



# MARCH PUMPS

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## CHEMICAL RESISTANCE GUIDE

This chemical guide serves as a starting point for pump selection. The information found in this guide should be used as only a recommendation, not as a guarantee. March has done its best to compile the information and to determine its accuracy, but March does not warrant that the information located below is accurate or complete. It is recommended a pump should be tested under working conditions to determine the suitability of the pump for specific applications whenever possible. All chemicals listed have been evaluated at 68°F. To review an application, contact March Manufacturing. March Manufacturing does not warranty applications under any circumstances.

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\*\*A-Recommended \*\*B-Questionable \*\*C-Not Recommended

Chemical Solution	FORMULA	Resistance @ % Concentration	Specific Gravity @ 100% Concentration	Materials														
				Ryton	Polypropylene	Kynar (Glass)	Kynar (Natural)	Nylon	Hastelloy "C"	Stainless 316	Viton	Buna "N"	Teflon	Ceramic Magnet	Carbon	Ceramic	Mica Fill Teflon	Ryton Teflon Carbon
				Plastics				Metals		"O" Rings			Bushings					
Acetic Acid (Glacial)	CH <sub>3</sub> COOH	97		A	A	A	A	C	A	A	C	C	A	A	A	A	A	A
Acetic Acid	CH <sub>3</sub> COOH	50	1.05	A	A	A	A	C	A	A	A	C	A	A	A	A	A	A
Acetic Anhydride	(CH <sub>3</sub> CO) <sub>2</sub> O	100	1.08	A	A	C	C	C	A	A	C	C	A		A	A		A
Acetone	CH <sub>3</sub> COCH <sub>3</sub>	100	0.80	A	A	C	C	A	A	A	C	C	A	A	A	A	A	A
Acetophenone	C <sub>6</sub> H <sub>5</sub> COCH <sub>3</sub>	100	1.03	A	B	C	C	B	A	A	C	C	A		A	A		A
Acetyl Chloride	CH <sub>3</sub> COCl	100	1.10	A	B	A	A	C		A	A	C	A		A			A
Aluminum Chloride	AlCl <sub>3</sub>		2.44	A	A	A	A	C	A	B	A	A	A	B	A	A	A	A
Aluminum Fluoride	AlF <sub>3</sub>		2.88		A	A	A	C	A	B	A	A	A	B	A	A		
Aluminum Sulfate (Alum)	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>		2.70	A	A	A	A	A	A	A	A	A	A	B	A	A		A
Ammonia (Aqueous)	NH <sub>3</sub> (aq)	10		A	A	C	C		A	A	B	B	A	A	A	A	A	A
Ammonium Carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub>	SAT.			A	A	A	A	A	B	A	C	A	A	A	A	A	
Ammonium Chloride	NH <sub>4</sub> Cl	SAT.	1.50	A	A	A	A	A	A	B	A	A	A	A	A	A	A	A
Ammonium Fluoride	NH <sub>4</sub> F	20	1.30	C	A	A	A		A	C	C	C	A		A	A		C
Ammonium Hydroxide	NH <sub>4</sub> OH	10		A	A	A	A	A	A	A	B	C	A	A	A	A		A
Ammonium Nitrate	NH <sub>4</sub> NO <sub>3</sub>	SAT.	1.70	A	A	A	A	C	A	A	C	A	A		A	A		A
Ammonium Persulfate	(NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	SAT.	2.00		A	C	C	C	A	A	A	A	A	A	A	A		

# Chemical Solution

FORMULA		Resistance @ % Concentration																
		Specific Gravity @ 100% Concentration																
		Ryton	Polypropylene	Kynar (Glass)	Kynar (Natural)	Nylon	Hastelloy "C"	Stainless 316	Viton	Buna "N"	Teflon	Ceramic Magnet	Carbon	Ceramic	Mica Fill Teflon	Ryton Teflon Carbon		
		Plastics					Metals		"O" Rings			Bushings						
Ammonium Sulfate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	SAT.	1.80	A	A	A	A	C	A	B	C	A	A	A	A	A	A	
Ammonium Sulfide	(NH <sub>4</sub> ) <sub>2</sub> S	SAT.			A	A	A		A	A	C	A	A		A	A		
Ammonium Thiocyanate	NH <sub>4</sub> SCN	SAT.	1.30		A	A	A		A	A	A	A	A		A	A		
Amyl Acetate	CH <sub>3</sub> CO <sub>2</sub> C <sub>5</sub> H <sub>11</sub>	100	0.86	A	C	A	A	B	A	A	C	C	A		A	A	A	A
Amyl Alcohol	C <sub>5</sub> H <sub>11</sub> OH	100	0.80	A	A	A	A	A	A	A	C	A	A		A	A	A	A
Amyl Chloride	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>2</sub> Cl	100	0.80	A	C	A	A	C	A	A	B	C	A		A	A		
Aniline	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	100	1.02	A	A	A	A	C	A	A	C	C	A		A	A	A	A
Aqua Regia				C	C	C	C	C	C	C	B	C	A	C	C	B		C
Barium Carbonate	BaCO <sub>3</sub>	SAT.	4.30	A	A	A	A	A	A	A	A	A	A	A		A	A	A
Barium Chloride	BaCl <sub>2</sub>	SAT.	3.10	A	A	A	A	A	A	A	A	A	A		A	A	A	A
Barium Hydroxide	Ba(OH) <sub>2</sub>		2.20	A	A	A	A	A	A	A	A	A	A	A		A	A	A
Barium Sulfate	BaSO <sub>4</sub>	SAT.	4.40	A	A	A	A	A	A	A	A	A	A		A	A		A
Barium Sulfide	BaS	SAT.	4.30	A	A	A	A	A	B	B	A	A	A		A	A		A
Beer					A	A	A	B	A	A	A	A	A	A		A	A	
Benzaldehyde	C <sub>6</sub> H <sub>5</sub> CHO	100	1.05	C	A	C	C	C	A	A	C	C	A		A	A	A	C
Benzene	C <sub>6</sub> H <sub>6</sub>	100	0.90	B	C	A	A	A	A	A	A	C	A	A	A	A	A	B
Benzene Sulfonic Acid	C <sub>6</sub> H <sub>5</sub> SO <sub>3</sub> H	100		A	B	A	A	C	A	A	A	C	A		A	A	A	A
Benzoic Acid	C <sub>6</sub> H <sub>5</sub> COOH		1.30	A	A	A	A	C	A	A	A	C	A		A	A	A	
Benzyl Alcohol	C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> OH	100	1.05	A	A	A	A			A	A	C			A	A	A	A
Benzyl Chloride	C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> Cl		1.10	A	A	A	A			A	B	C						
Bismuth Carbonate	(BiO) <sub>2</sub> CO <sub>3</sub>	SAT.	6.80		A	A	A					C	A		A	A		
Boric Acid	H <sub>3</sub> BO <sub>3</sub>		1.40		A	A	A	B	A	A	A	A	A		A	A	A	
Brine		SAT.		A	A	A	A		A		A	A	A	A		A	A	A
Bromine Liquid	Br	100	3.10	C	C	B	B	C	A	C	B	C	A	A	A	A		C
Butane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>		0.80	A	A	A	A	A	A	A	A		A		A			A
Butyl Acetate	CH <sub>3</sub> COO(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>		0.90	A	C	C	C		A	A	C	C	A		A	A	A	A
Butyl Alcohol	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> OH		0.90	A	A	A	A	A	A	A	B	A	A		A	A		A
Butyl Ether	C <sub>4</sub> H <sub>9</sub> OC <sub>4</sub> H <sub>9</sub>			A	C	B	B				C	C	A					A
Calcium Carbonate	CaCO <sub>3</sub>	SAT.	2.70	A	A	A	A	A	A	A	A	A	A		A	A		A
Calcium Chlorate	Ca(ClO <sub>3</sub> ) <sub>2</sub>	SAT.	2.70		A	A	A	A	A	A	A	A	A		A	A		
Calcium Chloride	CaCl <sub>2</sub>	50	2.10	A	A	A	A	B	A	A	A	A	A		A	A	A	A
Calcium Hydroxide (Lime)	Ca(OH) <sub>2</sub>		2.30	A	A	A	A	A	A	A	A	A	A	A		A	A	A

# Chemical Solution

Resistance @ % Concentration  
Specific Gravity @ 100%  
Concentration

Ryton

Polypropylene

Kynar (Glass)

Kynar (Natural)

Nylon

Hastelloy "C"

Stainless 316

Viton

Buna "N"

Teflon

Ceramic Magnet

Carbon

Ceramic

Mica Fill Teflon

Ryton Teflon Carbon

FORMULA		Plastics							Metals			"O" Rings			Bushings			
Calcium Hypochlorite	Ca(OCL) <sub>2</sub>	20	2.30	A	A	A	A	B	A	C	A	B	A		A	A	A	A
Calcium Nitrate	Ca(NO <sub>3</sub> ) <sub>2</sub>		1.80	A	A	A	A	C	A	A	A	A	A		A	A		A
Calcium Phosphate	CaHPO <sub>4</sub>	50	2.30		A	A	A								A	A		
Calcium Sulfate	CaSO <sub>4</sub>		2.90	A	A	A	A	B	A	A	A	B	A	A	A	A		A
Carbon Dioxide (Wet)	CO <sub>2</sub>				A	A	A	A	A	A	B	A	A		A	A		
Carbon Disulfide	CS <sub>2</sub>	100	1.30	A	B	B	B	A	A	A	A	C	A		A	A	A	A
Carbon Tetrachloride	CCl <sub>4</sub>	100	1.60	A	C	A	A	A	A	A	A	B	A	A	A	A	A	A
Carbonic Acid	H <sub>2</sub> CO <sub>3</sub>				A	A	A	A	A	A	A	B	A		A	A		
Castor Oil			0.95	A	A	A	A	A		A	A	A	A	A	A	A		A
Cetyl Alcohol	C <sub>16</sub> H <sub>33</sub> OH	100	0.81	A	A			A		A			A	A	A	A		A
Chlorine (Liquid)	Cl <sub>2</sub>			C	C	A	A	C	B	C	A	B	A	C	C	A	A	C
Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	100	1.10	A	C	A	A	A	A	A	A	C	A	A	A	A	A	A
Chloroform	CHCl <sub>3</sub>	100	1.50	B	C	A	A	C	A	A	A	C	A	A	A	A	A	B
Chlorosulfonic Acid	ClSO <sub>2</sub> HO	100	1.80	C	C	C	C	C	A	C	C	C	A		A	A	A	C
Chrome Alum			1.80		A	A	A				A	A	A		A	A	A	
Chromic Acid	CrO <sub>3</sub>	80	2.70	C	C	C	C	C	B	C	A	C	A		C	A		C
Chromic Acid	CrO <sub>3</sub>	10	2.70	A	A	A	A	C	A	B	A	C	A		B	A	A	A
Cider					A	B	B	A		A	A	A		A	A	A		
Citric Acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> H <sub>2</sub> O		1.50	A	A	A	A	A	A	A	A	A	A		A	A	A	A
Copper Chloride	CuCl <sub>2</sub>	SAT.	3.40	A	B	A	A	C	A	A	A	A	A		A	A		A
Copper Cyanide	Cu(CN) <sub>2</sub>	SAT.		A	A	A	A	A	A	A	A	A	A	A	A	A		
Copper Fluoride	CuF <sub>2</sub>	SAT.	2.90		A	A	A				A	A	A		A	A		
Copper Nitrate	Cu(NO <sub>3</sub> ) <sub>2</sub>	SAT.	2.30		A	A	A	C	A	A	A	A	A	A	A	A		
Copper Sulfate	CuSO <sub>4</sub>	SAT.	2.30	A	A	A	A	C	A	A	A	A	A	A	A	A		
Cottonseed Oil			0.90	A	A	A	A	A		A	A	A	A		A	A		A
Cresol	CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> OH	100	1.05	A	A	A	A	C	A	A	A	C	A		A			A
Cuprous Chloride	CuCl	SAT.	4.14	A	A	A	A		A						A	A	A	A
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	100	0.80	A	C	A	A	A	A	A	A	B	A		A		A	A
Cyclohexanol	C <sub>10</sub> H <sub>11</sub> OH	100	0.94	A	A	A	A	A			A	B	A		A	A	A	A
Cyclohexanone	C <sub>6</sub> H <sub>10</sub> O	100	0.95	A	B	C	C	A	A	A	C	C	A		A	A	A	A
Detergents		2		A	A	A	A	A	A	A	A	A	A		A	A	A	A
Developers (Photographic)					A	A	A		A	A	A	A	A	A	A	A		
Dibutyl Phthalate	C <sub>6</sub> H <sub>4</sub> (COOC <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>	100	1.05	A	A	C	C		A	A	C	C	A		A	A	A	A

\*\*A-Recommended \*\*B-Questionable \*\*C-Not Recommended

# Chemical Solution

FORMULA	Resistance @ % Concentration	Specific Gravity @ 100% Concentration	Plastics					Metals		"O" Rings			Bushings					
			Ryton	Polypropylene	Kynar (Glass)	Kynar (Natural)	Nylon	Hastelloy "C"	Stainless 316	Viton	Buna "N"	Teflon	Ceramic Magnet	Carbon	Ceramic	Mica Fill Teflon	Ryton Teflon Carbon	
Dichloroethylene	ClHC	100	1.25	C	A	A	A		A	A	A	C	A		A	A	A	C
Diesel Fuel		100		A	C	A	A	A	A	A	A	A	A		A			A
Diethanolamine	(HOCH <sub>2</sub> CH <sub>2</sub> ) <sub>2</sub> NH	100	1.10	A	A	C	C		A	A			A		A	A		A
Dimethylformamide	HCON(CH <sub>3</sub> ) <sub>2</sub>	100	0.95	A		C	C			A	C	C	A					A
Dimethylsulfoxide	(CH <sub>3</sub> ) <sub>2</sub> SO	100	1.01	A		C	C	A					A					A
Dowtherm		100		A	A			A	A	A	A	C	A		A			A
Ethanolamine	HOCH <sub>2</sub> CH <sub>2</sub> NH <sub>2</sub>	100	1.02	A	A	C	C	A	A	A	A	A	A		A	A		A
Ether					A	A	A	C	B	A	C	C	A		A			
Ethyl Acetate	CH <sub>3</sub> COOC <sub>2</sub> H <sub>5</sub>	100		A	B	C	C	A	A	A	C	C	A		A	A	A	A
Ethyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	96	0.80	A	A	A	A	A	A	A	B	A	A		A	A		A
Ethyl Chloride	C <sub>2</sub> H <sub>5</sub> Cl	100	0.92	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A
Ethyl Ether	(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> O	100	0.71		B	B	B		A	A	C	C	A		A	A		
Ethylene Dichloride	ClCH <sub>2</sub> CH <sub>2</sub> Cl	100	1.25	B	B	A	A	A	A	A	A	C	A		A	A	A	B
Ethylene Glycol	CH <sub>2</sub> OHCH <sub>2</sub> OH		1.10	A	A	A	A	A		A	A	A	A	A	A	A	A	A
Fatty Acids		100		A	A	A	A	B	A	A	A	B	A		A	A		A
Ferric Chloride	FeCl <sub>3</sub>	SAT.	2.90	A	A	A	A	B	A	C	A	A	A		A	A	A	A
Ferric Nitrate	Fe(NO <sub>3</sub> ) <sub>3</sub>	SAT.	1.70	A	A	A	A	C	A	A	A	A	A		A	A		A
Ferric Sulfate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	SAT.	3.10	A	A	A	A	B	A	A	A	B	A	A	A	A		A
Ferrous Chloride	FeCl <sub>2</sub>	SAT.	3.20	A	A	A	A	C	A	C	A	B	A		A	A	A	A
Ferrous Sulfate	FeSO <sub>4</sub>	SAT.	1.90	A	A	A	A	C	A	A	A	B	A	A	A	A		A
Fluboric Acid	HF <sub>4</sub>		1.80	C	B	A	A	C	A	C	A	B	A	C	C	A	C	C
Fluosilicic Acid	H <sub>2</sub> SiF <sub>6</sub>			B	A	B	A	C	A	B	A	A	A	C	B	B	C	B
Formaldehyde	HCHO	40	1.01	A	A	A	A	C	A		C	B	A		A	A	A	A
Formic Acid	HCOOH	100	1.20	B	A	A	A	C	A	A	B	C	A		A	A	A	B
Freon 11				A	C			A		A	B	A	A	A	A	A		A
Fructose (Fruit Sugar)	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>				A	A	A								A	A		
Fruit Juices				A	A	A	A	A		A	A	A		A	A	A		A
Furfural	C <sub>4</sub> H <sub>3</sub> OCHO	100	1.20	A	C	B	B	A	A	A	C	C	A		A	A	A	A
Gelatin				A	A	A	A	B	A	A	A	A	A		A	A		A
Glucose	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	20	1.54	A	A	A	A	A		A	A	A	A		A	A		A
Glycerin (Glycerol)	C <sub>3</sub> H <sub>5</sub> (OH) <sub>3</sub>	100	1.30	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Glycolic Acid	CH <sub>2</sub> OHCOOH		1.30	A		B	B		A	A	A	A	A		A			A

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# Chemical Solution

FORMULA		Resistance @ % Concentration Specific Gravity @ 100% Concentration		Plastics					Metals		"O" Rings			Bushings				
				Ryton	Polypropylene	Kynar (Glass)	Kynar (Natural)	Nylon	Hastelloy "C"	Stainless 316	Viton	Buna "N"	Teflon	Ceramic Magnet	Carbon	Ceramic	Mica Fill Teflon	Ryton Teflon Carbon
Hexane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	100	0.70	A	B	A	A	A	A	A	A	B	A		A	A	A	A
Hydrobromic Acid	HBr	50	48%1.50	A	A	A	A	C	A	C	A	C	A		A	A	A	A
Hydrochloric Acid (Muriatic)	HCl	30	30%1.15	C	A	A	A	C	A	C	A	C	A	C	A	A	A	C
Hydrochloric Acid (Muriatic)	HCl	38	38%1.19	C	B	A	A	C	A	C	A	C	A	C	A	A	A	C
Hydrofluoric Acid	HF	40		C	B	C	B	C	A	C	A	C	A	C	A	B	C	C
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	30	1.50	C	A	A	A	B	A	A	A	A	A	A	A	A	A	C
Hydrogen Sulfide	H <sub>2</sub> S		1.20	A	A	A	A	C	A	A	C	B	A	A	A	A		A
Hydroquinone	C <sub>6</sub> H <sub>4</sub> (OH) <sub>2</sub>		1.30		A	A	A		A	A	B	B	A		A	A	A	
Inks					A			A		A	A	A		A	A	A		
Iodine Tincture					A				C	A	B				A	A		
Isooctane		100	0.70	A	C	A	A				A	A					A	A
Isopropyl Alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHOH		0.80	A	A	A	A	C	A	A	A	B	A		A	A	A	A
Kerosene			0.81	B	C	A	A	A	B	A	A	A	A	B	A	A		B
Ketones				A	A			A	A	A	C	C	A		A	A		A
Lactic Acid	CH <sub>3</sub> CHOHCOOH	20	1.20	A	A	B	B	C	A	A	A	B	A		A	A		A
Lanolin		100		A	A	A	A	A	A		A				A	A		A
Lead Acetate	Pb(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> ·3H <sub>2</sub> O	SAT.	2.50		A	A	A	A	A	A	C	B	A		A	A	A	
Linseed Oil		100	0.94	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Lubricating Oil		100		A	A	A	A	A		A	A	A	A	A	A	A	A	A
Magnesium Carbonate	MgCO <sub>3</sub>	SAT.	3.00	A	A	A	A		A	A	A	A	A	A	A	A		A
Magnesium Chloride	MgCl <sub>2</sub>	SAT.	2.30	A	A	A	A	B	A	B	A	A	A		A	A	A	A
Magnesium Hydroxide	Mg(OH) <sub>2</sub>	SAT.	2.40	A	A	A	A	A	A	A	B	B	A		A	A	A	A
Magnesium Nitrate	Mg(NO <sub>3</sub> ) <sub>2</sub>	SAT.	1.50	A	A	A	A	A	A	A	A	A	A	A	A	A		A
Magnesium Sulfate	MgSO <sub>4</sub>	SAT.	2.60	A	A	A	A	A	A	A	A	A	A		A	A		A
Mercuric Chloride	HgCl <sub>2</sub>	40	5.40		A	A	A	B	A	C	A	A	A		A	A	A	
Mercuric Cyanide	Hg(CN) <sub>2</sub>	SAT.	4.00		A	A	A			A		A	A		A	A		
Mercurous Nitrate	HgNO <sub>3</sub>	SAT.	4.80		A					A	C		A	A	A	A		
Methyl Alcohol (Methanol)	CH <sub>3</sub> OH	100	0.80	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A
Methylene Chloride	CH <sub>2</sub> Cl <sub>2</sub>	100	1.30	A	C	C	C	A	A	A	C	B	A		A	A	A	A
Methyl Ethyl Ketone	CH <sub>3</sub> COCH <sub>2</sub> CH <sub>3</sub>	100	0.82	A	A	C	C	A	A	A	C	C	A	A	A	A	A	A
Methyl Methacrylate	CH <sub>2</sub> C(CH <sub>3</sub> )COOCH <sub>3</sub>		0.95		A	B	B				C	C	A		A	A		

# Chemical Solution

Resistance @ % Concentration  
Specific Gravity @ 100%  
Concentration

Ryton

Polypropylene

Kynar (Glass)

Kynar (Natural)

Nylon

Hastelloy "C"

Stainless 316

Viton

Buna "N"

Teflon

Ceramic Magnet

Carbon

Ceramic

Mica Fill Teflon

Ryton Teflon Carbon

FORMULA			Plastics						Metals		"O" Rings			Bushings				
Milk				A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Mineral Oil		100		A	A	A	A	A		A	A	A	A	A	A	A	A	
Molasses				A	A	A	A		A	A	A	A	A	A	A			
Motor Oil		100		A	A	A	A	A		A	A	A	A	A	A		A	
Naphthalene	C <sub>10</sub> H <sub>8</sub>	100	1.15	A	A	A	A		A	A	B	C	A		A	A	A	
Nickel Chloride	NiCl <sub>2</sub>	SAT.	3.50		A	A	A	B	A	B	A	A	A		A	A		
Nickel Nitrate	Ni(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	SAT.	2.10		A	A	A		A	A	A	A	A	A	A	A		
Nickel Sulfate	NiSO <sub>4</sub>	SAT.	3.70		A	A	A	A	A	A	A	A	A		A	A		
Nitric Acid	HNO <sub>3</sub>	25	1.50	C	A	A	A	C	A	A	B	C	A	C	B	A	A	
Nitric Acid (Fuming)	HNO <sub>3</sub>			C	C	C	C	C	B	C	C	C	A	C	C	A		
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	100	1.20	A	A	B	B	C	A	B	A	C			A	A		
Oleic Acid			0.90		A	A	A		A	A	B	B	A		A	A	A	
Olive Oil		100	0.90	A	A	A	A	A		A	A	A			A	A		
Oxalic Acid (Aqueous)	(COOH) <sub>2</sub>	50	1.70	A	A	A	A		A	B	A	B	A		A	A	A	
Paraffin		100		A	A	A	A	A	A	A	A	A	A		A	A	A	
Perchloroethylene	(CCl <sub>2</sub> ) <sub>2</sub>		1.60	B	C	A	A		A	A	A	C	A		A	A	A	
Petroleum Ether		100	0.70	A	C				A	A			A	A	A	A	A	
Phenol	C <sub>6</sub> H <sub>5</sub> OH	100	1.10	A	A	A	A	C	A	A	A	C	A		A	A	A	
Phosphoric Acid	H <sub>3</sub> PO <sub>4</sub>	95	1.80	C	A	A	A	C	A	B	A	B	A	C	A	A	A	
Phosphorus Trichloride	PCl <sub>3</sub>	100	1.60	B	C	A	A	C	A	A	A	C	A		A		B	
Plating Solutions																		
Acid Copper				A	A	A	A				A	A	A		A	A		
Brass					A	A	A				A	A	A		A	A		
Cadmium				A	A	A	A				A	A	A		A	A		
Chromium				A	A	A	A				A	A	A		A	A		
Copper				A	A	A	A				A	A	A		A	A		
Gold				A	A	A	A				A	A	A			A		
Indium				A	A						A	A	A		A	A		
Lead				A	A	A	A	C			A	A	A			A		
Nickel				A	A	A	A				A	A	A		A	A		
Rhodium				A	A	A	A				A	A	A		A	A		
Silver				A	A	A	A				A	A	A		A	A		

\*\*A-Recommended \*\*B-Questionable \*\*C-Not Recommended

# Chemical Solution

Resistance @ % Concentration  
Specific Gravity @ 100%  
Concentration

Ryton

Polypropylene

Kynar (Glass)

Kynar (Natural)

Nylon

Hastelloy "C"

Stainless 316

Viton

Buna "N"

Teflon

Ceramic Magnet

Carbon

Ceramic

Mica Fill Teflon

Ryton Teflon Carbon

FORMULA		Plastics							Metals		"O" Rings			Bushings			
Tin		A	A	A	A					A	A	A		A	A		A
Zinc		A	A	A	A					A	A	A		A	A		A
Potassium Acetate	KC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> 40	1.60	A	A	A	A				C	B	A		A	A	A	A
Potassium Bicarbonate	KHCO <sub>3</sub> SAT.	2.20	A	A	A	A	A	B	B	A	A	A		A	A		A
Potassium Borate	KBO <sub>2</sub> 1			A	A	A				A	A	A		A	A		
Potassium Bromate	KBrO <sub>3</sub> 10	3.30		A	A	A				A	A	A		A	A		
Potassium Bromide	KBr SAT.	2.70	A	A	A	A	C	A	A	A	A	A		A	A	A	A
Potassium Carbonate	K <sub>2</sub> CO <sub>3</sub> SAT.	2.40	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Potassium Chlorate	KClO <sub>3</sub> SAT.	2.30		A	A	A	C	A	A	A	A	A		A	A		
Potassium Chloride	KCl SAT.	2.00	A	A	A	A	C	B	A	A	A	A		A	A	A	A
Potassium Chromate	K <sub>2</sub> CrO <sub>4</sub> 40	2.70		A	A	A		B	B	A	A	A		A	A		
Potassium Cyanide	KCN SAT.	1.50		A	A	A	A	B	A	A	A	A		A	A		
Potassium Dichromate	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> 40	2.70	A	A	A	A	C	B	A	A	A	A	A	A	A	A	A
Potassium Ferrocyanide	K <sub>4</sub> Fe(CN) <sub>6</sub>	1.90		A	A	A	A	A	A	A	C	A	A	A	A	A	
Potassium Fluoride	KF	2.50		A	A	A			A	A	A	A		A	A		
Potassium Hydroxide	KOH 50	2.00	A	A	C	C	A	A	A	C	B	A	A	A	A	B	A
Potassium Nitrate	KNO <sub>3</sub> SAT.	2.10	A	A	A	A	C	A	A	A	A	A		A	A	A	A
Potassium Perborate		SAT.		A	A	A						A		A	A		
Potassium Perchlorate	KClO <sub>4</sub> 10	2.50		A	A	A		A	A		C	A		A	A		
Potassium Permanganate	KMnO <sub>4</sub> 20	2.70	A	A	A	A	C	A	A	A	A	A		A	A	A	A
Potassium Sulfate	K <sub>2</sub> SO <sub>4</sub>	2.70	A	A	A	A	C	A	A	A	A	A	A	A	A		A
Potassium Sulfide	K <sub>2</sub> S	1.80	A	A	A	A			A	B		A		A	A		A
Propyl Alcohol	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH 100	0.80	A	A	A	A	C	A	A	A	A	A		A	A		A
Propylene Glycol	CH <sub>3</sub> CHOHCH <sub>2</sub> OH	1.00	A	A	A	A			A	A	C	A	A	A	A		A
Pyridine	N(CH) <sub>4</sub> CH 100	1.00	B	A	C	C	C	A	B	C	C	A		A	A	A	B
Silicone Oil		100	A	A	A	A	A		A	A	C	A	A	A	A		A
Soap Solution (Concentrated)			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Sodium Acetate	NaC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	1.50	A	A	A	A	A	A	A	C	B	A		A	A	A	A
Sodium Bicarbonate	NaHCO <sub>3</sub> SAT.	2.20	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Sodium Bisulfate	NaHSO <sub>4</sub> SAT.	2.40	A	A	A	A	C	A	A	B	A	A		A	A		A
Sodium Bisulfite	NaHSO <sub>3</sub> SAT.	1.50	A	A	A	A	C	A	A	A	A	A		A	A		A
Sodium Borate (Borax)	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	1.70	A	A	A	A	A	A	A	A	A	A	A	A	A		A
Sodium Bromide				A	A	A		A				A		A	A	A	



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# Chemical Solution

Resistance @ % Concentration  
Specific Gravity @ 100%  
Concentration

Ryton

Polypropylene

Kynar (Glass)

Kynar (Natural)

Nylon

Hastelloy "C"

Stainless 316

Viton

Buna "N"

Teflon

Ceramic Magnet

Carbon

Ceramic

Mica Fill Teflon

Ryton Teflon Carbon

FORMULA		Plastics					Metals		"O" Rings			Bushings					
Sodium Carbonate		SAT.		A	A	A	A	A	B	A	A	A	A	A	A	A	A
Sodium Chlorate	NaClO <sub>3</sub>	SAT.	2.50	A	A	A	A	B	A	A	A	A	A		A	A	A
Sodium Chloride	NaCl	SAT.	2.20	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Sodium Chlorite	NaClO <sub>2</sub>	20			C	A	A		A	A	C	C	A		A	A	
Sodium Cyanide	NaCN	SAT.		A	A	A	A	B	A	A	A	A	A	A	A	A	A
Sodium Dichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	SAT.	2.50	A	A	A	A	B	A			C	A		A	A	A
Sodium Ferricyanide	NaFe(CN) <sub>6</sub>	SAT.			A	A	A		A	A	A		A		A	A	
Sodium Ferrocyanide	Na <sub>4</sub> Fe(CN) <sub>6</sub>	SAT.	1.50		A	A	A				A		A		A	A	
Sodium Fluoride	NaF	SAT.	2.60		A	A	A	A	A	C	C	C	A		A	A	
Sodium Hydroxide Caustic Soda	NaOH	50	2.10	A	A	B	B	B	A	B	B	C	A	C	A	A	B
Sodium Hypochlorite	NaOCl	12.5		B	B	A	A	C	C	C	A	B	A	A	C	A	A
Sodium Hypochlorite	NaOCl	15		B	B	A	B	C	C	C	A	B	A	A	C	A	A
Sodium Nitrate	NaNO <sub>3</sub>		2.30	A	A	A	A	A	A	A	B	B	A	A	A	A	A
Sodium Nitrite	NaNO <sub>2</sub>		2.20	A	A	A	A		A	A	A	A	A		A	A	
Sodium Silicate	Na <sub>2</sub> SiO <sub>3</sub>			A	A	A	A	A	B	A	A	A	A		A	A	A
Sodium Sulfate	Na <sub>2</sub> SO <sub>4</sub>	SAT.	2.70	A	A	A	A	A	A	A	A	A	A		A	A	
Sodium Sulfide	Na <sub>2</sub> S	25	1.40	A	A	A	A	A	B	A	A	A	A		A	A	
Sodium Sulfite	Na <sub>2</sub> SO <sub>3</sub>	SAT.	2.60	A	A	A	A	C	A	A	A	A	A		A	A	
Sodium Thiosulfate/Thiosulphate	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	1.70	A	A	A	A			A	A	A	A		A		
Stannic Chloride	SnCl <sub>4</sub>	SAT.	2.30	A	A	A	A	A	B	C	A	A	A		A	A	A
Stannous Chloride	SnCl <sub>2</sub>	SAT.	4.00	A	A	A	A	C	A	A	A	C	A		A	A	
Starch				A	A	A	A	A		A	A	A		A	A	A	
Sulfamic Acid	HSO <sub>3</sub> NH <sub>2</sub>		2.10		A							C	A		A	A	
Sulfur	S		2.10	A	A	A	A		A	A	C	C	A		A	A	
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>	50	50%1.39	B	A	A	A	C	A	C	A	C	A	C	A	A	A
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>	93	1.80	C	A	A	A	C	A	B	A	C	A	C	A	A	C
Tannic Acid	C <sub>76</sub> H <sub>52</sub> O <sub>46</sub>	10			A	A	A	C	B	A	A	B	A	A	A	A	
Tartaric Acid			1.80	A	A	A	A	C	A	A	A	A	A	B	A	A	A
Tetrahydrofuran	CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> O	100	0.90	B	C	C	C			A	B	C	A		A	A	B
Tetralin		100		A	C						A	C	A		A	A	A
Toluene	CH <sub>3</sub> C <sub>6</sub> H <sub>5</sub>	100	0.90	A	C	A	A	A	A	A	A	C	A	A	A	A	A
Transformer Oil		100		A	A	C	C	A		A	A	A	A	A	A	A	A
Trichloroacetic Acid	CCl <sub>3</sub> COOH	100	1.60	A	A	A	A		A	C	C	B			A	A	



\*\*A-Recommended \*\*B-Questionable \*\*C-Not Recommended

# Chemical Solution

FORMULA		Resistance @ % Concentration Specific Gravity @ 100% Concentration		Plastics					Metals		"O" Rings			Bushings				
				Ryton	Polypropylene	Kynar (Glass)	Kynar (Natural)	Nylon	Hastelloy "C"	Stainless 316	Viton	Buna "N"	Teflon	Ceramic Magnet	Carbon	Ceramic	Mica Fill Teflon	Ryton Teflon Carbon
Trichloroethylene	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	100	1.50	A	C	A	A	C	A	A	A	C	A	A	A	A	A	A
Triethanolamine	(HOCH <sub>2</sub> CH <sub>2</sub> ) <sub>3</sub> N	100	1.10	A	A	A	A		A		A	C	A		A	A	A	A
Turpentine	C <sub>10</sub> H <sub>16</sub>	100	0.90	A	C	A	A	A	A	A	A	B	A		A	A	A	A
Urea	CO(NH <sub>2</sub> ) <sub>2</sub>		1.30		A	A	A		A		A	A	A		A	A	A	
Urine					A			A		A	A	A	A		A	A		
Vinegar				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Water (Fresh)	H <sub>2</sub> O		1.00	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Water (Salt)				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Whiskey			0.90		A	A	A	A		A	A	A	A		A	A		
Wines					A	A	A	A		A	A	A	A		A	A	A	
Xylene	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	100	0.90	A	C	A	A	A	A	A	A	C	A		A	A	A	A
Zinc Chloride	ZnCl <sub>2</sub>	SAT.	2.90	A	A	A	A	A	B	B	A	A	A		A	A	A	A
Zinc Oxide	ZnO		5.50	A	A										A	A	A	A
Zinc Sulfate	ZnSO <sub>4</sub>	SAT.	2.00		A	A	A	A	A	A	A	A	A	A	A	A		