



## **Chemical Compatibility Guide for: Sandpiper® Pumps**

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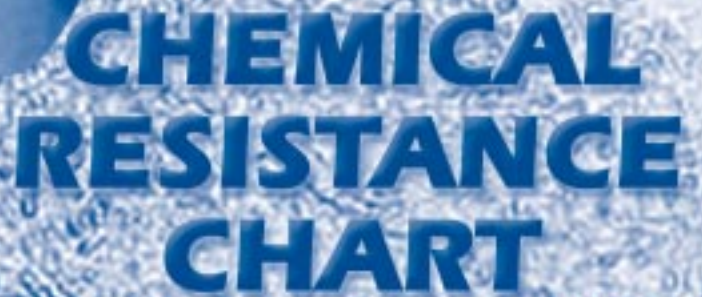
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One Pork Avenue, Tipton, PA 16684-0304 • 1-800-HOT HOGS® (468-4647) • Fax: 1-800-621-PIGS (7447)  
Email: [hothogs@newpig.com](mailto:hothogs@newpig.com) • Web: [newpig.com](http://newpig.com)

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**WARREN  
RUPP**



**CHEMICAL  
RESISTANCE  
CHART**



**A Material Compatibility  
Guide**



**IDEX**  
IDEX CORPORATION

This publication is intended as a general guide for pump material selection. It includes many common liquids used in chemical, paint, industrial and food processing applications.

**This chart has been compiled using many sources, all believed to be reliable. However, the information cannot be guaranteed.**

Due to the extensive scope of this field, the tabulation is not complete, nor is it conclusive.

Corrosion is the destructive attack of metals by chemical or electrochemical reaction with its environment. Corrosion rates vary widely with concentration, temperature and the presence of abrasives. Impurities or other trace elements common in industrial liquids may inhibit or accelerate corrosion. Aeration or deaeration of the substance being pumped can also affect rate of corrosion. Materials used in the pump and pumping systems must be chemically compatible.

Elastomers are subject to destructive attack by chemicals or solvents. Attack may be evident as hardening, swelling, loss of elasticity, increased permeability, or more subtle changes.

In general, destructive reaction on all materials of construction increases as temperatures increase. Temperature limitations are listed here.

### MAXIMUM PUMPING TEMPERATURES FOR WETTED PARTS:

Aluminum, cast iron, stainless steel, W/R alloy C (Hastelloy equivalent) .....	212°F (100°C)
Polpropylene .....	150°F (66°C)
Nylon .....	120°F (49°C)
PVDF (Kynar®) .....	200°F (93°C)
Polyurethane .....	150°F (65°C)
Acetal (Delrin®) .....	180°F (82°C)
Buna-N, Hytel® .....	190°F (88°C)
Neoprene .....	170°F (77°C)
Fluorocarbon (Viton®), PTFE/PFA/TFE, EPDM, Blue Gylon®, Ryton® .....	212°F (100°C)
Santoprene® .....	212°F (100°C)
Envelon .....	212°F (100°C)
UHMW Polyethylene .....	180°F (82°C)

### CHEMICAL RESISTANCE for DuPont Powder Coat

SOLUTION	1 MONTH	3 MONTHS	6 MONTHS	12 MONTHS
0.1% Chlorine	No Effect	No Effect	No Effect	No Effect
Anti-Freeze (50% Ethylene Glycol)	No Effect	No Effect	No Effect	No Effect
87 Octane Unleaded Gasoline	No Effect	Dulls, Softens	Dulls, Softens	Dulls, Softens
15% Hydrochloric Acid	*No Effect	Dulls, Softens Oxidizes Metallics	Dulls, Discolors Oxidizes Metallics	Dulls, Discolors
40% Hydrochloric Acid	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics	Discolors, Dulls
15% Sulfuric Acid	No Effect	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics
40% Sulfuric Acid	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics	*No Effect Oxidizes Metallics
Dow Oven Cleaner	Dulls	Dulls, Softens	Softens, Discolors	Softens, Discolors
Isopropyl Alcohol	No Effect	*No Effect Dulls, Softens Low Cure, Low Gloss	*No Effect Dulls, Crazes Low Cure, Low Gloss	*No Effect Dulls, Softens Low Cure, Low Gloss
Acetone	Dulls, Softens - 24 hours	Test Terminated - 7 days		
Methyl Ethyl Ketone	Dulls, Softens - 1 hour	Test Terminated - 1 to 30 days		
Brake Fluid D.O.T. Type 3	Dulls, Softens - 1 hour	Test Terminated - 1 to 6 weeks		

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Acetaldehyde (Ethanal) CH <sub>3</sub> CHO	X	X	X	A	B	X		A		B	A	B	A	A	C	A	A <sup>150°</sup>	B	A	B
Acetamide (Acetic Acid Amide) CH <sub>3</sub> CONH <sub>2</sub>	X	B	B	A		B		A		A	A	X	X	A			A <sup>140°</sup>	A	A	
Acetate Solvents CH <sub>3</sub> COOR		X	X			X		A		B	A		A		X	A	A	A	A	B <sup>122°</sup>
Acetic Acid — 20%	B	B	C	A	A	C		A	A	B		A	A	C	B	A	B	A		A <sup>122°</sup>
Acetic Acid — 30%	X	B	C	A	A	X		A	A	B	X	A	A	C	B	B	B			A <sup>122°</sup>
Acetic Acid — 50% CH <sub>3</sub> COOH	C	C	C	A		C		A	A	B	X	A	A	C	B	B	B			A <sup>122°</sup>
Acetic Acid — Glacial CH <sub>3</sub> COOH	X	X	C	B	A	X		A	A	B	B	X	A	A	C	B	A <sup>120°</sup>	X	A	B
Acetic Anhydride (Acetic Oxide) (CH <sub>3</sub> CO) <sub>2</sub> O	X	B	C	B	C	X	A	A	A	A	B	<sup>90°</sup> B <sup>212°</sup>	A	A	X	X	B <sup>70°</sup>	A	A	A
Acetone (Dimethylketone) CH <sub>3</sub> COCH <sub>3</sub>	X	X	X	A	C	X	A	A	A	B	B	A	A	A	X	B <sup>120°</sup>	X	B		A <sup>122°</sup>
Acetone Cyanohydrin (CH <sub>3</sub> ) <sub>2</sub> C(OH)CN	X	B	X	X		X		A		A	B	B	B							
Acetonitrile (Methyl Cyanide) CH <sub>3</sub> CN		A	C	A		X		A		A	A	A	A	B <sup>100°</sup>		A	A	A		
Acetophenone (Phenyl Methyl Ketone) C <sub>6</sub> H <sub>5</sub> COCH <sub>3</sub>	X	X	X	A		X		A		B	B	A	A	B	A <sup>70°</sup>		A	A	A	
Acetyl Acetone (2,4-Pentanedione) CH <sub>3</sub> COCH <sub>2</sub> COCH <sub>3</sub>	B	X	X	A		X		A		B	X	B	B							
Acetyl Chloride CH <sub>3</sub> COCl		X	X	C	X	B		A		B	X	A	B	A	X		A	X	A	
Acetylene (Ethyne) HC ° CH		C	A	A	A	A	A	A	A	C	A	A	A	A	X	A	A	B	A	
Acetyl Salicylic Acid (Aspirin) (CH <sub>3</sub> OCO) • C <sub>6</sub> H <sub>4</sub> COOH		X		B				A		A	X	B	B							A <sup>140°</sup>
Acetylene Tetrabromide (Tetra Bromoethane) (CHBr <sub>2</sub> ) <sub>2</sub>		X	X			A		A		X	X	A								
Acrolein (Acrylaldehyde) H <sub>2</sub> C = CHCHO			B			A		A		A	B	B	B							
Acrylonitrile (Vinyl Cyanide) CH <sub>2</sub> =CHCN		X	X	X		X		A	A	B	A	A	A	A	B		A	A		
Adipic Acid (1,4-Butanedicarboxylic Acid)		X	B			A		A		B	B	B	B	A	A		A	A		A <sup>140°</sup>
Allyl Alcohol (2-Propen-1-ol) CH <sub>2</sub> CHCH <sub>2</sub> OH		A	A	A		B		A		B	A	A	A				A			A
Alcohols R-OH					B									A	A	A	A	A	A	A

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.  
Data limited to % concentration and/or temperature °F shown. Where not shown temperature is 70°F (21 °C) Ambient.

CHEMICAL Formula	ELASTOMERS									METAL PARTS			PLASTICS								
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Amyl (1-Pentanol) C <sub>4</sub> H <sub>9</sub> CH <sub>2</sub> OH		B	B			B		A		A	B		A	A	B	A	A	A	A	A	A
Benzyl (Phenylcarbinol) C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> OH		B	X			A		A		A	B		A	A	A		A				A <sup>140°</sup>
Butyl (Butanol) C <sub>3</sub> H <sub>7</sub> CH <sub>2</sub> OH		A	A			A		A		A	B		A	A	B	A	A	B	A	A	A <sup>140°</sup>
Diacetone (Tyranton) (CH <sub>3</sub> ) <sub>2</sub> C(OH) CH <sub>2</sub> COCH <sub>3</sub>	C	X	X	B		X		A		C	A	A	A	A	X	A	A	A			
Ethyl (Ethanol) CH <sub>3</sub> CH <sub>2</sub> OH	X	A	A		X	B		A		B	B	B	A	A	A <sup>100°</sup>		A	X	A	A	A <sup>140°</sup>
Hexyl (1-Hexanol) C <sub>5</sub> H <sub>11</sub> CH <sub>2</sub> OH		B	A			A		A		B	A		A	A	A <sup>70°</sup>		A				A <sup>140°</sup>
Isobutyl (2-Methyl-1-Propanol) C <sub>3</sub> H <sub>7</sub> CH <sub>2</sub> OH	X	A	C			A		A		A	B		A	A			A				A <sup>140°</sup>
Isopropyl (2-Propanol) H <sub>3</sub> CCH(OH)CH <sub>3</sub>		B	C			A		A		B	B	C	A	A	A		A <sup>150°</sup>				A <sup>140°</sup>
Methyl (Methanol) CH <sub>3</sub> OH		A	A	X		X		A		A	B	A	A	A	A <sup>120°</sup>		A				A <sup>140°</sup>
Octyl (Caprylic Alcohol) C <sub>7</sub> H <sub>15</sub> • CH <sub>2</sub> OH		B	B			A		A		B	A		A	A							
Propyl (Propanol) C <sub>2</sub> H <sub>5</sub> CH <sub>2</sub> OH		A	A			A		A		A	A		A	A	A		A <sup>120°</sup>				A <sup>140°</sup>
Allyl Bromide (3-Bromopropene) H <sub>2</sub> C=CHCH <sub>2</sub> Br		X	X	X		B		A			X	A									
Allyl Chloride (3-Chloropropene) CH <sub>2</sub> =CHCH <sub>2</sub> Cl		X	X	X		B		A			X	C	B		A <sup>70°</sup>		A				B
Alkazene® (Chlorethyl or Polyisopropyl benzenes)		X	X			A		A		X											
Almond Oil (Artificial)	X	X	X	B		X		A													
Alum (Aluminum Potassium Sulfate Dodecahydrate) KAl(SO <sub>4</sub> ) <sub>2</sub> •12H <sub>2</sub> O		A	A	A		X		A	A	A			B	B	A		A	C			A <sup>140°</sup>
Aluminum Acetate (Burow's Solution)		C	C	A		X		A		A		B	C	A	A	A <sup>100°</sup>		A			A <sup>140°</sup>
Aluminum Bromide AlBr <sub>3</sub>		A	A					A									A				
Aluminum Chloride AlCl <sub>3</sub>	B	A	A	A	B	A	A	A	A	<sup>20%</sup> A	X	C	B	<sup>25%</sup> A	A	B	A	B	A		
Aluminum Fluoride AlF <sub>3</sub>		A	A	B		A	X	A	A	A	<sup>50%</sup> A	C	C	<sup>20%</sup> A	A	X	A	A	A	A	A <sup>140°</sup>
Aluminum Hydroxide (Alumina Trihydrate) Al(OH) <sub>3</sub>		A	B	A		C		A	A	A	<sup>10%</sup> B	<sup>30%</sup> B	B	<sup>10%</sup> B	A		A	A			A <sup>140°</sup>

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Aluminum Nitrate $Al(NO_3)_3 \cdot 9H_2O$		A	A	A		A		A	A	A	X		0%A	0%B	A		A	B		A <sup>140°</sup>
Aluminum Phosphate $AlPO_4$		A	A	A		A		A		A										
Aluminum Potassium Sulfate (Potash Alum) $KAl(SO_4)_2$		A	A	A		A		A		A	10%A	X	A	B	A	A	A	X		A <sup>140°</sup>
Aluminum Sodium Sulfate (Soda Alum) $NaAl(SO_4)_2$	A	A	A	A		A		A												
Aluminum Sulfate (Cake Alum) $Al_2(SO_4)_3$	A	A	A	A	B	A	A	A	A	A	30%B	X	50%A 167*	90%A 212*	A	B	A	A	A	A <sup>120°</sup>
Amines $R-NH_2$		B	X		A <sup>70°</sup>	X			A	A	A		A		B	C		A	A	
Ammonia Anhydrous, Liquid $NH_3$	X	B	B	A	X	X		A	A	A	A	A	A	A	A	X	A	A	A	A
Ammonia Gas — Cold		A	A			A		A	A	A										A
Ammonia Gas — Hot		B	C			X		A	A											A <sup>140°</sup>
Ammonia Liquors		A				X		A	A	A	A	A								
Ammonium Nitrate $NH_4NO_3$		B	A	A	B	A	A	A	A	A	B	B	A	A	A	B	A	C		A <sup>140°</sup>
Ammonium Cupric Sulfate $(NH_4)_2Cu(SO_4)_2$			A			A		A												
Ammonium Acetate $CH_3CO_2NH_4$		A				A		A	A	A	50%B	50%A								A
Ammonium Bicarbonate $NH_4HCO_3$		A	A	A		A		A	B	B	B	90%B								A <sup>140°</sup>
Ammonium Bifluoride — 10% $NH_4HF_2$		X	B					A	A	A	C	X	B	B	A		A			
Ammonium Carbonate $(NH_4)_2CO_3$		B	X	A		A		A	A	A	B	B	70%B 212*	70%B 212*	A		A	A	A	A
Ammonium Casenite		A							A				A							
Ammonium Chloride (Sal Ammoniac) $NH_4Cl$	A	A	A	A	A	A	A	A	A	A	X	X	B	A	A	X	A	B	A	A <sup>140°</sup>
Ammonium Dichromate $(NH_4)_2Cr_2O_7$		A	A	A				A		A	A	30%A								
Ammonium Fluoride $NH_4F$		B	B			20%A		A			10%B	20%B	B	40%A	B		A	A		A <sup>140°</sup>
Ammonium Hydroxide (Aqua Ammonia) $NH_4OH$	A	B	B	A		B	A	A	A	A	30%A	30%B	50%A	80%A	A	B	A	C	A	A <sup>140°</sup>
Ammonium Metaphosphate		A	A	A		A		A			90%B	B	B	A	A		A			A <sup>140°</sup>
Ammonium Nitrite $NH_4NO_2$		A	A					A	A	A					70%A		A			

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Ammonium Oxalate (NH <sub>4</sub> OOC) <sub>2</sub>		A	A						A			A	A							A <sup>140°</sup>	
Ammonium Persulfate (NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	X	A	C	B		A		A	A	C	X	A		A		A	X			A <sup>140°</sup>	
Ammonium Phosphate, Monobasic (NH <sub>4</sub> )H <sub>2</sub> PO <sub>4</sub>		A	A	A	B	A	A	A	A	X	X	B	5%A	A		A				A <sup>140°</sup>	
Ammonium Phosphate, Di-Basic (NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub>		A	A			A	A	A	A	B		A	A	A	B	A	C	A			
Ammonium Phosphate, Tri-Basic (NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub> •3H <sub>2</sub> O		A	A			A	A	A	A	X		B	B	A		A					
Ammonium Sulfate (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	A	A	A	A	C	A	A	A	A	X	B	80%A <sup>212°</sup>	40%B	A	B	A	B	A	A	A <sup>120°</sup>	
Ammonium Sulfide (NH <sub>4</sub> ) <sub>2</sub> S		A	A			A		A		B		B	10%A							A <sup>140°</sup>	
Ammonium Sulfite (NH <sub>4</sub> ) <sub>2</sub> SO <sub>3</sub> •H <sub>2</sub> O			A			A		A		C	X	B	A <sup>212°</sup>	A	X		A				
Ammonium Thiocyanate NH <sub>4</sub> SCN		A	A	A		A		A		C	C	50%A	50%A							A <sup>140°</sup>	
Ammonium Thiosulfate (NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		A	A	A		A		A	A	40%A	X	10%A									
Amyl Acetate (Banana Oil) CH <sub>3</sub> CO <sub>2</sub> C <sub>5</sub> H <sub>11</sub>	X	X	X	A	C	X	A	A	A	B	A	B	A	B	X	X	A <sup>120°</sup>	C	A	B	
Amyl Alcohol (Pentyl Alcohol) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> OH	X	A	B	A	A	A	A	A	A	B	A	A	A	B	A		A			A <sup>140°</sup>	
n-Amyl Amine (1-Aminopentane) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> NH <sub>2</sub>		X	C	X		X		A													
Amyl Borate C <sub>5</sub> H <sub>11</sub> BO <sub>3</sub>		B	A			A		A		B											
Amyl Chloride (Chloropentane) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> Cl		X	X	X		A		A		C	X	A	A	B	X	A	A	C		C	
Amyl Chloronaphthalene		X	B			A		A		C											
Amyl Naphthalene C <sub>15</sub> H <sub>18</sub>		X	X	X		A		A		C											
Amyl Phenol C <sub>6</sub> H <sub>4</sub> (OH)C <sub>5</sub> H <sub>11</sub>			X			A		A			A	A	A	A							
Aniline (Aniline Oil) (Amino Benzene) C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	X	X	X	C	X	B	A	A	A	B	B	A	A	B	A	A	A	A	A	A	B <sup>122°</sup>
Aniline Dyes	X	C	C	C		B	A	A	A	B	B	C	B								
Aniline Hydrochloride C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub> •HCl		X	C			B		A		A	X	X	X		X		A	X		C <sup>140°</sup>	
Animal Fats & Oils	A	C	A	B	B	A		A		C	A	X	A	A			A				
Animal Gelatin	A	A	A	A		A		A					A								

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Anisole (Methylphenyl Ether) C <sub>6</sub> H <sub>5</sub> OCH <sub>3</sub>		X				X		A			B	B	B	B							C <sup>140°</sup>
Ansul Ether		X	C			X		A	X												
Anthraquinone C <sub>14</sub> H <sub>8</sub> O <sub>2</sub>								A			B	B	B	A							
Anti-Freeze (Alcohol Base)	X	A	A	A		A		A		A	A	A	A								
Anti-Freeze (Glycol Base) (Prestone® Etc.)	B	B	A	A		A		A	A	A	A	A	A								
Antimony Pentachloride SbCl <sub>5</sub>			X					A			A	A	A	A							A <sup>140°</sup>
Antimony Trichloride SbCl <sub>3</sub>			B	A		A		A			B	A	A	B	A		A	X			A
Aqua Regia (Nitric & Hydrochloric Acid)	X	X	X	X		B	X	A	A	X	X	X	X	C	C	X	A	X	X	X	B
Aroclor® PCB mixtures		X	C	X		A		A			A	B	A	<sup>90%</sup> A	X				A		
Aromatic Hydrocarbons C <sub>6</sub> H <sub>5</sub> R		X	X		C	A		A		C	A	A	A								
Aromatic Solvents (Benzene Etc.)	X	X	C	X		B		A			A	B	A	B							
Arsenic Acid AsH <sub>3</sub> O <sub>4</sub>	X	A	B	A		A		A		A	A	X	B	B	A		A	X		A	
Arsenic Trichloride (Arsenic Butter) AsCl <sub>3</sub>		A	C	X		X		A		B	B	B	X	B							A <sup>140°</sup>
Ascorbic Acid C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>						A		A			A	X	A								
Askarel® (Pyranol®) PCB mixtures	X	X	B	X		C		A		X			A								
Asphalt Hydrocarbons	B	C	B	X	B	A	A	A	A	B	A	B	A		A	B	A	A			
Asphalt Topping Hydrocarbons		A	C		B	C		A				A	A								
ASTM — Ref Motor Fuel A (Aliphatic) Hydrocarbons	A	B	A	X	A	A		A			A	A	A	A							
ASTM — Ref Motor Fuel B (30% Aromatic) Hydrocarbons	B	X	A	X	A	A		A			A	A	A	A							
ASTM — Ref Motor Fuel C (50% Aromatic) Hydrocarbons	X	X	B	X	C	A		A			A	A	A	A							
ASTM — Ref #1 Oil (High Aniline) Hydrocarbons	A	B	A	X	A	A		A		A	A	A	A	A							
ASTM — Ref #2 Oil (Medium Aniline) Hydrocarbons	B	B	A	X	A	A		A		A	A	A	A	A							

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
ASTM — Ref #3 Oil (Low Aniline) Hydrocarbons	B	C	A	X	A	A	A		B	A	A	A	A							
ASTM — Ref #4 Oil (High Aniline) Hydrocarbons	X	X	B	X		A	A			A	A	A	A							
Aviation Gasoline Hydrocarbons		C	A	X		A	A			A	A	A	A							
Barbeque Sauce Water, oils, spices		A	A				A				X	A								
Barium Carbonate BaCO <sub>3</sub>		A	A	A		A	A		A	X	B	B	B	A		A	A	A	A	A <sup>140°</sup>
Barium Chloride Dihydrate BaCl <sub>2</sub> • 2H <sub>2</sub> O	A	A	A	A		A	A	A		50%B	B	B <sup>212°</sup>	B		A	A	A	B	A	
Barium Cyanide Ba(CN) <sub>2</sub>		A	C		X	A			A			A		X			A			
Barium Hydroxide (Barium Hydrate) Ba(OH) <sub>2</sub>	A	A	A	A	B	A	A	A	A	X	B	50%A <sup>122°</sup>	B	A		A	A	A	A	A <sup>140°</sup>
Barium Nitrate Ba(NO <sub>3</sub> ) <sub>2</sub>		A	A				A		A	B	A	A	A	A	B	A	A			
Barium Sulfate (Blanc Fixe) BaSO <sub>4</sub>	A	A	A	A	X	A		A	A	B	B	B		A	B	A	A	A	A	A
Barium Sulfide BaS	A	A	A	A		A	A	A	A	X		B	A	A		A	A	A	A	A <sup>120°</sup>
Beef Extract		A	A			A		A			X	A								
Beer Water, carbonate	X	A	C	A	B	A	A	A	A	A	X	A	A	75°A	A	A <sup>175°</sup>	A	A	A	A <sup>140°</sup>
Beet Sugar Liquors (Sucrose)	X	A	A	A		A	A	A	A	A	B	A		A	B	A	A			
Benzaldehyde C <sub>6</sub> H <sub>5</sub> CHO	X	X	X	B	B	X		A	A	B	A	A	A	X		A	X	A	A	C
Benzene (Benzol) C <sub>6</sub> H <sub>6</sub>	X	X	X	X	70°C	B	A	A	A	C	B	B	A <sup>167°</sup>	B	X	A	B	A	A	C
Benzene Sulfonic Acid C <sub>6</sub> H <sub>5</sub> SO <sub>3</sub> H		A	C	C		A		A			C	A	A	90%A	X		B <sup>100°</sup>	X	A	A
Benzoic Acid (Benzene Carboxylic Acid) C <sub>6</sub> H <sub>5</sub> COOH		B	X	B		A		A			B	X	B	70%A	X	B	A	X	A	A <sup>140°</sup>
Benzoyl Chloride C <sub>6</sub> H <sub>5</sub> COCl	X	X	X	X		B		A	A		X	A	B	B			A			
Benzyl Acetate CH <sub>3</sub> CO <sub>2</sub> • H <sub>2</sub> C <sub>6</sub> H <sub>5</sub>			X			X		A			A	A	A	B						
Benzyl Alcohol C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> OH		C	X	C		A		A	A		A	A	A	B	A		A	X	A	A <sup>140°</sup>
Benzyl Benzoate C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>		X	X	B		A		A		C	A	B	B							

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Benzyl Chloride (Chlorotoluene) C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> Cl	X	X	X	X		A		A		C	X	A	B	A	X	A	A	A	A	
Benzyl Dichloride (Benzal Chloride) C <sub>6</sub> H <sub>5</sub> CHCl <sub>2</sub>				X				A			X	B	A	B						
Biphenyl (Diphenyl) C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>5</sub>		X	X	X		A		A			A	A								
Bismuth Subcarbonate (Bismuth Carbonate) (BiO) <sub>2</sub> CO <sub>3</sub>		A	A	A		A		A					10%B							A <sup>140°</sup>
Black Sulfate Liquor	X	A	B	A	B	A	A	A	A		C	B	A	B						A <sup>140°</sup>
Blast Furnace Gas CO, H <sub>2</sub> , CH <sub>4</sub> , CO <sub>2</sub> , N <sub>2</sub>		A	C		B	A		A	A	A										
Bleach Solutions Water, chlorine, oxygen		X	X	A	C	B		A	A	B	X		B	A <sup>125°</sup>	X					A <sup>140°</sup>
Borax (Sodium Borate) B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub>	A	A	B	A	A	A	A	A	A	A	B	B	A	A	A	B	A	A	A	A <sup>140°</sup>
Bordeaux Mixture Copper sulfate salts		A	A	A	B	B		A		A			A	A						
Boric Acid (Boracic Acid) H <sub>3</sub> BO <sub>3</sub>	A	A	A	A	A	A	A	A	A	A	A	X	30%A	80%A <sup>167°</sup>	A	C	A	B	A	A <sup>120°</sup>
Brake Fluid (Non-Petroleum Base) Silicones or glycols		A	X	A				A		A	A	A	A	A	X			B		
Brewery Slop		A	A			A		A		A		A	A							
Brine (Sodium Chloride) Salt water	A	B	A	A	B	A		A	A			X	A	A	A		A			A <sup>140°</sup>
Bromine — Anhydrous Br <sub>2</sub>	X	X	X	C	X	A	X	A		C	B	C	X	A	X		A <sup>150°</sup>			X
Bromine Trifluoride BrF <sub>3</sub>	X	X	X	X		X	X	A	C	C	A		B		X					
Bromine Water		B	X	X		B		A		B	X	X	X	A	X		A			C
Bromobenzene C <sub>6</sub> H <sub>5</sub> Br	X	X	X	X		B		A		X	X	B	A	B	X					
Bromochloromethane BrCH <sub>2</sub> Cl		X	X	B		C		A			X	B	B	B						
Bromotoluene C <sub>6</sub> H <sub>4</sub> BrCH <sub>3</sub>			X			B		A			X	A	A	A						
Bronzing Liquid	X	X	X	B		X		A		A			A	A						
Bunker Oil (Fuel) #5, #6 & C Hydrocarbons	C	B	A	X		A		A		B	A	A	A	A						
Butadiene C <sub>4</sub> H <sub>6</sub>	X	C	X	C		C		A	A	C	A	A	A		X		A	A	A	C
Butane (LPG) (Butyl Hydride) C <sub>4</sub> H <sub>10</sub>	B	B	A	X	A	A	A	A	A	C	A	A	A	A	X	B	A	A	A	A <sup>140°</sup>

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Butter Fats	A	C	A	A	B	A		A		B	A	X	A							A <sup>140°</sup>
Buttermilk Fats, water		A	A			A				A	A		A	A		A	B			
Butyl Acetate CH <sub>3</sub> CO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	C	X	X	B	C	X	A	A	A	B	A	A	A	A	X	B	A <sup>100°</sup>	A	A	B
n-Butyl Acetate CH <sub>3</sub> CO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>		X	X	X		X		A		A	A	A	A							
Butyl Acetyl Ricinoleate C <sub>24</sub> H <sub>44</sub> O <sub>5</sub>		X	C	C		B		A		B			A							
Butyl Acrylate CH <sub>2</sub> CHCO <sub>2</sub> C <sub>4</sub> H <sub>9</sub>		X	X	X		X		A		C							C			
Butyl Alcohol (Butanol) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OH	X	A	A	B	B	A	A	A	A	A	A	B	A	A	A		A			
Butyl Amine (Aminobutane) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> NH <sub>2</sub>	X	X	B	X		X		A	A	A	A	A	A		X	C	B <sup>70°</sup>	A	A	
Butyl Benzoate C <sub>6</sub> H <sub>5</sub> COO • (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>		X		B		A		A		C	B	B	B	B						
Butyl Bromide CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> Br			X			B		A								A				
Butyl Butyrate CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> • CH <sub>2</sub> CO <sub>2</sub> C <sub>4</sub> H <sub>9</sub>			X			X		A			A	A	A	A						
Butyl Carbitol® CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH		B	A	A		A		A		B										
Butyl Cellosolve® HOCH <sub>2</sub> CH <sub>2</sub> OC <sub>4</sub> H <sub>9</sub>		C	B			C		A		A							B			
Butyl Chloride (Chlorobutane) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> CL			X			A		A			X	B	B	B	X		A	A		
Butyl Ether (Dibutyl Ether) (CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> ) <sub>2</sub> O		B	A			C		A			A	B	A	A	X		A <sup>100°</sup>	A	A	
Butyl Oleate C <sub>22</sub> H <sub>42</sub> O <sub>2</sub>		X		C		A		A		C										
Butyl Stearate CH <sub>3</sub> (CH <sub>2</sub> ) <sub>16</sub> • CO <sub>2</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>		X	A	C		B		A		C	B	B	B	B			A			
Butylene (Butene) C <sub>4</sub> H <sub>8</sub>	X	X	B	X		B		A		X	A		A		X		A	B	A	
Butyraldehyde CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CHO	C	X	X	C		X		A		C	A	A	A	A						C
Butyric Acid CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CO <sub>2</sub> H		X	C	C	B	C		A		A	A	X	B	A	A	X	A	C	A	B
Butyronitrile CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CN		X	X	A				A												
Calcium Acetate Hydrate Ca(CH <sub>3</sub> COO) <sub>2</sub> • H <sub>2</sub> O		C	B	A		X		A			C	C	B	B						
Calcium Bisulfite Ca(HSO <sub>3</sub> ) <sub>2</sub>	A	A	A	X	X	A	A	A	A		X	X	90%A	A		A	X	A	B	A

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®
Calcium Carbonate (Chalk) CaCO <sub>3</sub>		A	A	A		A	A		A	C	B	B	B	A	A	A	A		A
Calcium Chlorate Ca(ClO <sub>3</sub> ) <sub>2</sub>		A	A	A		A	A			30%B	B	30%B	70%B	A		A			A <sup>140°</sup>
Calcium Chloride (Brine) CaCl <sub>2</sub> • 6H <sub>2</sub> O	A	A	A	A	A	A	A	A	A	A	A	A	A	A	X	A	B	A	A <sup>140°</sup>
Calcium Hydrosulfide (Calcium Sulfhydrate) Ca(HS) <sub>2</sub> • 6H <sub>2</sub> O			A			A	A												A <sup>140°</sup>
Calcium Hydroxide (Slaked Lime) Ca(OH) <sub>2</sub>	A	A	A	A	B	A	A	A	A	X	B	50%B	50%A	A	X	A	B		
Calcium Hypochlorite 20% (Calcium Oxichloride) Ca(ClO) <sub>2</sub>	X	X	C	B	5%A	B	A	A	A	X	X	B	B <sup>125°</sup>	A	A	A	A	A	A <sup>120°</sup>
Calcium Nitrate Ca(NO <sub>3</sub> ) <sub>2</sub>	A	A	A	A		A	A	A	A	40%B <sup>212°</sup>	30%B <sup>212°</sup>	50%B <sup>212°</sup>	10%B	A	X	A	A	A	A <sup>140°</sup>
Calcium Oxide (Unslaked Lime) CaO		A	A	A	B		A			A	A	A	A						A <sup>140°</sup>
Calcium Silicate Ca <sub>2</sub> SiO <sub>4</sub>			A			A	A			A	B	A	A						
Calcium Sulfate (Gypsum) CaSO <sub>4</sub>	B	A	A	A		A	A			A	C	10%B	10%A	A	A	X	A	X	A <sup>140°</sup>
Calcium Sulfide CaS	A	B	A	A		A	A		A	20%A	B	B	A	A <sup>120°</sup>		A			
Calcium Sulfite CaSO <sub>3</sub> • 2H <sub>2</sub> O			A			A	A			10%B	B	10%A							
Calgon® (NaPO <sub>3</sub> ) <sub>6</sub>		A	A			A			A		X	A		A					
Cane Juice, Sucrose, water		A	A						A	B	A	A		X					
Cane Sugar Liquors Sucrose, water	X	A	A	A	B	A	A	A	A	A	A	A		A		A			
Capryl Alcohol (Octanol) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> CH <sub>2</sub> OH	X	B	A	C		B	A			A	A	A	A						
Caprylic Acid (Octanoic Acid) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> COOH			C				A			A		A	A			A			
Carbamate H <sub>2</sub> NCO <sub>2</sub> R	X	C	C	C		A	A		A										
Carbitol® CH <sub>3</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH	X	C	B	C		C	A		B	A	A	A	A						
Carbolic Acid (see Phenol) C <sub>6</sub> H <sub>5</sub> OH	X	C	X	C		A	A	A	A	B	A	B	A	C	X	A <sup>150°</sup>	X	A	A
Carbon Dioxide (Carbonic Acid Gas) CO <sub>2</sub>	A	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C

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	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Carbon Disulfide (Carbon Bisulfide) CS <sub>2</sub>	C	X	X	X	C	A	A	A	A	X	A	B	90%A	X	B	A	B	A	X	
Carbon Monoxide CO	A	A	C	C	A	C	X	A	A	A	A	A	A	A	B	A	A		A <sup>140°</sup>	
Carbon Tetrachloride (Tetrachloromethane) CCl <sub>4</sub>	X	X	C	X	X	A	X	A	A	X	X	C	B	A	X	B	A	B	A	X
Carbonated Beverages CO <sub>2</sub> /H <sub>2</sub> O	A	A	A					A		A	C		A	A	A		A			
Carbonic Acid (liquid) H <sub>2</sub> CO <sub>3</sub>		A	B		C	A		A	A	A	A	X	B	A	A	A	A	A	A	A
Casein a phosphoprotein		A	A	A		A		A			B		B	B						
Castor Oil a mixture of fatty acids	A	A	A	B	B	A	A	A	A	B	A	B	A	A						A <sup>140°</sup>
Catsup (Ketchup)		C	A			A		A		A	B	X	A	A	A					A <sup>140°</sup>
Cellosolve® (Glycol Ethers) HOCH <sub>2</sub> CH <sub>2</sub> OR		C	C	C	X	B		A		C	A		A	A	A <sup>100°</sup>	A	A	A	A	
Cellulose Acetate C <sub>8</sub> H <sub>12</sub> O <sub>5</sub>		B	B			C		A			B	B	A	A						
Cellulube® Hydraulic Fluids (Phosphate Esters)		X	X	A	C	B		A		X	A	A	A	A						
Chlorinated Lime—35% Bleach CA(ClO) <sub>2</sub>	X	X	C	A	6%A	A		A		X		X	A							
Chlorinated Water		C	C		X	A		A			C		B	A	B	X	A	B	X	A
Chlorine, Dry CL <sub>2</sub>		C	C		X	A		A	A	C	X	X			X	X	A	X	X	B
Chlorine, Wet Cl <sub>2</sub> /H <sub>2</sub> O	X	X	C	X	X	A	A	A	A	C	B	C	A	A	X	X	A	X	X	B
Chlorine, Anhydrous Liquid Cl <sub>2</sub>		X	X			A		A		X	X	X	X	A	X		A			X
Chlorine Dioxide ClO <sub>2</sub>		X	X	C		B	A	A	A	X	B		X	B	X		A			
Chlorine Trifluoride ClF <sub>3</sub>	X	X	X	X		B	X	A	C	X	A		A		X			X		B
Chloroacetic Acid (Monochloroacetic Acid) ClCH <sub>2</sub> COOH	X	C	X	B	X	C	A	A			X	X	X	A	A	X	A	X	A	
Chloroacetone (Monochloroacetone) ClCH <sub>2</sub> COCH <sub>3</sub>		C	X	A		C		A		C	X	B	B	B	X					
Chlorobenzene (Monochlorobenzene) C <sub>6</sub> H <sub>5</sub> Cl	X	X	X	X	X	A		A		C	X	B	B	B	X	A	A <sup>150°</sup>	B	A	X

Data limited to % concentration and/or temperature °F shown. Where not shown temperature is 70°F (21 °C) Ambient.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Chlorobutadiene (Chloroprene) C <sub>4</sub> H <sub>5</sub> CL		X	X	X		A		A		C	X	B	B	B	X					
Chlorobromomethane ClCH <sub>2</sub> Br		X	X			A		A		X	X	B	B		X					X
Chloroform CHCl <sub>3</sub>	X	X	X	X	X	A		A	A	X	X	A	A	A	X	B	A	X	A	
1-Chloronaphthalene C <sub>10</sub> H <sub>7</sub> Cl		X	X	X		C		A		X	X	B	B	A	X					
Chlorosulfonic Acid HSO <sub>3</sub> CL	X	X	X	X	X	X	A	A		A	B	B	B	A	X	X	X	X	X	
o-Chlorophenol C <sub>6</sub> H <sub>5</sub> ClO		X	X	X		B		A			B	B	B	B		B	A	X	A	
Chloroethene® (Chlorinated Solvents) CH <sub>3</sub> CCL <sub>3</sub>		X	X			C	A	A	A		X	X	A	A						
Chlorotrifluoroethylene C <sub>2</sub> H <sub>2</sub> ClF <sub>3</sub>			X					A			B	B	B	B						
Chlorox®		B	C			A		A		B		X	A	B	B					
Chocolate Syrup Corn syrup, water, sugar		A	A							A		X	A		A					
Chromic Acid — To 10% H <sub>2</sub> CrO <sub>4</sub>		X	X	A	X	A		A	A	X	10%B	B	X	B	X	X	A <sup>120°</sup>	X	A	A <sup>140°</sup>
Chromic Acid — 25%-50% H <sub>2</sub> CrO <sub>4</sub>	X	X	X	C	X	A		A	A	X	X	B	X	B	A	X	A <sup>120°</sup>	X	A	A <sup>122°</sup>
Chromic Acid — Over 50% H <sub>2</sub> CrO <sub>4</sub>	X	X	X	C	X	A		A	A	X	X	B	X	B	X	X	A <sup>120°</sup>	X	A	A <sup>122°</sup>
Cider (Apple Juice) Sucrose, water		A	A		B	A		A		A	B	X	A	A						A <sup>140°</sup>
Cinnamon Oil Cinnamic acid esters		C								C		X	A							
Citric Acid C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> • H <sub>2</sub> O	A	A	B	A	A	A	A	A	A	A	B	X	30%A	A	B	B	A <sup>250°</sup>	X	A	A <sup>140°</sup>
Citric Oils Citric acid esters		X	C	B		A		A		C		X	A		A					
Citrus Pectin Liquor		A	A			A		A					A							
Clove Oil (Eugenol) C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>		C						A		C		X	A							A
Cobalt Chloride CoCl <sub>2</sub> • 6H <sub>2</sub> O	X	A	A	C		A		A		A	X				A					
Coconut Oil (Coconut Butter) Fatty acid mixture	A	B	B	A		A		A		B	B	A	A							
Cod Liver Oil (Fish Oil) Glycerides, acids, esters	A	B	B	A		A		A		C	A	X	A							A <sup>140°</sup>
Coffee Fatty oils, acids, cellulose, water		A	A							A	A		A	A	A					A <sup>140°</sup>

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Coke Oven Gas H <sub>2</sub> (53%), CH <sub>4</sub> (26%) N <sub>2</sub> (11%), CO(7%)& hydrocarbons (3%)		C	C			A		A	A	B							A			
Copper Acetate Cu(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> • CuO • 6H <sub>2</sub> O		C	B	A				A		A	X	90%A	10%B	10%B			A			
Copper Chloride CuCl <sub>2</sub> • 2H <sub>2</sub> O	A	A	A	A	A	A	A	A	A	A	X	X	X	40%B	A		A			A <sup>140°</sup>
Copper Cyanide CuCN	A	A	A	A		A		A		A	X	A	10%A	A <sup>170°</sup>	A		A	A	A	A <sup>140°</sup>
Copper Fluoroborate			A	B			A				A	X	X	X	B					
Copper Nitrate Hexahydrate Cu(NO <sub>3</sub> ) <sub>2</sub> • 6H <sub>2</sub> O		A	A	A		A		A			X	X	A	B	A	A	A	X	A	
Copper Sulfate (Blue Copperas) CuSO <sub>4</sub> • 5H <sub>2</sub> O	A	A	A	A	A	A	A	A	A	5%A	X	X	10%A	A	A	A	A	B	A	A
Copper Sulfide CuS			A			A		A												
Corn Oil (Maize oil) Glycerides of fatty acids	A	C	A	C	A	A	A	A	A	B	B	C	B		A		A	A		A <sup>140°</sup>
Cotton Seed Oil		A	C	A	A	A	A	A	A	A	B	A	C	A		A	B	A	A	A
Cream			C	A			A		A	A	A		X	A		A				
Creosote, Coal-Tar (Tar Oil) Hydrocarbon mixture	B	C	A	X	X	A	A	A	A	B	B	B	B	B	X	X		X		X
Creosote, Wood-Tar Mixture of phenols		B	A	X	X	A	A	A	A				B		X	X		X		X
Cresylic Acid (Cresol) C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	X	X	C	X		A		A	A	B	B	C	A	B	X	X	A <sup>150°</sup>	X		A
Crotonaldehyde CH <sub>3</sub> CHCHCHO		A	X			A		A			A	A	A	A						
Cumene (Isopropylbenzene) C <sub>6</sub> H <sub>5</sub> CH(CH <sub>3</sub> ) <sub>2</sub>		X	X	X		A		A			B	B	B	B						
Cutting Oil (Water Soluble)		X	C			A		A			A	A	A	A						
Cutting Oil (Sulfur Base)		C	A					A			A	A	A	A						
Cyclohexane C <sub>6</sub> H <sub>12</sub>	C	X	B	X	A	A		A	A	C	B	B	B	B	X	A	A	A	A	A
Cyclohexanol C <sub>6</sub> H <sub>11</sub> OH		A	B	X		A		A		B	C	B	A	A	B	A	A <sup>150°</sup>	A	A	A <sup>140°</sup>
Cyclohexanone C <sub>6</sub> H <sub>10</sub> O		X	X	C		X		A	A	C	B	B	B	B	X	A	A	A	A	B
Cyclopentane C <sub>5</sub> H <sub>10</sub>		A	B	X		A		A			B	B	B	B						
Cymene (Isopropyltoluene) C <sub>10</sub> H <sub>14</sub>		X	C	X		A		A												

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CHEMICAL Formula	ELASTOMERS										METAL PARTS			PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Decahydronaphthalene (Decalin®) C <sub>10</sub> H <sub>18</sub>	X	X	X	X		A		A												
Decanal CH <sub>3</sub> (CH <sub>2</sub> ) <sub>8</sub> CHO			X	X		X		A												
Decane CH <sub>3</sub> (CH <sub>2</sub> ) <sub>8</sub> CH <sub>3</sub>	C	X	B	C		A		A		C				A <sup>70°</sup>		A				
Decyl Alcohol (Decanol) C <sub>10</sub> H <sub>21</sub> OH		X	A			B		A												
Denatured Alcohol Ethanol and denaturant	X	B	A	A		B		A		B	B	B	A	A	A		A			
Detergent Solutions	X	A	A	A	B	A		A		B	B		A		A	A		A	A	A <sup>140°</sup>
Developing Fluids & Solutions	X	A	A	C	X	A		A		A		X	A	A						A <sup>140°</sup>
Dextrose C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	A	B	B	A	B <sup>140°</sup>	A		A			A	X	A	A	A		A			A <sup>140°</sup>
Diacetone Alcohol (Diacetone) (CH <sub>3</sub> ) <sub>2</sub> COCH <sub>2</sub> • COCH <sub>3</sub>	C	X	X	B	C	X		A		B	A	A	A	A	X	A	C	A		
Dibenzyl Ether (C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> ) <sub>2</sub> O	C	X	X	C		C		A		C	B	B	B	B			C			
Dibenzyl Sebecate C <sub>24</sub> H <sub>30</sub> O <sub>4</sub>	X	X	X	C	A	B		A	A	C										
Dibutyl Amine (C <sub>4</sub> H <sub>9</sub> ) <sub>2</sub> NH		X	C	X		X		A		B		A	A	A	X		B <sup>70°</sup>			
Dibutyl Phthalate (DBP) C <sub>6</sub> H <sub>4</sub> (CO <sub>2</sub> C <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>	C	X	X	A	A	B		A	A	B	A	A	A	A	X		X	A	A	A
Dibutyl Sebecate (DBS) C <sub>18</sub> H <sub>34</sub> O <sub>4</sub>	X	X	X	C		C		A		B		A	A		C					
Dichloroacetic Acid Cl <sub>2</sub> CHCOOH		X	X			X		A												
o-Dichlorobenzene C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	X	X	X	X	X	A		A		X	X	B	B	A	B		A <sup>150°</sup>		X	
Dichlorobutane C <sub>4</sub> H <sub>6</sub> Cl <sub>2</sub>			X			A		A			X	B	B							
Dichloroethyl Ether [ClCH <sub>2</sub> CH <sub>2</sub> ] <sub>2</sub> O			X					A			B									
Dichloro Isopropyl Ether C <sub>6</sub> H <sub>12</sub> OC <sub>2</sub>	C	X	X	X		X		A		X					X					
Dicyclohexylamine (C <sub>6</sub> H <sub>11</sub> ) <sub>2</sub> NH		X	X	X		B		A		B										
Diesel Oil (Fuel ASTM #2) Hydrocarbons	C	C	A	X	B	A		A	A	C	A	A	A	A	B		A			A <sup>122°</sup>
Diester Synthetic Oils	X	X	B	X		A		A			A	A	A	A						
Diethano Amine (HOCH <sub>2</sub> CH <sub>2</sub> ) <sub>2</sub> NH	C	A	B					A				A	A	A	A			A		

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Diethyl Amine (CH <sub>3</sub> CH <sub>2</sub> ) <sub>2</sub> NH	C	C	C	C		X		A			B	B	A	A	A		A	A		
Diethyl Benzene C <sub>6</sub> H <sub>4</sub> (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	X	X	X	X		A		A		C										
Diethyl Carbonate (C <sub>2</sub> H <sub>5</sub> O) <sub>2</sub> CO		X	X					A	A			A								
Diethyl Ether (Ether) (CH <sub>3</sub> CH <sub>2</sub> ) <sub>2</sub> O	A	C	B	X	C	X		A	A	B	B	A	A	A	X	A	A	B	A	X
Diethyl Phthalate (DEP) C <sub>6</sub> H <sub>4</sub> (CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>			X			C		A			A	A	A	A						
Diethyl Sebecate C <sub>14</sub> H <sub>26</sub> O <sub>4</sub>		X	X	C	A	B		A		B	A	A	A	A	A <sup>120°</sup>		A <sup>120°</sup>			
Diethylene Ether (Dioxane) C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>		X	X	A		X		A			A	A	A							
Diethylene Glycol (DEG) HOCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> • CH <sub>2</sub> OH	X	A	A	A	A	A		A		A	A	A	A	A				A		A <sup>140°</sup>
Diethylene Triamine (NH <sub>2</sub> C <sub>2</sub> H <sub>4</sub> ) <sub>2</sub> NH			B					A			A	A	A	A						
Diisobutyl Ketone C <sub>4</sub> H <sub>9</sub> COC <sub>4</sub> H <sub>9</sub>		X	X	B		X		A			A	A	A	A						
Diisobutylene [HC=C(CH <sub>3</sub> ) <sub>2</sub> ] <sub>2</sub>		C	B			C		A		C					A		A	A	A	
Diisodecyl Adipate (DIDA) C <sub>26</sub> H <sub>50</sub> O <sub>4</sub>			X			C		A												
Diisodecyl Phthalate (DIDP) C <sub>28</sub> H <sub>47</sub> O <sub>4</sub>		X	X	A		C		A												
Diisooctyl Adipate (DIOA) C <sub>22</sub> H <sub>42</sub> O <sub>4</sub>			X			C		A			A	A	A	A						
Diisooctyl Phthalate (DIOP) C <sub>24</sub> H <sub>39</sub> O <sub>4</sub>			X			C		A												
Diisooctyl Sebecate (DIOS) C <sub>26</sub> H <sub>46</sub> O <sub>4</sub>				B		A		A												
Diisopropyl Amine [(CH <sub>3</sub> ) <sub>2</sub> CH] <sub>2</sub> NH			B					A												
Diisopropyl Benzene C <sub>6</sub> H <sub>4</sub> • [CH(CH <sub>3</sub> ) <sub>2</sub> ] <sub>2</sub>		X	X	X		A		A		C										
Diisopropyl Ketone [(CH <sub>3</sub> ) <sub>2</sub> CH] <sub>2</sub> CO		X	X	A		X		A		C			A							
N,N-Dimethylaniline C <sub>6</sub> H <sub>5</sub> N(CH <sub>3</sub> ) <sub>2</sub>		X	X	C		X		A		B	B	B		X		A	A	A		
Dimethyl Ether CH <sub>3</sub> OCH <sub>3</sub>		B	A			A		A	A		B	B	B	B						
N,N-Dimethyl Formamide (DMF) HCON(CH <sub>3</sub> ) <sub>2</sub>		X	C		C	X		A	A	A	A		A	A	A <sup>120°</sup>	B	A <sup>120°</sup>	A	A	
Dimethyl Phthalate C <sub>6</sub> H <sub>4</sub> (CO <sub>2</sub> CH <sub>3</sub> ) <sub>2</sub>		X	X	C	A	C		A		A						A <sup>70°</sup>	B	A		

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CHEMICAL Formula	ELASTOMERS										METAL PARTS			PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Dimethyl Sulfate (CH <sub>3</sub> ) <sub>2</sub> SO <sub>4</sub>			X			X		A												
Dimethyl Sulfide (CH <sub>3</sub> ) <sub>2</sub> S			X					A			A	A	A	A						
Dinitrotoluene (DNT)CH <sub>3</sub> C <sub>6</sub> H <sub>3</sub> (NO <sub>2</sub> ) <sub>2</sub>		X	X	X		C		A		B			A							
Diocetyl Phthalate (DOP) C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	X	X	X	B	A	B		A		C	A	A	A	A						A
Diocetyl Sebecate C <sub>26</sub> H <sub>50</sub> O <sub>4</sub>	C	X	X	C		C		A		C	A	A	A	A						
Dioxolanes (Dioxolans) Glycol ethers		X	X	B		C		A		C										
Dipentene (Limonene) C <sub>10</sub> H <sub>16</sub>		X	C	X		A		A		C	A	A	A	A						
Diphenyl Oxides (Phenyl Ether) C <sub>6</sub> H <sub>5</sub> OC <sub>6</sub> H <sub>5</sub>	C	X	X	C		A		A		C	B	A	A	A						A
Dipropylamine (CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> ) <sub>2</sub> NH																				
Dipropylene Glycol (C <sub>3</sub> H <sub>6</sub> OH) <sub>2</sub> O															A					A
Dipropyl Ketone (Butyrene) (C <sub>3</sub> H <sub>7</sub> ) <sub>2</sub> CO																				
Dispersing Oil #10		X	X	X		C		A			A	A	A	A						
Divinyl Benzene (DVB) C <sub>6</sub> H <sub>4</sub> (CH=CH <sub>2</sub> ) <sub>2</sub>																				
Dodecyl Benzene (Alkane) C <sub>6</sub> H <sub>5</sub> (CH <sub>2</sub> ) <sub>11</sub> CH <sub>3</sub>																				
Dow Corning® (Silicones) [(CH <sub>3</sub> ) <sub>2</sub> SiO] <sub>2</sub>	A	A	A								A									
Dowtherm®(Biphenyl & Phenyl Ether) (C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> and (C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> O	C	X	X	X		A		A		X	A	B	A	A						A
Drycleaning Fluids Chlorinated hydrocarbons		X	C							X	A	A	A		X					
Dyes				C							B	B		A						
Epichlorohydrin C <sub>3</sub> H <sub>5</sub> ClO		X	X	B	X	X		A	A	B	X	A	A	A	A	A	X	A	A	A
Epsom Salts (Magnesium Sulfate) MgSO <sub>4</sub> • 7H <sub>2</sub> O		A	A								A			B	A		A			
Ethane C <sub>2</sub> H <sub>6</sub>	C	C	A	X				A	A	C	A	A	A	A	C	A				A
Ethanolamine (Aminoethanol) H <sub>2</sub> NCH <sub>2</sub> • CH <sub>2</sub> OH	X	C	B	B				X		A	B	A	A		X	X	C	A	A	A <sup>140*</sup>
Ethyl Acetate CH <sub>3</sub> COOC • H <sub>2</sub> CH <sub>3</sub>	X	X	X	B	C	X	A	A	A	C	A	A	A	A	C	A	A	A	A	A

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Ethyl Acetoacetate (Acetoacetic Ester) CH <sub>3</sub> COCH <sub>2</sub> • COOCH <sub>2</sub> CH <sub>3</sub>	C	X	X	C		X		A		C	A	A	A	A			A <sup>70°</sup>				
Ethyl Acrylate CH <sub>2</sub> CHCO <sub>2</sub> • CH <sub>2</sub> CH <sub>3</sub>	X	X	X	C		X		A		C	A	A	A	A	B		B <sup>70°</sup>				
Ethyl Alcohol (Ethanol) CH <sub>3</sub> CH <sub>2</sub> OH	X	A	A		X	B		A	A		B	B	A	A	A <sup>100°</sup>		A	X	A	A <sup>140°</sup>	
Ethyl Aluminum Dichloride CH <sub>3</sub> CH <sub>2</sub> AlCl <sub>2</sub>			X			B		A													
Ethyl Amine (Monoethylamine) CH <sub>3</sub> CH <sub>2</sub> NH <sub>2</sub>		C	X	A		X		A			B	B	A								
Ethyl Benzene CH <sub>3</sub> CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>	X	X	X	X		A		A		C	B	B	B	A	X	A	A				A
Ethyl Benzoate C <sub>6</sub> H <sub>5</sub> CO <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>		X	X	C		A		A		C	A	A	A	A	B			X			
Ethyl Bromide (Bromoethane) CH <sub>3</sub> CH <sub>2</sub> Br		B	X	B				A		X	A	A	A								
Ethyl Butyl Acetate CH <sub>3</sub> CO <sub>2</sub> CH <sub>2</sub> • CH(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>			X			X		A													
Ethyl Butyl Alcohol CH <sub>3</sub> CH(C <sub>2</sub> H <sub>5</sub> ) • (CH <sub>2</sub> ) <sub>2</sub> OH			A			B		A													
Ethyl Butyl Ketone CH <sub>3</sub> CH <sub>2</sub> COC <sub>4</sub> H <sub>9</sub>			X			X		A													
Ethyl Butyraldehyde C <sub>6</sub> H <sub>12</sub> O			X			X		A													
Ethyl Butyrate CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> C <sup>140°</sup> CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub>	X	X	X			C		A			B	A	A	A	B			A			
Ethyl Caprylate CH <sub>3</sub> (CH <sub>2</sub> ) <sub>6</sub> • CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub>			X	X	X				A												
Ethyl Cellosolve® C <sub>2</sub> H <sub>5</sub> O(CH <sub>2</sub> ) <sub>2</sub> OH		C	C	B		X		A		B											
Ethyl Cellulose (Ethocel®)	B	B	B	B	B	C	A	A	A	A	B	A	B	B	C			B			
Ethyl Chloride (Chloroethane) C <sub>2</sub> H <sub>5</sub> Cl	C	C	A	A	X	A	A	A	A	C	X	B	A	B	X	A	A	B	A	A	X
Ethyl Chlorocarbonate (Ethyl Chloroformate) ClCO <sub>2</sub> C <sub>2</sub> H <sub>5</sub>		C				A		A		A											
Ethyl Cyanide (Propionitrile) C <sub>2</sub> H <sub>5</sub> CN		B	X	A		X		A													
Ethyl Formate HCOOCH <sub>2</sub> CH <sub>3</sub>		B	X	C		A		A		B	B	A	B	B							C
Ethylhexyl Acetate CH <sub>3</sub> CO <sub>2</sub> CH <sub>2</sub> • CH(C <sub>2</sub> H <sub>5</sub> )C <sub>4</sub> H <sub>9</sub>			X			X		A													
Ethylhexyl Alcohol (Ethylhexanol) C <sub>8</sub> H <sub>17</sub> OH			A			B		A			A	A	A	A							

Data limited to % concentration and/or temperature °F shown. Where not shown temperature is 70°F (21 °C) Ambient.

CHEMICAL Formula	ELASTOMERS										METAL PARTS			PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Ethyl Iodide CH <sub>3</sub> CH <sub>2</sub> I																				
Ethyl Isobutyrate (CH <sub>3</sub> ) <sub>2</sub> • CHCOOCH <sub>2</sub> CH <sub>3</sub>		X	X	X			A													
Ethyl Mercaptan (Ethanethiol) CH <sub>3</sub> CH <sub>2</sub> SH		C	X	X		B	A		C	B	A	B	B							
Ethyl Oxalate C <sub>2</sub> H <sub>5</sub> O <sub>2</sub> C • CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub>	A	X	X	A		B	A		B											
Ethyl Pentachlorobenzene C <sub>2</sub> H <sub>5</sub> C <sub>6</sub> Cl <sub>5</sub>		X	X			A	A		X	X				X						
Ethyl Propionate CH <sub>3</sub> CH <sub>2</sub> • COOCH <sub>2</sub> CH <sub>3</sub>		X	X	X			A			A	A	A	A							
Ethyl Silicate Si(OCH <sub>2</sub> CH <sub>3</sub> ) <sub>4</sub>		A	A	A		A	A		B	B	A	A	A							
Ethyl Sulfate C <sub>2</sub> H <sub>5</sub> OSO <sub>2</sub> OH			A			A	A		B			X					A			
Ethylene (Ethene) C <sub>2</sub> H <sub>4</sub>		A	B	C		A	A	A	C	A	A	A								
Ethylene Chlorohydrin ClCH <sub>2</sub> CH <sub>2</sub> OH	X	B	X	A	X	B	A		C		B	A	A	X		A <sup>70°</sup>				
Ethylene Diamine (CH <sub>2</sub> ) <sub>2</sub> (NH <sub>2</sub> ) <sub>2</sub>		A	B	A		X	A		A	C	A	A	A	A	A	B	B	A	A	
Ethylene Dibromide (Ethylene Bromide) Br(CH <sub>2</sub> ) <sub>2</sub> Br		X	X	C		B	A	A		X	X	B	B	X		A				
Ethylene Dichloride (Dutch Oil) Cl(CH <sub>2</sub> ) <sub>2</sub> Cl	X	X	X	X	X	B	A	A	X	X	B	B	B	X	B	A	B	A	A	X
Ethylene Glycol (Ethylene Alcohol) (Glycol) (CH <sub>2</sub> OH) <sub>2</sub>	B	A	A	A	A	A <sup>70°</sup>	A	A	A	A	A	A	A	A	A <sup>120°</sup>	A	A	B	A	A <sup>140°</sup>
Ethylene Glycol Monobutyl Ether (Butyl Cellosolve®) C <sub>4</sub> H <sub>9</sub> OCH <sub>2</sub> CH <sub>2</sub> OH	X	X	B	B		C	A			A	A	A	A							
Ethylene Glycol Monoethyl Ether Acetate (Cellosolve Acetate®) C <sub>2</sub> H <sub>5</sub> O(CH <sub>2</sub> ) <sub>2</sub> • O <sub>2</sub> CCH <sub>3</sub>	X	X	C	B		C	A			A	A	A	A							
Ethylene Glycol Monomethyl Ether (Methyl Cellosolve®) CH <sub>3</sub> O(CH <sub>2</sub> ) <sub>2</sub> OH	X	C	C	B		X	A			B	B	A	A							
Ethylene Oxide (CH <sub>2</sub> ) <sub>2</sub> O	X	X	X	X	A	C	A	A	A	A	B	A	A	C		A	A	X	A	
Ethylene Trichloride (Trichloroethene) ClCHCCl <sub>2</sub>		X	X	X		A	A		X	X	A	A		X						
Ethylidene Chloride CH <sub>3</sub> CHCl <sub>2</sub>		X	X	X			A			X	B	A	B							
Fatty Acids C <sub>n</sub> H <sub>2n+1</sub> COOH		C	B	X	B	A	A		B	<sup>90°</sup> A	X	A	A	B	A	A	A			A <sup>140°</sup>

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Ferric Chloride FeCl <sub>3</sub>	A	A	A	A	X	A	A	A	A	A	X	X	X	10%A	A	A	A	X	A	A <sup>140°</sup>
Ferric Hydroxide FeHO <sub>2</sub>			B			C		A					A	10%B						
Ferric Nitrate Fe(NO <sub>3</sub> ) <sub>3</sub>	A	A	A	A		A		A	A	X	X	B	10%A	A	A	A	X	A	A <sup>140°</sup>	
Ferric Sulfate Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>		A	A	A		A	A	A	A	C	X	B	30%A	A	B	A	X	A	A <sup>140°</sup>	
Ferrous Chloride FeCl <sub>2</sub>		A	A	A	X	A		A	A	X	X	30%B	50%B	A	B	A	X	A	A	
Ferrous Sulfate FeSO <sub>4</sub>		A	A	A	A	A		A	A	10%A	C	B	30%A	A	B	A	C	A	A <sup>140°</sup>	
Fish Oil			A			A		A	B											
Fluoboric Acid (Fluoroboric Acid) HBF <sub>4</sub>		B	A	A	X	C		A	A	X	X	30%A		A		A	X	A	A <sup>140°</sup>	
Fluorine (Liquid) F <sub>2</sub>		C	X	C	X	B	X	A	C	X	A		A	X		A <sup>70°</sup>	X		A	
Fluorobenzene FC <sub>6</sub> H <sub>5</sub>		X	X	X		A		A		C				X						
Fluorolube (Fluorocarbon Oils) F <sub>x</sub> C <sub>y</sub> H <sub>z</sub>		A	C	A		B		A		X	A	A	A	X						
Fluosilicic Acid (Sand Acid) H <sub>2</sub> SiF <sub>6</sub>	B	A	B	B	B	A		A	A	X	X	A <sup>212°</sup>	B	A		A	X	A	A	
Formaldehyde (Formalin) HCHO	X	C	B	A	40°C	A	A	A	A	B	A	C	90%A	70%A	A	A	A <sup>120°</sup>	C	A	A <sup>140°</sup>
Formamide HCONH <sub>2</sub>		A	A	A		X		A			A	B	B	B						
Formic Acid HCOOH	X	B	C	B	C	C	A	A	A	A	X	X	C	A	A <sup>70°</sup>	X	A	X	A	A <sup>140°</sup>
Freon 11 (Trichlorofluoromethane) CCl <sub>3</sub> F	X	C	C	X	A	B		A	A	X	B	A	A		B		A	X	A	
Freon 12 (Dichlorodifluoromethane) Cl <sub>2</sub> CF <sub>2</sub>	A	B	B	B	A	B		A	A	X	A	A	A			A				
Freon 13 (Chlorotrifluoromethane) CICF <sub>3</sub>		A	A	A	C	A		A		X	A	A	A	A						
Freon 13B1(Bromotrifluoromethane) BrCF <sub>3</sub>	A	A	A	A		A		A	A											
Freon 14 (Tetrafluoromethane) CF <sub>4</sub>		X	X	B				A	A											
Freon 21 (Dichlorofluoromethane) FCHCl <sub>2</sub>		B	X	X		X		A	A	X	A					A				
Freon 22 (Chlorodifluoromethane) HCCIF <sub>2</sub>	X	B	X	C	X	X		A	A	X	A	A	A	A		A				
Freon 113 (Trichlorotrifluoroethane) (TF) Cl <sub>3</sub> CCF <sub>3</sub>	C	A	B	X	A	B		A	A	X	B		A			A				

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Freon 114 (Dichlorotetrafluoroethane) C <sub>2</sub> Cl <sub>2</sub> F <sub>4</sub>	A	A	A	C	A	A	A	A	X	B		A				A				
Freon 114B2 (Dibromotetrafluoroethane) C <sub>2</sub> Br <sub>2</sub> F <sub>4</sub>		A	B	X		B	A	A	X											
Freon 115 (Chloropentafluoroethane) C <sub>2</sub> ClF <sub>5</sub>		A	A	A		B	A	A	X	A										
Fruit Juices Water, sucrose		A	A	A	B	A	A	A	A	0%A	X	A	A	A		A	X	A	A	A <sup>140°</sup>
Fuel Oils (ASTM #1 thru #9) Hydrocarbons	C	C	A	X	B	A	A	A	C	A	A	A	A	C	C	A	A	A	A	A
Fumaric Acid (Boletic Acid) HOOCCH = CHCOOH		B	C			A	A		A											
Furan (Furfuran) C <sub>4</sub> H <sub>4</sub> O		X	X	X	X	C	A		C					C		X			A	
Furfural (Ant Oil) C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	X	B	X	B		C	A	A	C	A	B	20%A	B	X	B	B <sup>120°</sup>	A	A	B	
Furfuryl Alcohol C <sub>5</sub> H <sub>6</sub> O <sub>2</sub>	X		X	B	B	X	A			A	A	A	A			B <sup>100°</sup>				
Fusel Oil (Grain Oil) (CH <sub>3</sub> ) <sub>2</sub> • CHCH <sub>2</sub> CH <sub>2</sub> OH	C	A	A	A		A	A													
Gallic Acid C <sub>6</sub> H <sub>2</sub> (OH) <sub>3</sub> • COOH	X	C	B	B	X	A	A		B	20%A	X	B	B	A <sup>70°</sup>		A <sup>70°</sup>	B	A	A <sup>140°</sup>	
Gasoline (Unleaded) C <sub>4</sub> to C <sub>12</sub> • Hydrocarbons	X	X	X	X		A	A	A	C	A	A	A	A	C	A	A	A	A	A	B
Gasoline (Petrol) Hydrocarbons	B	C	A	X	A	A	A	A	C	A	A	A	A	C	A	A	A	A	A	C
Gelatin Water soluble Proteins	A	A	A	A	B	B	A	A	A	A	A	A		A	B	A	A			A
Ginger Oil C <sub>17</sub> H <sub>26</sub> O <sub>4</sub>		A				A	A		C		X	A								
Glauber's Salt (Sodium Sulfate Decahydrate) Na <sub>2</sub> SO <sub>4</sub> •10H <sub>2</sub> O	A	A	A	B	B	A	A													
Gluconic Acid C <sub>6</sub> H <sub>12</sub> O <sub>7</sub>			C			A	A			B	C	50%A		A						
Glucose (Corn Syrup) C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	A	A	A	A	B	A	A	A	A	A	A	A		A	A	A	A	A	A	A
Glue (PVA)	A	A	A	B	B	A	A	A	A	A	A	B	A	A	B		A			A
Glycerol (Glycerine) C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	A	A	A	A	A	A	A	A	A	A	B	A	A	A	A	A	B	A	A <sup>140°</sup>	
Glycolic Acid HOCH <sub>2</sub> COOH		A	A			A			A				A	A		A		A	A <sup>140°</sup>	
Glycols		A	A			A	A	A	A	B	B	B		A	A	A	A	A	A <sup>140°</sup>	

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS			PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Gold Monocyanide AuCN		A	A			A				A			X	A						
Grape Juice Water, sucrose		X	C			A		A		A			X	A	A		A			
Grapefruit Oil	A	X	X										X	A						
Grease Hydrocarbons		X	A		A	A		A	A	B	A		A							
Green Sulfate Liquor		B	B	A	X	A	A	A	B	A	B	C	A	B	A					
Halowax Oil Chlorinated naphthalenes		X	X	X		A		A		X	X									
Heptanal CH <sub>3</sub> (CH <sub>2</sub> ) <sub>5</sub> CHO						A	X						A	A	A	A	A			
Heptane C <sub>7</sub> H <sub>16</sub>	B	C	A	X		A		A	A	C	A	A	A	A	C <sup>140°</sup>	A	A	A	A	A
Hexanal CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> CHO	C	A	X	B		C		A					A	B	A	B				
Hexalin (Cyclohexanol) C <sub>6</sub> H <sub>11</sub> OH		A	B	C		A		A												
n-Hexane C <sub>6</sub> H <sub>14</sub>	B	B	A	X	A	A		A	A	A	A	A	A	A	C <sup>140°</sup>	C	A	A	A	B
n-Hexane 1 (Hexylene) H <sub>2</sub> CCH(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	A	B	A	X		A		A		C										
Hexyl Alcohol (1-Hexanol) C <sub>6</sub> H <sub>13</sub> OH	X	B	A	C		A		A					A	A	A					A <sup>140°</sup>
Hexylene Glycol (Brake Fluid) C <sub>6</sub> H <sub>12</sub> (OH) <sub>2</sub>		A	A	C		A		A					A	A	A	A				
Honey		A											A							
Hydraulic Oil (Petroleum Base) Hydrocarbons	A	B	A	X	X	A		A		X	A	A	A	A	X	C			A	A
Hydrazine (Diamine) H <sub>2</sub> NNH <sub>2</sub>	X	C	C	A	X	X		A	A	A	A	X	A	A	X	B	X			
Hydrobromic Acid HBr	X	C	X	A		A	A	A	A	B	A	A	A		B	X	A	X	A	A <sup>140°</sup>
Hydrochloric Acid 10% (Muratic) HCl	B	B	B	A		A		A	A	A	X	C	X	B	A	X	A	A	A	A
Hydrochloric Acid 20% (Muratic) HCl	B	B	B	A	C	A		A	A	A	X	C	X	A	A	X	A	A	A	A
Hydrochloric Acid 30% (Conc.) HCl	X	C	C	A	X	B		A	A		X	X	X	A	B	X	A	X	A	A
Hydrocyanic Acid (Fommonitrile) HCN	C	C	B	A	X	A	A	A	A	B	<sup>10%</sup> A	X	A	B	A	X	A	A		A <sup>122°</sup>
Hydrogen Fluoride — Anhydrous HF	C	C	X	C		A	X	A	C		X		X	A	A		A	X		
Hydrofluoric Acid (Conc.) Cold HF	X	C		C	X	B	X	A	C	X	C	X	X	B	<sup>40%</sup> A	X	A	X	A	A <sup>140°</sup>

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®
Hydrogen Peroxide — 3% H <sub>2</sub> O <sub>2</sub>		B	B	B	X	A		A	A	A				A		A	X	X	A <sup>122°</sup>
Hydrogen Peroxide — 10% H <sub>2</sub> O <sub>2</sub>		C	C	B	X	A		A	A	A	B	A	A	A		A	X	X	A <sup>122°</sup>
Hydrogen Peroxide — 30% H <sub>2</sub> O <sub>2</sub>		X	C	B	X	A		A	A	A	X	B	A	A		A	X	X	A <sup>122°</sup>
Hydrogen Peroxide — 90% H <sub>2</sub> O <sub>2</sub>	C	B	X	C	X	A		A	A	A	X	A					X	X	A
Hydrogen Sulfide (Wet) H <sub>2</sub> S		C	X	A	A	X	A	A	A	90%A	X	A <sup>167°</sup>	A <sup>167°</sup>	A	C	A	X	A	A
Hydroquinone C <sub>6</sub> H <sub>4</sub> (OH) <sub>2</sub>		X	C			C		A	A	90%A	B	10%A	B			A			A <sup>140°</sup>
Hydroxyacetic Acid — 10% HOCH <sub>2</sub> COOH		X	X					A	70%A	B		B							
Hypochlorous Acid HClO		X	X	B		A		A	A	X	X	X	A	A		A	X		A <sup>140°</sup>
Ink		A	A			A		A	A	C	X	A	A						A <sup>140°</sup>
Iodine I <sub>2</sub>		B	B	B	B	A		A	A	A	X	X	A	A		A <sup>150°</sup>	X		B
Iodoform CHI <sub>3</sub>				A				A	B	A	A	A	A			A			
Isoamyl Acetate CH <sub>3</sub> CO <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH • (CH <sub>3</sub> ) <sub>2</sub>	X	X	X	B		X		A		A	A	A	A						
Isoamyl Alcohol (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH <sub>2</sub> OH	C	A	A	A		A		A											
Isoamyl Butyrate C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>			X			X		A		A	A	A	A						
Isoamyl Chloride (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH <sub>2</sub> Cl		X	X	X		A		A		X									
Isobutyl Acetate CH <sub>3</sub> CO <sub>2</sub> CH <sub>2</sub> • CH(CH <sub>3</sub> ) <sub>2</sub>		X	X	C		X		A		A	A	A	A						
Isobutyl Alcohol (Isobutanol) (CH <sub>3</sub> ) <sub>2</sub> • CHCH <sub>2</sub> OH	X	B	B	A		A		A		A				A	A	A	A	A	A <sup>140°</sup>
Isobutyl Amine (CH <sub>3</sub> ) <sub>2</sub> • CHCH <sub>2</sub> NH <sub>2</sub>			X			X		A											
Isobutyl Chloride (CH <sub>3</sub> ) <sub>2</sub> • CHCH <sub>2</sub> Cl			X			B		A		X	B	B	90%A						
Isobutyric Acid (CH <sub>3</sub> ) <sub>2</sub> • CHCOOH		B	X	A				A		A									
Isododecane (CH <sub>3</sub> ) <sub>2</sub> • CH(CH <sub>2</sub> ) <sub>6</sub> CH <sub>3</sub>	B	A	B	X		A		A		B	B	B	B						
Isooctane (Trimethylpentane) C <sub>8</sub> H <sub>18</sub>	B	B	A	X	A	A		A		C	A	A	A	A		A	A	A	
Isopentane (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH <sub>3</sub>			A			A		A											

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Isophorone C <sub>9</sub> H <sub>14</sub> O	C	X	X	C		X		A		B	A	A	A	A							
Isopropyl Acetate CH <sub>3</sub> COOCH <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub>	A	X	X	B		X		A		B	A	A	A	A	B				A		
Isopropyl Alcohol (Isopropanol) CH <sub>3</sub> CH(OH)CH <sub>3</sub>	X	A	B	B	A	A		A	A		90%A	A	A	A	A	A	A	X	A		A <sup>140°</sup>
Isopropyl Amine C <sub>3</sub> H <sub>7</sub> NH <sub>2</sub>			X			X		A				A	A								
Isopropyl Chloride (CH <sub>3</sub> ) <sub>2</sub> CHCl	X	X	X	X		B		A		C	X	A	A	A	X						
Isopropyl Ether (CH <sub>3</sub> ) <sub>2</sub> CHOCH <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub>	C	C	C	X		C		A		C	B		A		X		A <sup>70°</sup>	A			
Jet Fuels (JP1 to JP6) (ASTM-A, A1 & B)	C	C	A	X	A	A		A	A	C	A	A	A	A	X	A	A	A	A		
Kerosine (Kerosene) Hydrocarbons	C	C	A	X	A	A	A	A	A	C	A	A	A	A	X	A	A	A	A		C <sup>140°</sup>
Lacquers	X	X	X	X	X	X	A	A	A	C	A	B	A	A		B		A			
Lacquer Solvents	X	X	X	X	C	X	A	A	A	C	A	B	A	A	C	B	X	B			
Lactic Acid CH <sub>3</sub> CHOH • COOH		B	B	A	X	A	A	A	A	A	A	X	70%A	60%A	A	C	A	X	A		A <sup>140°</sup>
Lactol (Aliphatic Naptha Solvent) CH <sub>3</sub> CHOH • CO <sub>2</sub> C <sub>10</sub> H <sub>7</sub>		X	C			A		A			A	A	A	A							
Lard (Lard Oil) Olein, stearin	A	C	A	X	B	A		A		B	A	A	B	A	A	B	A	A			A <sup>140°</sup>
Latex Rubber emulsion		A	A					A			A		A		A	C		A			
Lauryl Alcohol (n-Dodecanol) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>10</sub> • CH <sub>2</sub> OH			A			B				A	A	A	A	A							A <sup>140°</sup>
Lavender Oil Ester mixture		X	B	X		B		A		B											
Lead Acetate (Sugar of Lead) Pb(CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub>	X	A	B	A		X		A		A	X		B	B	A	A	A	B	A		A
Lead Chloride PbCl <sub>2</sub>		B						A			X		B	B	A		A				
Lead Nitrate Pb(NO <sub>3</sub> ) <sub>2</sub>		A	B	A		A		A			X	B	B	B	A		A				A <sup>125°</sup>
Lead Sulfamate			A	B			A		A		A					A				B	
Lemon Oil (Cedro Oil) Hydrocarbons			C				A		A		C	A		A							
Ligroin (Ligroine) (Benzine) Petroleum fraction		B	A	X		A		A		B		A	A		X						
Lignin Liquor Blend of natural aromatic oils		A	A			A		A					A								

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Lime, Soda (Slaked Lime & Soda Ash) CaO	C	B	B	A		B	A		A											
Lime Bleach		C	A	A		A	A		A	X				B						
Lime Slurries		A	B		C	B	A			B		B								
Lime Sulfur CaS+CaSO <sub>4</sub>		A	A	A		A	A		B	X		A		A			B			A
Limonene C <sub>10</sub> H <sub>16</sub>		X	C	X		A	A													
Linoleic Acid C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>		X	B	X		B	A		B	A		A	A	A		A				
Linseed Oil (Flaxseed Oil) Glycerides	B	A	A	C	B	A	A	A	A	B	A	A	A	A	A	A	A	A	A	A
Lindol (Tritolyl Phosphate) C <sub>21</sub> H <sub>21</sub> O <sub>4</sub> P		C	X			B	A		A											
Lithium Bromide LiBrH <sub>2</sub> O		X	A			A	A	A			A					A				
Lubricating Oils (Petroleum) Hydrocarbons	C	B <sup>150°</sup>	A	X	A	A	A	A	A	X	A	A	A	A	C	A	A	A	A	A
Lye (Potassium Hydroxide) KOH		B	C		C	B	A	B	A			A		A	X	A <sup>150°</sup>	C	A	A <sup>140°</sup>	
Magnesium Carbonate MgCO <sub>3</sub>		A	A	C	A	A		A	A		A	B	B	B	A	A	A	A		A <sup>140°</sup>
Magnesium Chloride MgCl <sub>2</sub> O	A	A	A	A	A	A	A	A	A		20%A	30%B	50%B	A	A	B	A	A	A	A
Magnesium Hydroxide (Milk of Magnesia) Mg(OH) <sub>2</sub>	A	B	B	A	C	A	A	A	A		10%A	A	A	A	A	A	A	B	A	A
Magnesium Nitrate Mg(NO <sub>3</sub> ) <sub>2</sub> • 6H <sub>2</sub> O		A	A	A		A		A	A		50%B	B	A	B	A		A	A	A	A <sup>140°</sup>
Magnesium Oxide MgO		A	A			B	A		A		10%A	A	A	A						
Magnesium Sulfate (Epsom Salts) MgSO <sub>4</sub> • 7H <sub>2</sub> O		A	A	A	B	A	A	A	A		70%A	A	50%A	A	A	A	A	A	A	A
Maleic Acid (CHCOOH) <sub>2</sub>		A	X	X		A		A	A		20%A	60%B	B	A		A	X			A <sup>140°</sup>
Maleic Anhydride C <sub>4</sub> H <sub>2</sub> O <sub>3</sub>				X		A		A	A		20%A	B	A	A						
Malic Acid (Apple Acid) C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>		C	B	X		A		A	A		B		A	B <sup>212°</sup>						
Maple Sugar Liquors (Sucrose) Water, sucrose	X	A	A	A		A		A				A								
Mayonnaise Water, fats, oils		A	A					A	A		X	X	A	A						A
Mercuric Chloride HgCl <sub>2</sub>		B	A	A		A	A	A	A		X	X	X	30%B	A	B	A	X		A <sup>140°</sup>

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	EP.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Mercuric Cyanide Hg(CN) <sub>2</sub>		B	B	A		A		A		A	X	B	B	B	A		A				A <sup>140°</sup>
Mercurous Nitrate Hg <sub>2</sub> (NO <sub>3</sub> ) <sub>2</sub> • 2H <sub>2</sub> O		B	B	A		A		A			X	B	B <sup>212°</sup>	B	A		A				A <sup>140°</sup>
Mercury Hg	A	A	A	A	A	A	A	A	A	A	X	A	A	A	A	C	A	A			
Mesityl Oxide (CH <sub>3</sub> ) <sub>2</sub> C = CHCOCH <sub>3</sub>		X	X	B		X		A		C	A	A	A	A							
Methane CH <sub>4</sub>	C	B	A	X	B	A		A	A	C	A	A	A	A	B	A	A	A			
Methyl Acetate CH <sub>3</sub> CO <sub>2</sub> CH <sub>3</sub>		C	X	C	C	X		A		B	A	A	A	A	C	B		A			
Methyl Acetoacetate CH <sub>3</sub> COCH <sub>2</sub> • COOCH <sub>3</sub>			X			X		A				A	A	A							
Methyl Acrylate CH <sub>2</sub> CHCO <sub>2</sub> CH <sub>3</sub>		C		C		X		A		B		A	A					A <sup>70°</sup>			
Methyl Acrylic Acid (Crotonic Acid) CH <sub>3</sub> (CH) <sub>2</sub> COOH		C		C		X		A	A												
Methyl Alcohol (Methanol) CH <sub>3</sub> OH	X	A	A	A	A	B	A	A	A	A	B	A	A	A	A	A	A	X	A	A	A
Methyl Amine (Monomethylamine) CH <sub>3</sub> NH <sub>2</sub>		A	B	A		90%A		A			B	B	A	B	X		C				
Methyl Amyl Acetate C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>			A			X		A			A	A	A	A							
Methyl Amyl Alcohol C <sub>8</sub> H <sub>13</sub> OH			A			X		A			A	A	A	A							
Methyl Aniline C <sub>6</sub> H <sub>5</sub> NH(CH <sub>3</sub> )		A	A	A				A													
Methyl Bromide (Bromo Methane) CH <sub>3</sub> Br		X	C	A	X	A		A		X	X	A	A	B	X		A	X			C
Methyl Butyl Ketone (2-hexanone) CH <sub>3</sub> COC <sub>4</sub> H <sub>9</sub>		X	X	B		X		A		C			A		X						
Methyl Butyrate CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> • CO <sub>2</sub> CH <sub>3</sub>		X	X	X				A			A	A	A	A							
Methyl Cellosolve® CH <sub>3</sub> OCH <sub>2</sub> • CH <sub>2</sub> OH		X	X			X		A		B	A				A		A	A			
Methyl Chloride CH <sub>3</sub> Cl	X	X	X	C	X	B	A	A	A	X	X	A	A	A	X	B	A	B	A	A	C
Methyl Cyclopentane C <sub>6</sub> H <sub>12</sub>		X	B	X		A		A		C				A							
Methyl Dichloride CH <sub>2</sub> Cl <sub>2</sub>		X	X			A				X	X				X						
Methyl Ethyl Ketone (Butanone) CH <sub>3</sub> CO • CH <sub>2</sub> CH <sub>3</sub>	X	X	X	A	C	X		A	A	B	A	A	A	A	X	B	X	A	A	A	X

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Methyl Formate HCOOCH <sub>3</sub>		B	X	C		X		A		B	A	A	A							
Methyl Hexane C <sub>7</sub> H <sub>16</sub>		A	A	X		A		A												
Methyl Iodide CH <sub>3</sub> I		X	X	A				A			X	A	A	A						
Methyl Isobutyl Ketone (Hexone) CH <sub>3</sub> COCH <sub>2</sub> CH <sub>2</sub> • (CH <sub>3</sub> ) <sub>2</sub>		X	X	C	X	X		A	A	C	A	B	B	A	C <sup>70°</sup>	A	A <sup>70°</sup>	X	A	
Methyl Isopropyl Ketone CH <sub>3</sub> COCH(CH <sub>3</sub> ) <sub>2</sub>		X	X	C	X	X		A		C			A		C		A <sup>70°</sup>			
Methyl Methacrylate CH <sub>2</sub> C(CH <sub>3</sub> ) • CO <sub>2</sub> CH <sub>3</sub>		X	X	X		C		A	A	B	B		A				A <sup>70°</sup>			
Methyl Oleate C <sub>19</sub> H <sub>36</sub> O <sub>2</sub>		X	X	C		B		A		C										
Methyl Propyl Ketone CH <sub>3</sub> CH <sub>2</sub> • CH <sub>2</sub> COCH <sub>3</sub>		X	X	B		X		A												
Methyl Salicylate (Betula Oil) HOC <sub>6</sub> H <sub>4</sub> • COOCH <sub>3</sub>		X	X	C		B		A		B	A	A								
Methylacrylic Acid CH <sub>3</sub> CHCHCO <sub>2</sub> H		B				B		A	A	A										
Methylamine CH <sub>3</sub> NH <sub>2</sub>		A	B	A		<sup>90%</sup> A		A		A	B	B	A	B	A					
Methylene Bromide CH <sub>2</sub> Br <sub>2</sub>		X	X			B		A			X	A	A	A			A			
Methylene Chloride CH <sub>2</sub> Cl <sub>2</sub>	X	X	X	X	X	B		A	A	X	X	B	<sup>90%</sup> A	A	X		B <sup>100°</sup>	A	A	X
Milk	X	A	B	A	B	A	A	A	A	A	A	X	A	A	A	A	A	A		A
Mine Water			A					A			B		B	A						
Mineral Oil (Petroleum) Hydrocarbons	A	B	A	X	A	A	A	A	A	C	A	A	A	A	B	A	A	A	A	A
Mixed Acids (Sulfuric & Nitric) H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub>	X	X	X	B		A		A			X	X	B	B	X		A	C		
Molasses	X	A	A	A	B	A		A		A	A	A	A	A	A	B	A	A	A	A
Monochlorobenzene C <sub>6</sub> H <sub>5</sub> Cl		X	X		C	A		A		C	X	A	A		X	A	A <sup>100°</sup>	B	A	B
N-Methyl Aniline C <sub>6</sub> H <sub>5</sub> NHCH <sub>3</sub>		X	X			C		A							C					
Monoethanolamine NH <sub>2</sub> C <sub>2</sub> H <sub>4</sub> OH		C	B			C		A		A	B	A	A		X	X	X	A	A	
Mustard		A	C		B	X		A		A	B	X	A	A	A	A		A		
Naphtha (Petroleum Spirits) (Thinner) Petroleum fractions	C	X	A	X	A	A		A	A	C	A	B	A	A	X	A	A	A	A	A

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Naphtha Coal Tar (Benzol) Hydrocarbons	X	X	X	X		A		A	A		A	B	A	A							
Naphthalene (Tar Camphor) C <sub>10</sub> H <sub>8</sub>	C	X	X	X	C	A		A	A	C	B	A	A	A	A	A	A	A	A	A	B
Naphthoic Acid C <sub>11</sub> H <sub>8</sub> O <sub>2</sub>																					
Neatsfoot Oil																					
Neohexane (2,2-dimethylbutane) C <sub>6</sub> H <sub>14</sub>																					
Neosol	X	A	A	B		C		A			B	B	A	A							
Neville Acid																					
Nickel Acetate Ni(CH <sub>3</sub> CO <sub>2</sub> ) <sub>2</sub>																					
Nickel Chloride NiCl <sub>2</sub>	A	A	A	A	X	A	A	A	A	A	X	X	B	80%A <sup>200</sup>	A	B	A	B	A	A	A
Nickel Nitrate Ni(NO <sub>3</sub> ) <sub>2</sub> • 6H <sub>2</sub> O																					
Nickel Sulfate NiSO <sub>4</sub>	A	A	A	A		A	A	A	A	A	X	X	40%A	B	A	A	A	B	A	A	A
Nitrana (Ammonia Fertilizer)																					
Nitric Acid — 10% HNO <sub>3</sub>	C	B	X	B	C	A		A	A	A	A	X	A	A	A		A	X	X	X	A <sup>140°</sup>
Nitric Acid — 25% HNO <sub>3</sub>	C	C	X	B	X	A		A	A	20%B	X	X	30%A	30%A	A		A	X	X	X	A <sup>140°</sup>
Nitric Acid — 35% HNO <sub>3</sub>	C	X	X	C	X	A	A	A	A		X	X	50%A	50%A	B		A	X	X	X	C <sup>140°</sup>
Nitric Acid —50% HNO <sub>3</sub>	C	X	X	X	X	A		A	A	C	X	X	A	X	C		A	X	X	X	X
Nitric Acid — 70% HNO <sub>3</sub>	X	X	X	X	X	A		A	A								A	X	X	X	X
Nitric Acid (Conc.) HNO <sub>3</sub>	X	X	X	X	X	B		A	A	C	A	X	A	40%A	X		A <sup>120°</sup>	X	X		
Nitric Acid (Red Fuming)	X	X	X	X	X	B	X	A	A	X	A	X	A	B	X		C				X
Nitrobenzene C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	X	X	X	X	X	B	A	A	A	B	A	A	A	55%B <sup>212°</sup>	B	B	A <sup>70°</sup>	B	A	X	X
Nitroethane C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>																					
Nitrogen Tetroxide N <sub>2</sub> O <sub>4</sub>																					
Nitromethane CH <sub>3</sub> NO <sub>2</sub>																					
1-Nitropropane CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> NO <sub>2</sub>																					
Octadecane CH <sub>3</sub> (CH <sub>2</sub> ) <sub>16</sub> CH <sub>3</sub>	A	B	A	X		A		A		B											

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CHEMICAL Formula	ELASTOMERS										METAL PARTS			PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
n-Octane C <sub>8</sub> H <sub>18</sub>			A	X		A	A		B					X		A	A			
Octyl Acetate CH <sub>3</sub> COO • (CH <sub>2</sub> ) <sub>7</sub> CH <sub>3</sub>			X			X	A			A		A								
Oleic Acid (Red Oil) C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	X	X	C	C	A	B	A	A	A	A	C	B	A	B	B	A	B	A	A	A
Octachlorotoluene C <sub>7</sub> Cl <sub>8</sub>		X	X			A	A			X				X						
Oleum (Fuming Sulfuric Acid) H <sub>2</sub> SO <sub>4</sub> /SO <sub>3</sub>		X	C		20-25% X	A	A		X	X	X	A		X		X				X
Olein (Triolein) C <sub>57</sub> H <sub>104</sub> O <sub>6</sub>		C	B				A													
o-Dichlorobenzene C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>		X	X			A	A		X	X	A	A		X						
Olive Oil Mixed glycerides of acids	A	C	A	C		A	A		B	A	A	A	A	A	A	A	A	A	A	A <sup>140°</sup>
Oxalic Acid (COOH) <sub>2</sub>		B	C	A	X	C	A	A	A	A	B	X	90%B	B	A	X	A <sup>120°</sup>	B	A	A <sup>140°</sup>
Ozone O <sub>3</sub>	A	B	X	A	C	A	A	A	A	10%A	0%A	A	A	X	C	A	X			B
Paints & Solvents		X	X				A			X		A	A							
Paint Thinner, DUCO Hydrocarbons	X	C	A	X		B	A		C	X		A	A	X						
Palm Oil Mixture of terpenes		C	A			A	A		B		A	A	A							A <sup>140°</sup>
Palmitic Acid CH <sub>3</sub> (CH <sub>2</sub> ) <sub>14</sub> COOH	A	C	B	B	A	B	A	A	A	B	B	A		A		A	C			
Paraffins (Paraffin Oil) Hydrocarbons			A				A	A	A	A		A	A	A	A		A			A
Paraformaldehyde (CH <sub>2</sub> O) <sub>n</sub>		B	B			C	A			10%A	A	A	A							
Paraldehyde C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>		B	C	A		X	A			A	A	A	A							
Peanut Oil Glycerides of fatty acids	C	B	A	X		A	A		B		A	A	A	A <sup>70°</sup>		A				
Pentachloroethane (Pentalin) Cl <sub>2</sub> • CHCl <sub>3</sub>		X	X			A	A			X	A	A	A							
Pentachlorophenol (PCP) C <sub>6</sub> Cl <sub>5</sub> OH		X	X	X		A	A	A		A	A	A	A							
Pentane (Amyl Hydride) C <sub>5</sub> H <sub>12</sub>		B	A	X	B	A	A	A	A	A	B	B						A		
Peppermint Oil		X	X			A	A		C			A								C
Perchloric Acid HClO <sub>4</sub>		B	X	B	X	A	A	70%A	A	C	X	X	B			C	A	X	A	A <sup>140°</sup>

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Perchloroethylene (Tetrachloroethylene) C <sub>2</sub> Cl <sub>4</sub>	X	X	X	X	X	A		A	A	X	X	B	90%A	B	X	A	A	C	A	
Petroleum (Crude Oil) (Sour) Hydrocarbons	C	C	B	X	C	A	A	A	A		B	B	A	A	X	A	A	A		A
Phenethyl Alcohol (Benzyl Carbinol) C <sub>6</sub> H <sub>5</sub> (CH <sub>2</sub> ) <sub>2</sub> OH	X	X	X	B		X		A			A	A	A	A						
Phenol (Carbolic Acid) C <sub>6</sub> H <sub>5</sub> OH	X	C	X	C	X	A		A	A	A	B	A	B	A	C	X	A <sup>100°</sup>	X	A	C
Phenyl Sulfonic Acid C <sub>6</sub> H <sub>4</sub> (OH)SO <sub>3</sub> H			X			X		A			B	B	B							
Phenyl Acetate CH <sub>3</sub> COOC <sub>6</sub> H <sub>5</sub>	X	X	X	B		X		A												
Phenylbenzene C <sub>6</sub> H <sub>5</sub>		X	X			A		A		C										
Phenyl Ethyl Ether (Phenetole) C <sub>6</sub> H <sub>5</sub> OC <sub>2</sub> H <sub>5</sub>		X	X	X		C		A		C										
Phenyl Hydrazine C <sub>6</sub> H <sub>5</sub> NHNH <sub>2</sub>		X	X	X		A		A		B	A	X			X		A <sup>120°</sup>			
Phorone (Diisopropylidene Acetone) C <sub>9</sub> H <sub>14</sub> O		X	X	C		A		A		B										
Phosphoric Acid — 10% H <sub>3</sub> PO <sub>4</sub>	A	B	A	A		A		A	B	A	X	X	A		A <sup>120°</sup>		A	X	A	A <sup>140°</sup>
Phosphoric Acid — 20% H <sub>3</sub> PO <sub>4</sub>	A	B	C	A		A		A	B	A	X	X	A <sup>212°</sup>	A	A <sup>120°</sup>		A	X	A	A <sup>140°</sup>
Phosphoric Acid — 50% H <sub>3</sub> PO <sub>4</sub>	A	B	X	B		A	X	A	B	45%B	X	X	A	C	A <sup>120°</sup>		A	X	A	A <sup>140°</sup>
Phosphoric Acid (Conc.) H <sub>3</sub> PO <sub>4</sub>	C	B	X	B	X	A		A	C		X	X	A <sup>212°</sup>		A <sup>120°</sup>		A	X	A	A <sup>140°</sup>
Phosphorus Oxychloride POCl <sub>3</sub>		X						A			B	B	B	B						
Phosphorus Trichloride PCl <sub>3</sub>		X	X	A		A		A		B	C	B	A	A	X		A		A	A <sup>140°</sup>
Photographic Developer		A	A		X	A				A	C	X	A	A	A	C	A	B	A	A <sup>140°</sup>
Pickling Solution	C	X		X		B		A		A				A						A
Picric Acid (Carbazotic Acid) (NO <sub>2</sub> ) <sub>3</sub> • C <sub>6</sub> H <sub>2</sub> OH	B	B	B	B	X	A		A	A	B	A	C	A	B	B		A	X		A <sup>140°</sup>
Pine Oil (Yarmor) Cyclic terpene alcohols		X	B	X		A		A		C	A	B	A							C
Pinene C <sub>10</sub> H <sub>16</sub>	C	X	B	X		A		A	A	C										
Piperidine C <sub>5</sub> H <sub>11</sub> N		X	X	X		X		A	A	B										
Plating Solution — Cadmium			B	B					A		A				X			B	A	

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Plating Solution — Chrome	X	X	X	C		A		A		A				A <sup>131*</sup>	X		B	X	A <sup>140*</sup>	
Plating Solution — Lead		B	B					A		A					A		B	X	C <sup>140*</sup>	
Plating Solution — Others		C	A	A		B		A		A			A						A <sup>140*</sup>	
Polyvinyl Acetate Emulsion PVAc + H <sub>2</sub> O		C		A				A		A		B				A				
Potassium Acetate CH <sub>3</sub> CO <sub>2</sub> K		B	B	A		X		A	A	A	10%B	A	B	B	A		A			
Potassium Bicarbonate KHCO <sub>3</sub>		A	A			A		A		A	B	50%B	30%A	50%B	A		A	A	A	
Potassium Bisulfate KHSO <sub>4</sub>		A	A			A		A		A	10%A	X	10%A		A		A		A	
Potassium Bisulfite KHSO <sub>3</sub>		A	A			A		A		A	10%B		10%B	90%B						
Potassium Bromide KBr		A	A	A		A		A		A	A	80%B <sup>212*</sup>	90%B <sup>212*</sup>	70%A <sup>167*</sup>	A		A	A	A	
Potassium Carbonate (Potash) K <sub>2</sub> CO <sub>3</sub>	C	A	A	A		A		A	A	A	X	B	B	90%A	A	B	A	C	A	A
Potassium Chlorate KClO <sub>3</sub>		A	A	A		A		A		A	X	B	60%A	20%A	A	B	A	B	A	A
Potassium Chloride KCl	A	A	A	A		A		A		A	X	B	A	30%A <sup>167*</sup>	A	B	A	B	A	A
Potassium Chromate K <sub>2</sub> CrO <sub>4</sub>		A	A			50%A	A	A	A	A	A	A	A		A		A	A		A <sup>140*</sup>
Potassium Copper Cyanide K <sub>3</sub> [Cu(CN) <sub>4</sub> ]	A	A	A	A		A		A		A					A		A			
Potassium Cyanide KCN	A	A	A	A		A	A	A	A	A	C	B	90%B <sup>212*</sup>	30%B	A	C	A	A	A	A <sup>140*</sup>
Potassium Dichromate K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	A	A	A	A		A	A	A	A	A	A	A	A	25%B	A	C	A	X	A	A
Potassium Hydroxide (Caustic Potash) (Lye) KOH	B	B	B	A	C	B		A	B	A	X	B	A	50%B	A	C	A <sup>150*</sup>	B	A	A <sup>140*</sup>
Potassium Iodide KI		A	A	A		A		A		A	10%B		B	B	A		A			B
Potassium Nitrate (Saltpeter) KNO <sub>3</sub>	A	A	A	A		A		A		A	80%A	B	80%B <sup>212*</sup>	80%B <sup>212*</sup>	A	B	A	B	A	A
Potassium Nitrite KNO <sub>2</sub>	A	A	A	A	B	A		A		A	B	B	B	B						
Potassium Permanganate (Purple Salt) KMnO <sub>4</sub>		C	C	A	X	B		A	A	A	10%A	B	30%B <sup>212*</sup>	A	B	A	A	X	A	A <sup>140*</sup>
Potassium Phosphate KH <sub>2</sub> PO <sub>4</sub>		A	A	A		A		A		A	X	X	30%B	10%B						
Potassium Silicate K <sub>2</sub> Si <sub>2</sub> O <sub>5</sub>		A	A	A		A		A		A	B	B	B	B						

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Potassium Sulfate K <sub>2</sub> SO <sub>4</sub>	A	A	A	A	B	A	A	A	A	A	B	B	A	A	A	B	A	B	A	A
Potassium Sulfide K <sub>2</sub> S	A	A	A	A		A		A			X	B	B	10%B	A		A	A	A	A <sup>140°</sup>
Potassium Sulfite K <sub>2</sub> SO <sub>3</sub> ·2H <sub>2</sub> O		A	A	A		A		A			A	X	50%B		A		A			A <sup>140°</sup>
Propane (LPG) C <sub>3</sub> H <sub>8</sub>	B	B	A	X	B	A	A	A	A	C	A	A	A	A	X	A	A	C		A
Propionaldehyde (Propanal) C <sub>2</sub> H <sub>5</sub> CHO			X			X		A			A	A	A	A						
Propionic Acid (Methylacetic Acid) CH <sub>3</sub> CH <sub>2</sub> CO <sub>2</sub> H		X	X	A		A		A			A	X	B	90%A						
n-Propyl Acetate CH <sub>3</sub> COO · (CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>		X	X	A		X		A		B	A		A	A	C		A			
Propyl Alcohol (1-Propanol) CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH	X	B	B	A		A		A			A	A	A	A	A	A	A	X	A	A <sup>140°</sup>
n-Propyl Nitrate (NPN) CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> NO <sub>3</sub>			A	B		C	A	A		B	A	X								
Propylene C <sub>3</sub> H <sub>6</sub>		X	X	X		A		A	A	B	A	A	A	A						
Propylene Dichloride CH <sub>3</sub> CH(Cl)CH <sub>2</sub> Cl		X	X	X		B		A			X	A	A	B						X
Propylene Glycol (Methyl Glycol) C <sub>3</sub> H <sub>6</sub> (OH) <sub>2</sub>		C	A	A		A		A		A	A	A	A	A	A	A	A	B	A	A <sup>140°</sup>
Propylene Oxide C <sub>3</sub> H <sub>6</sub> O		X		C		X		A		A	B	B	A		X		X			
Pydraul (Phosphate Eser Base Fluid)	X	X	X	B	A	A		A		A		A	A	A				C		
Pyranol		X	A			A		A												
Pyridine N(CH <sub>2</sub> ) <sub>4</sub> CH	X	X	X	C	X	X		A		A	A	B	A	50%A <sup>100°</sup>	C	A	X	X	A	A
Pyroligneous Acid (Wood Vinegar)		C	C	C		A		A			B	X	10%A		A	X	A	X	A	
Pyrrole (Azole) C <sub>4</sub> H <sub>5</sub> N		X	X	X		C		A		C										
Quaternary Ammonium Salts NH <sub>4</sub> (X)		A	A			A		A				X	A							
Quench Oil		B	B			A		A			A		A	A						
Rape-Seed Oil (Colza Oil)	C	C	B	A		A		A		B		A	A	A						
Rose Oil Geraniol, citronellol		C				A		A		A			A							
Rosin C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>		C	A					A		A	A		A	A	A	B		A		A
Rosin Oil (Rosinol)		A	A			A		A												

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	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Rotenone C <sub>23</sub> H <sub>22</sub> O <sub>6</sub>		A	A	A		A		A												
Rubber Latex Emulsions (C <sub>5</sub> H <sub>8</sub> ) <sub>n</sub> /H <sub>2</sub> O						A		A		A		A	A							
Rubber Solvents (Petroleum Distillate) Hydrocarbons		C	X			X		A		A		A	A							
Rum Alcoholic liquor from molasses	X	A	A	A		B		A		A		A	A							
Rust Inhibitors		C	A			A				B			A		A					
Salad Dressing Fats, oils, water			A			A				A	B	X	A		A					
Sal Ammoniac (Ammonium Chloride) NH <sub>4</sub> Cl	A	A	A	A	A	A	A	A	A	A	X	X	B	A	A	X	A	B	A	
Sal Soda (Sodium Carbonate) NaCO <sub>3</sub>		A	A	A		A		A			X	A	A	A						
Salicylic Acid HOC <sub>6</sub> • H <sub>4</sub> COOH		B	B	A		B		A			A	X	B	A	A		A	A		A <sup>140*</sup>
Salt Water (Brine) NaCl/H <sub>2</sub> O	A	B	A	A	A	A		A	A	A	B	X	A	A	A		A			
Sea Water (Brine)	A	B	A	A	X	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A <sup>140*</sup>
Sesame Seed Oil Olein, stearin, palmitin		C	A			A		A		B		A	A							
Sewage	X	B	A	C	B	A	A	A	A	A	B	B	A	A	A		A			
Silicate Esters Si(OR) <sub>4</sub>	A	A	B	X	C	A		A		B										
Silicone Oils (Versilube Etc.) (CH <sub>3</sub> ) <sub>2</sub> SiO <sub>2</sub> <sub>n</sub>	A	C	A	A	A	A		A		C	B	B	A	A	A		A	A	A	A
Silver Cyanide AgCN		A									X	A	A	A	A		A			A <sup>140*</sup>
Silver Nitrate AgNO <sub>3</sub>	A	A	B	A		A		A	A	A	X	X	60%A	60%A	A	A	A	A	A	A
Skydrol Hydraulic Fluid® (Phosphate Ester Base)		X	X	A	A	C		A		B			A	A				C		
Soap Solutions Salt of fatty acid in H <sub>2</sub> O	A	B	A	A	A	A	A	A	A	A	C	X	A	A	A	A	A	A	A	A
Soda Ash (Sodium Carbonate) Na <sub>2</sub> CO <sub>3</sub>		A	A	A	B	A	A	A	A	A	X	A	A	A						
Sodium Acetate CH <sub>3</sub> COONa	X	C	C	A		X		A		A	A	A	A	A	A	A	A	B	A	A
Sodium Aluminate Na <sub>2</sub> Al <sub>2</sub> O <sub>4</sub>		A	A			A		A		A		50%A	50%A	10%B	A		A	A		

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Sodium Bicarbonate (Baking Soda) NaHCO <sub>3</sub>		A	A	A	B	A	A	A	A	A	B	C	20%A	20%A	A	X	A	B	A	A
Sodium Bisulfite (Niter Cake) NaHSO <sub>4</sub>		A	A	A	B	A	A	A	A	50%B	C	50%B	B	A	C	A	B	A	A	
Sodium Bisulfite (Cream of Tartar) NaHSO <sub>3</sub>		A	C	A	B	A		A	A	B	20%B	50%A	B	A	X	A	X		A	
Sodium Borate Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>		A	A	A	B	A		A	A	B		A	A	A <sup>140°</sup>	C	A	A	A	A	
Sodium Bromide NaBr								A		C	C	30%B	50%B	A		A	A		A <sup>140°</sup>	
Sodium Chlorate NaClO <sub>3</sub>		B	A	A		A		A	A	70%B <sup>212°</sup>	B	B	70%B <sup>212°</sup>	A	B	A	B	A	A <sup>140°</sup>	
Sodium Chloride (Table Salt) NaCl	A	A	A	A	A	A	A	A	A	B	30%B	A	A	A	A	A	A	A	A	A <sup>140°</sup>
Sodium Chromate Na <sub>2</sub> CrO <sub>4</sub>		A	A		A	A		A	A	80%A <sup>212°</sup>	60%A	60%A	60%A	A		A	A			
Sodium Cyanide NaCN		A	A	A	A	A	A	A	A	X	A	A		A	C	A	B	A	A	
Sodium Dichromate (Sodium Bichromate) Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> · 2H <sub>2</sub> O	A	B		A	20%X	A		A						A		A	X	A	A <sup>140°</sup>	
Sodium Fluoride NaF		A	A	A		A		A		30%B		10%B	10%B	A		A	A		A <sup>140°</sup>	
Sodium Hexametaphosphate (Calgon) (NaPO <sub>3</sub> ) <sub>6</sub>	B	B	B	B		A		A		C	B	B	A							
Sodium Hydroxide (Caustic Soda) (Lye) NaOH	C	B	B	A	X	X		A	A	50%A	X	50%B	50%A	70%B <sup>212°</sup>	A	X	A	C	X	A <sup>140°</sup>
Sodium Hypochlorite NaClO	X	B	X	C	5%A	B	A	A	A	20%A	X	X	X	10%B	X	X	A	C	X	A <sup>140°</sup>
Sodium Metaphosphate (Kurrol's Salt) Na(PO <sub>3</sub> )H	B	C	B	A		A		A	A	X		B	A	X	B		A		A	
Sodium Metasilicate Na <sub>2</sub> SiO <sub>3</sub>		A	A			A			A	B		A	A	A	B	A				
Sodium Nitrate (Chile Saltpeter) NaNO <sub>3</sub>		B	C	A	B	A	A	A	A	90%A	90%A	90%A	30%A	A	A	A	B	A	A	
Sodium Nitrite NaNO <sub>2</sub>		X	A			A		A		A	A	A	A	A		A			A <sup>140°</sup>	
Sodium Perborate NaBO <sub>3</sub>		B	C	A	B	A	A	A	A	X	10%B	A	10%B	A	B	A	B		A	
Sodium Peroxide (Sodium Dioxide) Na <sub>2</sub> O <sub>2</sub>	X	B	B	B	B	A	A	A	B	10%B	90%A	10%B	10%B	B	X	A	X		A <sup>140°</sup>	
Sodium Phosphate (Tribasic) (TSP) Na <sub>3</sub> PO <sub>4</sub>	A	B	B	A	B	A	A	A	B	X	B <sup>167°</sup>	B	A	A		A	B		A	

Data limited to % concentration and/or temperature °F shown. Where not shown temperature is 70°F (21 °C) Ambient.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Sodium Silicates (Water Glass) Na <sub>2</sub> O • SiO <sub>2</sub>		A	A	A	A	A	A	B	A	A	A	A	B	A		A	A	A	A	
Sodium Sulfate (Salt Cake) (Thenardite) Na <sub>2</sub> SO <sub>4</sub>	A	B	A	A	A	A	A	A	A	30%B 30%	B	A	A	A		A	B	A		
Sodium Sulfide (Pentahydrate) Na <sub>2</sub> S • 5H <sub>2</sub> O	A	A	A	A	A	A	A	A	A	30%A 212°	B	30%A 167°	50%B 212°	A	A	A	B	A		
Sodium Sulfite Na <sub>2</sub> SO <sub>3</sub>	A	A	A	A	A	A	A			30%A 30%	X	30%A 30%	30%B 212°	A	A	A	B	A		
Sodium Tetraborate Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • 10H <sub>2</sub> O				A		B	A	A		A			A		C		A	B	A	
Sodium Thiosulfate (Antichlor) Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	A	A	A	A		A	A	A		A	C	122° A 122°	122° B 122°	A	B	A	B	A		
Sorgum			A	A				A		A		A	A	A						
Soybean Oil Triglycerides of acids		C	A	A	C	A	A	A	A	B	A	A	A	A	B	B		A	A	
Soy Sauce Fermented soya bean/wheat			A	A				A		A		X	A							
Sperm Oil (Whale Oil) Fatty acid esters		X	A			A		A	B		A	A	A							
Stannic Chloride (Tin Chloride) SnCl <sub>4</sub>	B	B	A	B	B	A	A	A	A	X	C	10%A 10%	B	A		A	B	A		
Stannous Chloride (Tin Chloride) SnCl <sub>2</sub>	B	A	A	B	15%B 15%	A		A		X	B	10%A 10%	A	A		A	B	A		
Starch C <sub>6</sub> H <sub>10</sub> O <sub>5</sub>		A	A	B	B	C		A	A	A	C	A	A	A	B		A	A		
Stearic Acid CH <sub>3</sub> (CH <sub>2</sub> ) <sub>16</sub> CO <sub>2</sub> H	A	158° B	B	B	B	A	A	A	B	C	C	A	B	A	C	A	A			
Stoddard Solvent Petroleum distillate	A	C	A	X	A		A	A	C	A	A	A	X	A	A	X	A			
Styrene (Vinylbenzene) C <sub>6</sub> H <sub>5</sub> CHCH <sub>2</sub>	C	X	X	X	X	A		A	C	A	A	A	A			A	A			
Sucrose Solution (Sugar) C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> /H <sub>2</sub> O	X	A	A	A	A	A		A		A	A	A	A							
Sulfamic Acid H <sub>2</sub> NSO <sub>3</sub> H		A	B		A			A		10%A 10%	X	X		X		X				
Sulfite Liquors			B	A	C	B	A	A		A				A						
Sulfur	S	B	B	X	A	A	A	A		A	A	A	A	B	A	A	A	A	A	
Sulfur Chloride S <sub>2</sub> Cl <sub>2</sub>		X	C	X	C	A	A	A	X	B	X	B	A	X		A	C			
Sulfur Dioxide SO <sub>2</sub>	B	A	X	B	X	A	A	A	A	A	B	10%A 10%	80%A 80%	A	B	A	C	A		
Sulfur Hexafluoride SF <sub>6</sub>		A	B	A	A	A	A	A	B											
Sulfur Trioxide SO <sub>3</sub>	B	C	C	C	X	A	A	A	C	B	B	B	B	X		X	A			
Sulfuric Acid 10% H <sub>2</sub> SO <sub>4</sub>	B	A	B	A	A	A	A	A	A	X	X	A	A	A		A	X	X		
Sulfuric Acid 25% H <sub>2</sub> SO <sub>4</sub>	X	B	C	B	A	A	A	A	A	X	X	B	A	A		150° A 150°	X	X		

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Sulfuric Acid 50% H <sub>2</sub> SO <sub>4</sub>	X	B	C	B	A	A	A	A	A	A	X	X	X	A	A		150° A 150°	X	X	
Sulfuric Acid 60% H <sub>2</sub> SO <sub>4</sub>	X	C	X	B	X	A	A	A	A	A	X	X	X	A	A		150° A 150°	X	X	
Sulfuric Acid 75% H <sub>2</sub> SO <sub>4</sub>	X	X	X	C	X	A	A	A	A	A	X	C	C	A	A		150° A 150°	X	X	
Sulfuric Acid 95% H <sub>2</sub> SO <sub>4</sub>	X	X	X	C	X	A	A	A	B	A	X	B	A	A	X		150° A 120°	X	X	
Sulfuric Acid (Conc.) H <sub>2</sub> SO <sub>4</sub>	X	X	X	C		A		A	B	98° B 98°	X	B	B	A	X		150° A 120°	X		
Sulfuric Acid (Fuming) H <sub>2</sub> SO <sub>4</sub>	X	X	X	X	20° X 20°	B	A	A			C	X	B	B						
Sulfurous Acid H <sub>2</sub> SO <sub>3</sub>	X	X	B	C	C	A	A	A	A	A	B	X	B	B	A	X	A	X	A	A <sup>140°</sup>
Tall Oil (Liquid Rosin) Rosin acids		B	A	X		A		A		A	X	B <sup>212°</sup>	B	A	A		A			
Tallow Fat from cattle, sheep			A			A		A		B	A		A		B	C		A		A
Tannic Acid C <sub>76</sub> H <sub>52</sub> O <sub>46</sub>	A	B	C	C	10° A	A	A	A	A	A	A	A	A	10° B	A	X	A	A	A	
Tanning Liquors Tannic acid		B	A					A		A	A		A	A	A	X				A <sup>140°</sup>
Tar, Bituminous (Coal Tar) (Pitch) Mixture of aromatic & phenolic hydrocarbons		C	B	X	X	A	A	A	A	B	A		A	A	A	A		C		
Tartaric Acid C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>	A	A	B	B	B	A	A	A	A	A	20° A	X	A	90° A	A	X	A	A	A	
Terpenes C <sub>10</sub> hydrocarbons	C	X	C	X		A		A			A	X								A
Terpineol (Terpilenol) C <sub>10</sub> H <sub>16</sub> O	X	X	C	C		A		A		B	A	A	A	A	X		B <sup>120°</sup>			
Tertiary Butyl Alcohol (CH <sub>3</sub> ) <sub>3</sub> COH		A	A			B		A		B					B					
Tertiary Butyl Catechol C <sub>9</sub> H <sub>14</sub> O <sub>2</sub>		B	X			A		A		B	C	B	B							
Tertiary Butyl Mercaptan C <sub>4</sub> H <sub>10</sub> S		X	X			A		A		B										
Tetra Bromomethane CBr <sub>4</sub>		X	X			A		A	A	X	X				X					
Tetrabutyl Titanate Ti(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub>		A	B	B		A		A		B										
Tetrachloroethylene Cl <sub>2</sub> C = CCl <sub>2</sub>								A		X							A			B
Tetrachlorodifluoroethane (Cl <sub>2</sub> FC) <sub>2</sub>		X	X					A												
Tetrachloroethane (Acetylene Tetrachloride) (Cl <sub>2</sub> HC) <sub>2</sub>		X	X	X		A		A		X	X	A	C	90° A 212°	X	A	A	C		

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CHEMICAL Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Tetraethyl Lead Pb(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub>		X	B	X		B		A		C	B	A	A		A		A			A <sup>140°</sup>
Tetraethylene Glycol (TEG) HOCH <sub>2</sub> • (CH <sub>2</sub> OCH <sub>2</sub> ) <sub>3</sub> CH <sub>2</sub> OH			A			A		A												
Tetrahydrofuran (THF) C <sub>4</sub> H <sub>8</sub> O	C	X	X	C	C	X		A	A	B				C <sup>100°</sup>	A	B <sup>70°</sup>	A	A	A	B
Tetrahydronaphthalene (Tetralin) C <sub>10</sub> H <sub>12</sub>		X	X	X		A		A			A	A	A	A	C			A	A	X
Thionyl Chloride SOCl <sub>2</sub>		X	X	X		B		A	A	B	C	A	A	10%A	B	B	X	X		C
Thiophene C <sub>4</sub> H <sub>4</sub> S		X	X	X		C		A												
Titanium Tetrachloride TiCl <sub>4</sub>		X	C	X		A		A	A	X	X	A	B	B	B		B	A		
Toluene (Toluol) C <sub>7</sub> H <sub>8</sub>	X	X	C	X	C	B	A	A	A	C	A	A	A	A	X	B	A	A	A	X
Toluene Diisocyanate CH <sub>3</sub> C <sub>6</sub> H <sub>3</sub> (NCO) <sub>2</sub>		X		A	B			A		B										
Toluidine CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> NH <sub>2</sub>			X			B		A			A	A	A	A						
Tomato Pulp & Juice			A					A		A	B		A	A	A		A	A	A	A
Toothpaste		C	A			A		A				X	A	A						
Transformer Oil (Petroleum) Hydrocarbons	X	C	B	X		A		A		X	A	A	A	A	B	C		A		A
Transmission Fluid (Type A)	A	C	A	X	B	A		A		C	A	A	A	A						
Triacetin C <sub>3</sub> H <sub>5</sub> (OCOCH <sub>3</sub> ) <sub>3</sub>	X	B	A	A		X		A		A	B									
Triallyl Phosphate P(OC <sub>3</sub> H <sub>5</sub> ) <sub>3</sub>	C	C	X	A		A		A							B		A	A		
Triaryl Phosphate (C <sub>6</sub> H <sub>5</sub> O) <sub>3</sub> PO		C	X			A		A												
Tributyloxy Ethyl Phosphate (C <sub>4</sub> H <sub>9</sub> O) <sub>3</sub> P(C <sub>2</sub> H <sub>5</sub> )	X	X	X	A		B		A		B										
Tributyl Phosphate (TBP) (C <sub>4</sub> H <sub>9</sub> ) <sub>3</sub> PO <sub>4</sub>	X	X	X	C	C	X		A		B	A	A	A		B <sup>100°</sup>		A <sup>100°</sup>	B		
Dibutyl Mercaptan (C <sub>4</sub> H <sub>9</sub> ) <sub>2</sub> S		X	X			A		A		B										
Trichloroacetic Acid (TCA) CCl <sub>3</sub> COOH		B	C	C	X	B		A	A	B	X	X	X	B	B		B	X	A	C <sup>140°</sup>
Trichlorobenzenes C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub>		X	X			B		A			X	A	A	B						
Trichloroethane C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	X	X	X	X		B		A		X	X	A	A	A	X		A	X	A	
Trichloroethylene (Ex-Tri) (Hi-Tri) <sup>®</sup> C <sub>2</sub> HCl <sub>3</sub>	X	X	X	X	X	C	A	A	A	X	X	B	90%A <sup>167°</sup>	A	X	B	A	C	A	X

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS							
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE	
Trichloropropane CH <sub>2</sub> ClCHClCH <sub>2</sub> Cl		A	X			B		A		X	X	A	A	A	X						
Tricresyl Phosphate (Lindol) (TCP) <sup>®</sup> (CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> O) <sub>3</sub> • PO	X	C	X	A	C	C		A	A	B		A	B	A	B		X	A			
Tricresyl Alcohol (Tridecanol) C <sub>12</sub> H <sub>25</sub> • CH <sub>2</sub> OH			A			B		A													
Triethanol Amine (TEA) N(C <sub>2</sub> H <sub>4</sub> OH) <sub>3</sub>	X	A	X	B	X	C		A	A	A	A	A	A	A	A	B	X	A	A	A	A
Triethyl Aluminum (ATE) Al(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub>		X	X			B		A	A	B											
Triethyl Amine (CH <sub>3</sub> CH <sub>2</sub> ) <sub>3</sub> N		B	A					A				A	A	A	C		A <sup>120°</sup>				
Triethyl Borane (C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> B		X	X			A		A		B											
Triethylene Glycol (TEG) (CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub>			A			A		A						A				A			
Trimethylene Glycol HO(CH <sub>2</sub> ) <sub>3</sub> OH			A	A		A		A			A	A	A	A							
Trinitrotoluene (TNT) CH <sub>2</sub> C <sub>6</sub> H <sub>2</sub> (NO <sub>2</sub> ) <sub>3</sub>		B	X	X		C		A		A											
Trioctyl Phosphate (C <sub>8</sub> H <sub>17</sub> O) <sub>3</sub> PO		X	X	A		B		A		B											
Tung Oil (Wood Oil) Fatty acids	C	C	A	X	B	A		A	A	B	A		A	A	A						
Turpentine C <sub>10</sub> H <sub>16</sub>	X	X	A	X	B	A	A	A	A	C	A	A	A	A	X	A	A	B	A	A	C
Unsymmetrical Dimethyl Hydrazine (UDMN) H <sub>2</sub> NN(CH <sub>3</sub> ) <sub>2</sub>		C	C	A		X		A		B							A				
Urea (Carbamide) CO(NH <sub>2</sub> ) <sub>2</sub>		B	B		B	A		A			B		50%B		A	A	A	A	A	A	A
Urine		X	A			A		A		A	A	A	A	A	A	C	A	A			A <sup>140°</sup>
Valeric Acid CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> COOH		X	X	A				A			A										
Vanilla Extract (Vanillin) C <sub>6</sub> H <sub>3</sub> (CHO) • (OCH <sub>3</sub> )(OH)		X	A			X		A					A								A <sup>140°</sup>
Varnish Oil, gum resins, oil of turpentine		C	B	X		A		A	A		A		A	A	A		A	X			A
Vegetable Juices		C	A					A		A	C		A								
Vegetable Oils	A	C	B	A		A		A		B	A	B	A	A	X			A	A	A	A
Vinegar Dilute acetic acid	X	B	C	A	C	A	A	A	A	A	C	X	A	A	A	C	A	X	A		A <sup>140°</sup>
Vinyl Acetate CH <sub>3</sub> COOC, HCH <sub>2</sub>		B	X			X		A			B	A	A	A	B		A				X

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CHEMICAL Formula	ELASTOMERS									METAL PARTS				PLASTICS						
	RUPPLON™ (Polyurethane)	NEOPRENE	BUNA-N	E.P.D.M.	HYTREL®	FLUOROCARBON (Viton®)	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	WR-C (Hastelloy Equiv.)	UNFILLED POLYPROPYLENE	ACETAL (Delrin®)	KYNAR® (PVDF)	NYLON	RYTON®	UHMW POLYETHYLENE
Vinyl Chloride (Chloroethylene) CH <sub>2</sub> CHCl		X	X	C		A	A	A	X	X	A	A	A	X		B	A			
Walnut Oil		B	A			A	A													
Water, Distilled (Also Deionized) H <sub>2</sub> O	A	C	A	A		A	A	A	A	A	C	A	A	A	A	A	A	A	A	A <sup>140*</sup>
Water, Fresh H <sub>2</sub> O	A	B	A	A	A <sup>72*</sup>	A	A	A	A	A	A	A	A	A	A	A	A	B	A	A <sup>140*</sup>
Waxes Hydrocarbons		A	A	X				A	A		A	A	A		A		A			A
Weed Killers		C	B			A			B	X		A								
Whiskey Ethanol, esters, acids	A	A	B	A	B	A	A	A	A	A	X	A	A	A	B	A	A			A
White Oil (Mineral) (Petroleum) Mixture of liquid hydrocarbons		C	A	X		A	A		C			A	A							A
White Sulfate Liquor		A	B	A		B	A			B	C	A	B	A		A				
Wines	X	A	A	A	A	B	A	A	A	C	X	A	A	A	B	A	A			A <sup>140*</sup>
Wort, Distillery Sugar solution from malt		A				A	A			A	B	A	A							
Xylene (Xylol) C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	X	X	X	X	C	A	A	A	C	A	B	B	A	X	A	A	A	A	A	X
Xylidines (Xylidin) (CH <sub>3</sub> ) <sub>2</sub> C <sub>6</sub> H <sub>3</sub> NH <sub>2</sub>		X		X		X	A		C	B	B									
Zeolite Hydrated alkali aluminum silicates		C	C	A		A	A		A			A	A							
Zinc Acetate Zn(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub>		B	C	A		X	A		A	C				A		A				
Zinc Carbonate ZnCO <sub>3</sub>			A			A	A			B	B	B	B							
Zinc Chloride ZnCl <sub>2</sub>	A	B	B	A	A	A	A	A	A	10%A	B	10%A	A	A	B	A	C	A	A	A <sup>140*</sup>
Zinc Hydrosulfite ZnHSO <sub>3</sub>		A	A			A	A		A	X		A								
Zinc Sulfate ZnSO <sub>4</sub>		A	A	A	X	B	A	A	A	20%B	X	B	90%B	A	B	A	B	A	A	A

Gylon and Envelon — Registered tradenames of Garlock Inc.  
Hytrel, Delrin and Viton — Registered tradenames of E.I. DuPont.  
Kynar — Registered tradename of ATOFINA Chemicals, Inc.  
Ryton — Registered tradename of Phillips Chemical Co.  
Santoprene — Registered tradename of Monsanto Corp.

SandPIPER, Marathon, Rupplon, Tranquilizer and Warren Rupp — Registered tradenames of Warren Rupp, Inc.

RATING KEY: (A) Excellent (B) Good (C) Fair to Poor (X) Not Recommended □ No Data Available.

**WARREN  
RUPP®**

**IDEX**  
IDEX CORPORATION

**WARREN RUPP, INC.**

A Unit of IDEX Corporation  
800 North Main Street  
Mansfield, Ohio 44902 USA  
Phone 419-524-8388  
Fax 419-522-7867  
E-mail [info@warrenrupp.com](mailto:info@warrenrupp.com)  
[apptech@warrenrupp.com](mailto:apptech@warrenrupp.com)

**[www.warrenrupp.com](http://www.warrenrupp.com)**

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