	Code	PSI (bar)	°F (°C)	ml/Min	Code
Flex-A-Prene®	NH	125 (8.6)	185 (85)	.18 - 1800	A4-MNH-R
Flex-A-Prene®	NHL	65 (4.5)	185 (85)	.18 - 1800	A4-MNH-R
Flex-A-Prene®	NJ	100 (6.9)	185 (85)	.28 - 2800	A4-MNH-R
Flex-A-Prene®	NK	80 (5.5)	185 (85)	.32 - 3200	A4-MNH-R
Flex-A-Prene®	NHH	100 (6.9)	185 (85)	.34 - 3400	A4-MNH-R
Flex-A-Prene®	NHHL	65 (4.5)	185 (85)	.34 - 3400	A4-MNH-R
Flex-A-Prene®	NL	50 (3.4)	185 (85)	.63 - 6300	A4-MNL-R
Flex-A-Prene®	NP	30 (2.1)	185 (85)	1.0 - 10000	A4-MNL-R
Flex-A-Chem®	TK	30 (2.1)	130 (54)	.34 - 3400	A4-MTH-R
Flex-A-Chem®	TKK	30 (2.1)	130 (54)	.08 - 8000	A4-MTH-R
Flex-A-Thane®	GH	65 (4.5)	130 (54)	.25 - 2500	A4-MGH-R
Flex-A-Thane®	GHH	65 (4.5)	130 (54)	.49 - 4480	A4-MGH-R
Flex-A-Thane®	GK	65 (4.5)	130 (54)	.35 - 3500	A4-MGH-R
Flex-A-Thane®	GKK	65 (4.5)	130 (54)	.63 - 6300	A4-MGH-R

## Model M5 Pump Tubes and Output Ranges



Tube Material	Tube Size	Max Pressure	Max Temp	Output Range	Roller Size
Material	Code	PSI (bar)	°F (°C)	gal/hr	Code
Flex-A-Thane®	GKK	50 (3.4)	130 (54)	.0154 - 154	A5-MGKK-R
Flex-A-Prene®	NHHL	65 (4.5)	185 (85)	.0076 - 75.6	A5-MNHHL-R
Flex-A-Prene®	NLL	50 (3.4)	185 (85)	.0286 - 286	A5-MNLL-R
Flex-A-Prene®	NPP	30 (2.1)	185 (85)	.0534 - 534	A5-MPP-R

## Tube Chemical Compatibility

Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®			Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®			Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®		
	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®		Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®		Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®
Acetate Solvents	F	U	U	Aluminum Sulfate, 50% in w	E	E	E	Aniline Hydrochloride	F	U	U
Acetic Acid, 10% in w	E	E	G	Aluminum Salts	E	E	E	Antimony Salts	E	E	E
Acetic Acid, 50-60% in w	G	E	U	Amines	F	U	U	Antimony Trichloride	E	E	F
Acetic Acid, Glacial, 100%	G	E	U	Ammonia, Anhydrous Liquid	G	G	F	Aqua Regia	U	E	U
Acetic Anhydride	E	E	U	Ammonium Acetate, 45% in w	E	E	G	Aqueous Ammonia	E	E	F
Acetone	U	G	U	Ammonium Bifluoride, 50% in w	E	E	E	Aromatic Hydrocarbons	U	U	U
Acrylonitrile	G	G	U	Ammonium Bisulfite, 50%	E	E	-	Arsenic Acid, 20% in w	F	E	E
Adipic Acid, 100% in alc	G	U	U	Ammonium Carbonate, 50% in w	E	E	E	Arsenic Salts	E	E	E
Air	E	E	E	Ammonium Chloride, 23% in w	E	E	E	ASTM Reference No. 1 Oil	F	U	E
Alcohols General	E	E	U	Ammonium Hydroxide, 5-10% in w	E	E	E	ASTM Reference No. 2 Oil	U	U	E
Aliphatic Hydrocarbons	U	U	G	Ammonium Hydroxide, 30% in w	E	E	F	ASTM Reference No. 3 Oil	U	U	E
Allyl Alcohol	F	E	U	Ammonium Nitrate, 54% in w	E	E	E	Barium Carbonate, 1% in w	E	E	E
Alum, 5% in w	E	E	E	Ammonium Persulfate, 30% in w	E	E	E	Barium Chloride, 27% in w	E	E	E
Aluminum Chloride, 53% in w	E	E	E	Ammonium Phosphate, 21% in w	E	E	E				
Aluminum Chlorohydrate 50%	E	E	-	Ammonium Salts	E	E	E	<b>NOTE:</b> 28 Day Immersions at 73 °F			
Aluminum Fluoride, 0.1% in w	E	E	E	Ammonium Sulfate, 40% in w	E	E	E	E = Excellent			
Aluminum Hydroxide, 2% in w	E	E	E	Amyl Acetate	G	U	U	G = Good			
Aluminum Nitrate, 39% in w	E	E	E	Amyl Alcohol	U	E	F	F = Fair			
Aluminum Potassium Sulfate	E	E	E	Amyl Chloride	F	U	U	U = Not Recommended			
Aluminum Sulfate	E	E	E	Aniline	F	U	U				

Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®			Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®			Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®		
	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®		Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®		Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®
Barium Hydroxide, 5% in w	E	E	E	Diesel Fuel	U	U	G	Hydroquinone, 7% in w	G	E	E
Barium Salts	E	E	E	Diethyl Ether	F	U	U	Hypochlorous Acid, 25% in w	E	E	F
Barium Sulfate, <1% in dilute acids	E	E	E	Diethylamine, 2.5% in w	E	E	E	Iodine, 50 ppm in w	E	E	E
Barium Sulfide	E	E	E	Diethylene Glycol	E	E	E	Isobutyl Alcohol	F	E	U
Beer	E	E	E	Dimethylformamide	G	E	U	Isocetane	U	U	G
Benzaldehyde	U	F	U	Dimethylsulfoxide	E	G	U	Isopropyl Acetate	G	U	U
Benzene	U	U	U	Diocetyl Phthalate	E	E	U	Isopropyl Alcohol	F	E	U
Benzenesulfonic Acid	U	U	U	Dioxane	U	U	U	Isopropyl Ether	F	U	U
Benzoic Acid	E	E	U	Ether	F	U	U	Jet Fuel, Jp8	U	U	G
Benzyl Alcohol	E	E	U	Ethyl Acetate	F	G	U	Kerosene	U	U	G
Bleach Liquor, 22% in w	E	E	G	Ethyl Alcohol (Ethanol)	F	E	U	Ketones	U	F	U
Borax, 6% in w	E	E	E	Ethyl Benzoate	U	U	U	Lacquer Solvents	G	U	U
Boric Acid, 4% in w	E	E	E	Ethyl Chloride	F	U	U	Lactic Acid, 3-10% in w	E	E	G
Bromine, Anhydrous Liquid	U	U	U	Ethyl Ether	F	U	U	Lactic Acid, 85% in w	G	E	U
Butadiene	E	G	E	Ethylamine, 70% in w	U	G	U	Lard, Animal Fat	F	G	E
Butane	E	G	E	Ethylene Bromide	U	F	U	Lead Acetate, 35% in w	E	E	E
Butyl Acetate	G	U	U	Ethylene Chlorohydrin	E	E	U	Lead Nitrate, 27% in w	E	E	E
Butyl Alcohol	G	E	U	Ethylene Diamine	F	U	U	Lead Salts	E	E	E
Butyric Acid	G	U	U	Ethylene Dichloride	F	U	U	Lemon Oil	U	U	G
Calcium Bisulfite, 1% in w	E	E	E	Ethylene Glycol	E	E	E	Lime Slurry (Calcium Hydroxide)	E	E	U
Calcium Bromide 52%	E	E	E	Ethylene Oxide	E	E	E	Limonene-D	U	U	G
Calcium Carbonate, 25% acids	E	E	E	Fatty Acids	F	F	G	Linoleic Acid	F	F	G
Calcium Chlorate, 30% in w	E	E	E	Ferric Chloride, 43% in w	E	E	E	Linseed Oil	F	G	E
Calcium Chloride, 30% in w	E	E	E	Ferric Hydroxide	E	E	U	Lubricating Oils, Petroleum	U	U	E
Calcium Hydroxide, 10% in glycerol	E	E	U	Ferric Nitrate, 60% in w	E	E	E	Magnesium Carbonate, 1% in w	E	E	E
Calcium Hydroxide, 20% in water	E	E	U	Ferric Salts	E	E	E	Magnesium Chloride, 35% in w	E	E	E
Calcium Hypochlorite, 20% in w	E	E	G	Ferric Sulfate, 5% in w	E	E	E	Magnesium Hydroxide	E	E	E
Calcium Nitrate, 55% in w	E	E	E	Ferrous Chloride, 40% in w	E	E	E	Magnesium Hydroxide, 10% in acids	E	E	E
Calcium Oxide, 3% in w	E	E	E	Ferrous Salts	E	E	E	Magnesium Nitrate, 50% in w	E	E	E
Calcium Salts	E	E	E	Ferrous Sulfate, 5% in w	E	E	E	Magnesium Sulfate, 25% in w	E	E	E
Calcium Sulfate, 1% in w	E	E	E	Fluoborate Salts	E	E	E	Maleic Acid, 30% in w	F	F	G
Carbon Dioxide, Wet/Dry	E	E	E	Fluoboric Acid, 48% in w	U	E	U	Malic Acid, 36% in w	E	E	G
Carbon Disulfide	U	U	U	Fluorine Gas	U	U	U	Manganese Salts	E	E	E
Carbon Monoxide	E	E	E	Fluosilicic Acid, 30% in w (Fluoride)	E	E	F	Manganese Sulfate, 34% in w	E	E	E
Carbon Tetrachloride	U	U	U	Formaldehyde, 37% in w	U	F	U	Mercuric Chloride, 6% in w	E	E	E
Carbonic Acid	E	E	E	Formic Acid, 25% in w	E	E	F	Mercuric Cyanide, 8% in w	E	E	E
Castor Oil	F	G	E	Formic Acid, 40-50% in w	G	E	U	Mercurous Nitrate, 10% in dilute acids	E	E	E
Cellosolve	F	U	U	Formic Acid, 98% in w	G	E	U	Mercury	E	E	E
Cellosolve Acetate	F	U	U	Fruit Juice	E	E	E	Mercury Salts	E	E	E
Chloroacetic Acid, 20% in w	G	E	U	Fuel Oil	U	U	G	Methane Gas	E	E	E
Chlorobenzene, Mono, Di, Tri	U	U	U	Furfural	U	U	U	Methyl Acetate	G	U	U
Chloroform	U	U	U	Gallic Acid, 17% in acetone	G	U	U	Methyl Alcohol (Methanol)	E	E	U
Chlorosulfonic Acid	U	U	U	Gasoline, Automotive	U	U	G	Methyl Bromide	F	U	U
Chromic Acid, 10-20% in w	E	E	U	Gelatin	E	E	E	Methyl Chloride	F	U	U
Chromic Acid, 50% in w	F	G	U	Glucose, 50% in w	E	E	E	Methyl Ethyl Ketone	U	F	U
Chromium Salts	E	E	E	Glycerol, (Glycerin)	E	E	E	Methyl Isobutyl Ketone	U	F	U
Citric Acid, 50% in w	E	E	G	Glycolic Acid, 70% in w	G	E	U	Methyl Methacrylate	U	U	U
Coconut Oil	F	G	E	Heptane	U	U	G	Methylene Chloride	F	U	U
Copper Salts	E	E	E	Hexane	U	U	G	Milk	E	E	E
Copper Sulfate Pentahydrate, 20% in w	E	E	-	Hydrazine	F	U	U	Mineral Oil	U	U	E
Corn Syrup	E	E	E	Hydriodic Acid, 55-58% in w	G	E	U	Mineral Spirits	U	U	G
Cottonseed Oil	F	G	E	Hydrobromic Acid, 100% in w	U	E	U	Molasses	E	E	E
Cresol (m, o, or p)	U	E	U	Hydrobromic Acid, 20-50% in w	U	E	U	Monoethanolamine	F	U	U
Cresylic Acid	G	U	U	Hydrochloric Acid, 10% in w	E	E	F	Motor Oil	U	U	E
Cupric Chloride, 40% in w	E	E	E	Hydrochloric Acid, 37% in w	G	E	U	Naphtha	U	U	G
Cupric Cyanide, 10% in dilute bases	E	E	E	Hydrocyanic Acid	E	E	G	Naphthalene	U	U	G
Cupric Nitrate, 70% in w	E	E	E	Hydrofluoric Acid, 10% in w	U	E	U				
Cupric Sulfate, 13% in w	E	E	E	Hydrofluoric Acid, 25% in w	U	E	U				
Cyclohexane	U	U	G	Hydrofluoric Acid, 40-48% in w	U	E	U				
Cyclohexanone	U	F	U	Hydrogen Peroxide, 10% in w	E	E	E				
Detergent Solutions	G	E	E	Hydrogen Peroxide, 3% in w	E	E	E				
Diacetone Alcohol	U	E	F	Hydrogen Peroxide, 30% in w	E	E	F				
Dibutyl Phthalate	E	E	U	Hydrogen Peroxide, 90% in w	G	G	U				
Dichlorobenzene	U	U	U	Hydrogen Sulfide	E	E	E				

**NOTE:** 28 Day Immersions at 73 °F  
E = Excellent  
G = Good  
F = Fair  
U = Not Recommended

Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®	Chemical, Conc. % <sup>(1)</sup>	Flex-A-Prene®	Flex-A-Chem®	Flex-A-Thane®
Nickel Chloride, 40% in w	E	E	E	Potassium Sulfide, 20% in w	E	E	E	Tannic Acid, 75% in w	G	E	U
Nickel Nitrate, 75% in w	E	E	E	Propyl Alcohol (Propanol)	F	E	U	Tanning Solutions	E	E	F
Nickel Salts	E	E	E	Propylene Glycol	E	E	E	Tartaric Acid, 56% in w	E	E	E
Nickel Sulfate, 25% in w	E	E	E	Propylene Oxide	E	E	E	Tetrahydrofuran	U	U	U
Nitric Acid, 10% in w	E	E	U	Pyridine	F	F	U	Thionyl Chloride	E	E	F
Nitric Acid, 35% in w	E	E	U	Salicylic Acid, 1% in w	E	E	G	Tin Salts	E	E	E
Nitric Acid, 68-71% in w	U	E	U	Silicone Oils	F	E	E	Titanium Salts	E	E	E
Nitrobenzene	U	U	U	Silver Nitrate, 55% in w	E	E	E	Toluene	U	U	U
Nitromethane	U	U	U	Skydrol 500A	U	U	G	Trichloroacetic Acid, 90% in w	G	E	U
Nitrous Acid, 10% in w	E	E	F	Soap Solutions	G	E	E	Trichloroethane	F	U	U
Oils, Animal	F	G	E	Sodium Acetate, 55% in w	E	G	U	Trichloroethylene	U	U	U
Oils, Essential	U	U	F	Sodium Aluminate	E	E	U	Trichloropropane	F	U	U
Oils, Hydraulic (Phosphate Ester)	U	U	G	Sodium Benzoate, 22% in w	E	E	E	Tricresyl Phosphate	E	E	U
Oils, Hydrocarbon	U	U	E	Sodium Bicarbonate, 7% in w	E	E	E	Triethanolamine	F	U	U
Oils, Vegetable	F	G	E	Sodium Bisulfate, 50% in w	E	E	E	Trisodium Phosphate	E	E	E
Oleic Acid	F	F	G	Sodium Bisulfite	E	E	E	Turpentine	U	U	G
Oleum, 25% in w	E	E	U	Sodium Carbonate, 7% in w (soda ash)	E	E	E	Urea, 20% in w	E	E	E
Ortho Dichlorobenzene	U	U	U	Sodium Chlorate, 45% in w	E	E	E	Uric Acid	E	E	F
Oxalic Acid, 12% in w	G	E	U	Sodium Chloride, 20% in w	E	E	E	Vinegar	E	E	G
Ozone, 300pphm	E	E	E	Sodium Chlorite, 12% in	E	-	-	Vinyl Acetate	G	U	U
Palmitic Acid, 100% in ether	F	F	G	Sodium Cyanide, 30% in w	E	E	U	Water, Brine	E	E	E
Paraffins	U	U	G	Sodium Dichromate, 70% in w	E	E	E	Water, Deionized	E	E	E
Peracetic acid up to 15%	F	G	U	Sodium Fluoride, 3% in w	E	E	E	Water, Distilled	E	E	E
Peracetic acid 15% to 18%	F	F	U	Sodium Hydroxide (Caustic Soda, Lye), 10-15% in w	E	E	U	Xylene	U	U	U
Peracetic acid 20% to 30%	U	U	U	Sodium Hydroxide (Caustic Soda, Lye), 30-50% in w	E	E	U	Zinc Chloride, 80% in w	E	E	E
Perchloric Acid, 67% in w	E	E	U	Sodium Hypochlorite, 12.5% in w	E	E	G	Zinc Salts	E	E	E
Perchloroethylene	F	U	U	Sodium Hypochlorite, 25% in w	E	E	G	Zinc Sulfate, 30% in w	E	E	E
Phenol, 5-10% in w	E	E	U	Sodium Nitrate, 3.5% in w	E	E	E				
Phenol, 91% in w	E	E	U	Sodium Perborate, 25% in w	E	E	E				
Phosphoric Acid, <10% in w	E	E	E	Sodium Permanganate, 20% in w	E	-	-				
Phosphoric Acid, 25% in w	E	E	E	Sodium Permanganate, 40% in w	U	-	-				
Phosphoric Acid, 85% in w	E	E	U	Sodium Peroxide, 20% in w	E	E	E				
Phosphorous Trichloride Acid	G	E	U	Sodium Persulfate	E	E	E				
Photographic Solutions	G	E	E	Sodium Phosphate, 30% in w	E	E	E				
Phthalic Acid, 9% in alc	E	E	U	Sodium Salts	E	E	E				
Phthalic Anhydride, 9% in alc	E	E	U	Sodium Sulfate, 38% in w	E	E	E				
Picric Acid, 1% in w	U	E	U	Sodium Sulfide, 45% in w	E	E	E				
Plating Solutions	E	E	U	Sodium Sulfite, 10% in w	E	E	E				
Polyaluminum Chloride (PAC) in w	E	E	-	Stannic Chloride, 50% in w	E	E	F				
Potassium Amyl Xanthate (PAX)	-	G	-	Stannous Chloride, 45% in w	E	E	E				
Potassium Carbonate, 55% in w	E	E	E	Stearic Acid, 5% in alc	F	F	G				
Potassium Chloride, 20% in w	E	E	E	Styrene Monomer	U	U	U				
Potassium Cyanide, 33% in w	E	E	E	Sulfur Chloride	U	E	U				
Potassium Dichromate, 5% in w	E	E	E	Sulfur Dioxide, Gas Dry	E	E	F				
Potassium Hydroxide, 43% in w	E	E	U	Sulfur Dioxide, Gas Wet	E	E	F				
Potassium Hypochlorite, 70% in w	E	E	E	Sulfur Trioxide, Wet	G	G	U				
Potassium Iodide, 56% in w	E	E	E	Sulfuric Acid, 10% in w	E	E	E				
Potassium Nitrate, 10% in w	E	E	E	Sulfuric Acid, 30% in w	E	E	U				
Potassium Oxide, 50% in w	E	E	E	Sulfuric Acid, 95-98% in w	U	E	U				
Potassium Permanganate, 6% in w	E	E	E	Sulfurous Acid	E	E	E				
Potassium Salts	E	E	E								
Potassium Sulfate, 10% in w	E	E	E								

(1) - If a concentration is not indicated, assume 100% concentration or the maximum percent solubility in water.

**NOTE:** Concentrations of room temperature liquids are given in % volume. Concentrations of room temperature solids are given in % weight.  
w = Water  
alc = Alcohol  
- = no data

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