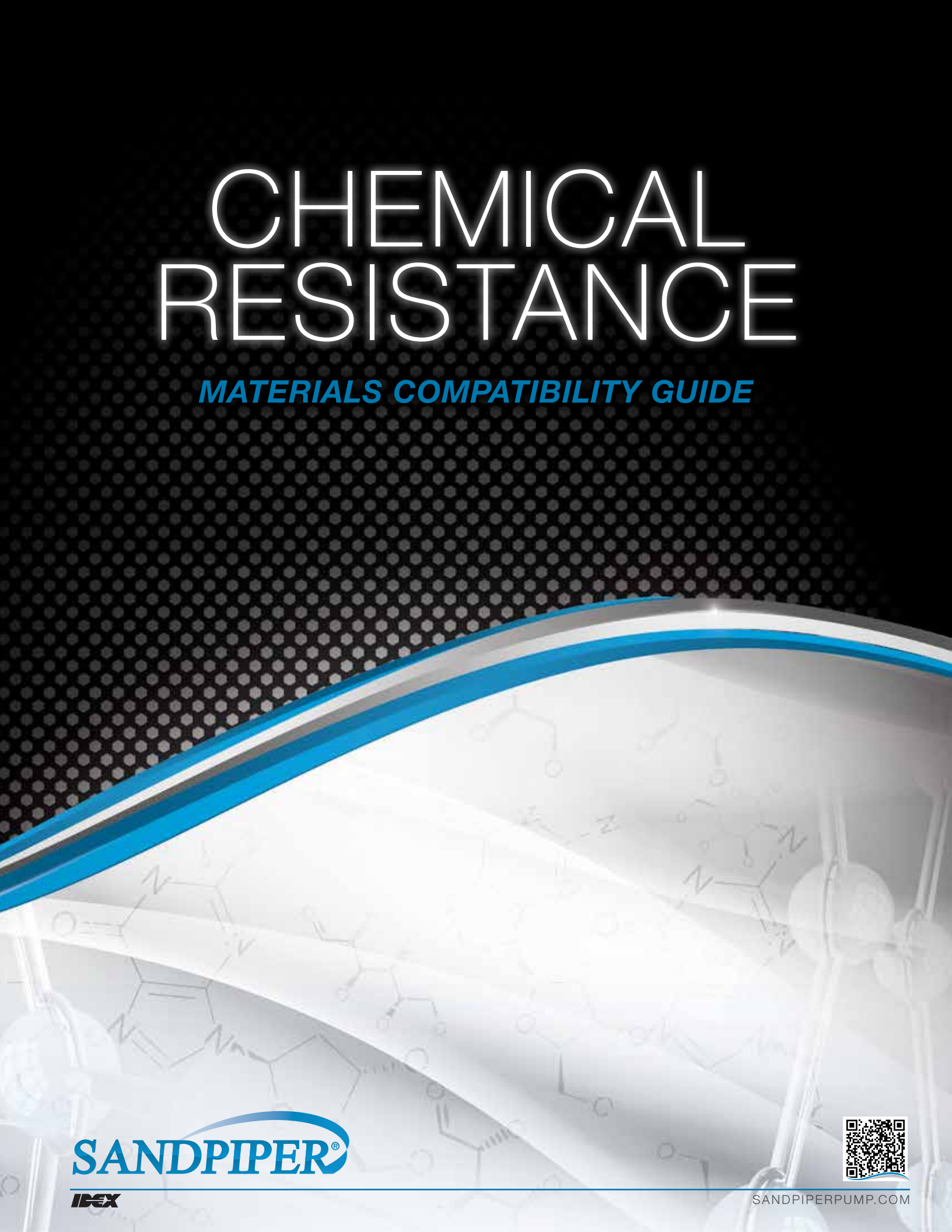
CHEMICAL RESISTANCE

MATERIALS COMPATIBILITY GUIDE

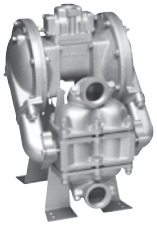


SANDPIPER®

IDEX

SANDPIPERPUMP.COM

MATERIALS AVAILABLE FOR SANDPIPER PUMPS



			WETTED MATERIALS										NON-WETTED MATERIALS					
SIZE	MODELS	MAX FLOW	AL	PP	K	NY	CP	CA	CV	CI	SS	HC	CP	SS	CI	CA	AL	PP
HEAVY DUTY BALL VALVE																		
1"	SB1	42 GPM (159 LPM)	**								*	*			*		**	
1½"	HDB1½	90 GPM (340 LPM)	**							*	*	*			*		**	
2"	HDB2	135 GPM (511 LPM)	**							*	*	*			*		**	
3"	HDB3	260 GPM (984 LPM)								*	*				*			
4"	HDB4	260 GPM (984 LPM)								*	*				*			
HEAVY DUTY FLAP VALVE																		
1"	HDF1	70 GPM (265 LPM)	**							*	*				*		**	
2"	HDF2	140 GPM (530 LPM)	**							*	*				*		**	
3"	HDF3M	260 GPM (984 LPM)	**							*					*		**	
4"	HDF4M	260 GPM (984 LPM)	**							*					*		**	
STANDARD DUTY METALLIC																		
¼"	X02	4.4 GPM (16.6 LPM)									*			*				
½"	S05	15 GPM (57 LPM)	**								*	*	*				**	
1"	S1F	45 GPM (170 LPM)	**							*	*	*			*		**	
1½"	S15	106 GPM (401 LPM)	**							*	*	*		*	*		**	
2"	S20	150 GPM (568 LPM)	**							*	*	*		*	*		**	
3"	S30	235 GPM (889 LPM)	**							*	*	*		*	*		**	
STANDARD DUTY NON-METALLIC																		
¼"	PB¼	4 GPM (15 LPM)		•	•	•		*								*		•
½"	S05	14 GPM (53 LPM		•	•	•	*		*				*					•
¾"	S07	23 GPM (87 LPM)		•	•	•												•
1"	S10	23 GPM (87 LPM)		•	•	•							*					•
1"	S1F	45 GPM (170 LPM)					*		*				*					
1½"	S15	100 GPM (378 LPM)					*						*					
2"	S20	160 GPM (606 LPM)					*											
3"	S30	238 GPM (901 LPM)		•	•												•	
TRANQUILIZER - SURGE SUPPRESORS																		
1"	TA1																	
1"	TA25																	
1½"	TA1½																	
1½"	TA40																	
2"	TA2																	
2"	TA50																	
3"	TA3																	
3"	TA80																	

AL=Aluminum CI =Cast Iron CV =Conductive PVDF K=PVDF PP=Polypropylene
CA =Conductive Acetal CP =Conductive Polypropylene HC =Alloy C NY=Nylon SS =Stainless Steel

WHAT IS ATEX?

ATEX (Atmosphères Explosibles) is an acronym for the standard set by the European Parliament & Council of the European Union, recognized throughout the European Community as the safety standard for equipment used in potentially hazardous environments.

WHAT ARE THE ASSURANCES OF FULL COMPLIANCE?

Products marked with the EX hexagon symbol followed by the Group and Category of safety protection indicates that the products are certified to Directive 94/9/EC.

- II 2G c T5, II 3/2 G c T5, II 2D c T100°C *KEMA09ATEX0073 X*
- * II 1G c T5, II 3/1 G c T5, II 1D c T100°C I M1 c,I M2 c *KEMA09ATEX0071 X*
- ** II 2G c T5, II 3/2 G c T5, II 2D c T100°C *KEMA09ATEX0072 X*
- • *Available*

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 accuracy of these ratings 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 de-aeration 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.

CAUTION: Nonmetallic pumps and plastic components are not UV stabilized. Ultraviolet radiation can damage these parts and negatively affect material properties. Do not expose to UV light for extended periods of time.

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

MATERIALS PROFILE	OPERATING TEMPERATURES MAXIMUM	OPERATING TEMPERATURES MINIMUM
Nitrile General purpose, oil-resistant. Shows good solvent, oil, water, and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons, and nitro hydrocarbons	190°F 88°C	-10°F -23°C
EPDM Shows very good water and chemical resistance. Has poor resistance to oils and solvents, but is fair in ketones and alcohols.	280°F 138°C	-40°F -40°C
Hytrel® Good on acids, bases, amines and glycols at room temperatures only.	220°F 104°C	-20°F -29°C
Neoprene All purpose. Resistant to vegetable oils. Generally not affected by moderate chemicals, fats, greases, and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters, and nitro hydrocarbons and chlorinated aromatic hydrocarbons.	200°F 93°C	-10°F -23°C
Rupplon® (Urethane) Shows good resistance to abrasives. Has poor resistance to most solvents and oils.	150°F 66°C	32°F 0°C
Santoprene® Injection molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
UHMW PE A thermoplastic polymer that is highly resistant to a broad range of chemicals. Exhibits outstanding abrasion and impact resistance, along with environmental stress-cracking resistance.	180°F 82°C	-35°F -37°C
Virgin PTFE (PFA/TFE) Chemically inert, virtually impervious. Very few chemicals are known to chemically react with PTFE; molten alkali metals, turbulent liquid or gaseous fluorine and a few fluoro-chemicals such as chlorine trifluoride or oxygen difluoride which readily liberate free fluorine at elevated temperatures.	220°F 104°C	-35°F -37°C

MATERIALS PROFILE	OPERATING TEMPERATURES MAXIMUM	OPERATING TEMPERATURES MINIMUM
FKM (Fluorocarbon) Shows good resistance to a wide range of oils and solvents; especially all aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils. Hot water or hot aqueous solutions (over 70° F) will attack **FKM**.	350°F 177°C	-40°F -40°C
Conductive Acetal Tough, impact resistant, ductile. Good abrasion resistance and low friction surface. Generally inert, with good chemical resistance except for strong acids and oxidizing agents.	190°F 88°C	-20°F -29°C
Nylon 6/6 High strength and toughness over a wide temperature range. Moderate to good resistance to fuels, oils and chemicals.	180°F 82°C	32°F 0°C
Polypropylene A thermoplastic polymer. Moderate tensile and flex strength. Resists strong acids and alkalie. Attacked by chlorine, fuming nitric acid and other strong oxidizing agents.	180°F 82°C	32°F 0°C
PVDF (**Polyvinylidene Fluoride**) A durable fluoroplastic with excellent chemical resistance. Excellent for UV applications. High tensile strength and impact resistance.	250°F 121°C	0°F -18°C
Alloy C equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy.		
Stainless Steel equal to or exceeding ASTM specification A743 CF-8M for corrosion resistant iron chromium, iron chromium nickel, and nickel based alloy castings for general applications. Commonly referred to as 316 Stainless Steel in the pump industry.		
Maximum and Minimum Temperatures are the limits for which these materials can be operated. Temperatures coupled with pressure affect the longevity of diaphragm pump components. Maximum life should not be expected at the extreme limits of the temperature ranges.		

Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Acetaldehyde (Ethanal) CH_3CHO	X	X	X	A	B	X		A		B	A	B	A	A	C	A	A[150°]	B	A	B
Acetamide (Acetic Acid Amide) CH_3CONH_2	X	B	B	A		B		A		A	A	X	X	A	A		A[140°]	A	A	
Acetate Solvents CH_3COOR		X	X			X		A		B	A		A		X	A	A	A	A	B[122°]
Acetic Acid — 20%	B	B	C	A	A	C		A	A	B		A	A	C	B	A	B	A		A[122°]
Acetic Acid — 30%	X	B	C	A	A	X		A	A	B	X	A	A	C	B	B	B			A[122°]
Acetic Acid — 50% CH_3COOH	C	C	C	A		C		A	A	B	X	A	A	C	B	B	B			A[122°]
Acetic Acid — Glacial CH_3COOH	X	X	C	B	A	X		A	A	B	B	X	A	A	C	B	A[120°]	X	A	B
Acetic Anhydride (Acetic Oxide) $(CH_3CO)_2O$	X	B	C	B	C	X	A	A	A	A	B	[90%]B[212°]	A	A	X	X	B[70°]	A	A	A
Acetone (Dimethylketone) CH_3COCH_3	X	X	X	A	C	X	A	A	A	B	B	A	A	A	X	B[120°]	X	B		**A**[122°]
Acetone Cyanohydrin $(CH_3)_2C(OH)CN$	X	B	X	X		X		A		A	B	B	B							
Acetonitrile (Methyl Cyanide) CH_3CN		A	C	A		X		A		A	A	A	A	B[100°]		A	A	A		
Acetophenone (Phenyl Methyl Ketone) $C_6H_5COCH_3$	X	X	X	A		X		A		B	B	A	A	B	A[70°]		A	A	A	
Acetyl Acetone (2,4-Pentanedione) $CH_3COCH_2COCH_3$	B	X	X	A		X		A		B	X	B	B							
Acetyl Chloride CH_3COCl		X	X	C	X	B		A		B	X	A	B	A	X		A	X	A	
Acetyl Salicylic Acid (Aspirin) $(CH_3OCO) \bullet C_6H_4COOH$		X		B				A		A	X	B	B							A[140°]
Acetylene (Ethyne) $HC^{\circ}CH$		C	A	A	A	A	A	A	A	C	A	A	A	A	X	A	A	B	A	
Acetylene Tetrabromide (Tetra Bromoethane) $(CHBr_2)_2$		X	X			A		A		X	X	A								
Acrolein (Acrylaldehyde) $H_2C = CHCHO$			B			A		A		A	B	B	B							
Acrylonitrile (Vinyl Cyanide) $CH_2=CHCN$		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[140°]
Alkazene® (Chlorethyl or Polyisopropyl benzenes)		X	X			A		A		X										
Allyl Alcohol (2-Propen-1-ol) CH_2CHCH_2OH		A	A	A		B		A		B	A	A	A				A			A
Allyl Bromide (3-Bromopropene) $H_2C=CHCH_2Br$		X	X	X		B		A			X	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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Allyl Chloride (3-Chloropropene) $CH_2=CHCH_2Cl$		X	X	X		B		A			X	C	B		$A^{70°}$		A			B
Almond Oil (Artificial) (Alum) (Aluminum Potassium)	X	X	X	B		X		A												
Aluminum Acetate (Burow's Solution)		C	C	A		X		A		A		B	C	A	A	$A^{100°}$		A		$A^{140°}$
Aluminum Bromide $AlBr_3$		A	A					A									A			
Aluminum Chloride $AlCl_3$	B	A	A	A	B	A	A	A	A	$^{20\%}A$	X	C	B	$^{25\%}A$	A	B	A	B	A	
Aluminum Fluoride AlF_3		A	A	B		A	X	A	A	A	$^{50\%}A$	C	C	$^{20\%}A$	A	X	A	A	A	$A^{140°}$
Aluminum Hydroxide (Alumina Trihydrate) $Al(OH)_3$		A	B	A		C		A	A	A	$^{10\%}B$	$^{30\%}B$	B	$^{10\%}B$	A		A	A		$A^{140°}$
Aluminum Nitrate $Al(NO_3)_3 \bullet 9H_2O$		A	A	A		A		A	A	A	X		$^{0\%}A$	$^{0\%}B$	A		A	B		$A^{140°}$
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		$A^{140°}$
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	$A^{120°}$
Amines $R\text{-}NH_2$		B	X		$A^{70°}$	X				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	X	A	A	A	A
Ammonia Gas — Cold		A	A			A		A		A										A
Ammonia Gas — Hot		B	C			X		A		A										$A^{140°}$
Ammonia Liquors		A				X		A		A	A	A	A							
Ammonium Acetate $CH_3CO_2NH_4$		A				A		A		A	$^{50\%}B$	$^{50\%}A$								A
Ammonium Bicarbonate NH_4HCO_3		A	A	A		A		A		B	B	$^{90\%}B$								$A^{140°}$
Ammonium Bifluoride — 10% NH_4HF_2		X	B					A		A	C	X	B	B	A		A			
Ammonium Carbonate $(NH_4)_2CO_3$		B	X	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	$A^{140°}$
Ammonium Cupric Sulfate $(NH_4)_2Cu(SO_4)_2$			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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
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		A140°
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	A140°
Ammonium Metaphosphate		A	A	A		A		A			90%B	B	B	A	A		A			A140°
Ammonium Nitrate NH_4NO_3		B	A	A	B	A	A	A		A	B	B	A	A	A	B	A	C		A140°
Ammonium Nitrite NH_4NO_2		A	A					A	A	A					70%A		A			
Ammonium Oxalate $(NH_4OOC)_2$		A	A							A			A	A						A140°
Ammonium Persulfate $(NH_4)_2S_2O_8$	X	A	C	B		A		A		A	C	X	A		A		A	X		A140°
Ammonium Phosphate, Monobasic $(NH_4)H_2PO_4$		A	A	A	B	A	A	A	A	A	X	X	B	5%A	A		A			A140°
Ammonium Phosphate, Di-Basic $(NH_4)_2HPO_4$		A	A			A	A	A	A	A	B		A	A	A	B	A	C	A	
Ammonium Phosphate, Tri-Basic $(NH_4)_3PO_4 \bullet 3H_2O$		A	A			A	A	A	A	A	X		B	B	A		A			
Ammonium Sulfate $(NH_4)_2SO_4$	A	A	A	A	C	A	A	A	A	A	X	B	80%A212°	40%B	A	B	A	B	A	A120°
Ammonium Sulfide $(NH_4)_2S$		A	A			A		A			B		B	10%A						A140°
Ammonium Sulfite $(NH_4)_2SO_3 \bullet H_2O$			A			A		A			C	X	B	A212°	A	X		A		
Ammonium Thiocyanate NH_4SCN		A	A	A		A		A			C	C	50%A	50%A						A140°
Ammonium Thiosulfate $(NH_4)_2S_2O_3$		A	A	A		A		A		A	40%A	X	10%A							
Amyl Acetate (Banana Oil) $CH_3CO_2C_5H_{11}$	X	X	X	A	C	X	A	A	A	B	A	B	A	B	X	X	A120°	C	A	B
Amyl Alcohol (Pentyl Alcohol) $C_5H_{11}OH$	X	A	B	A	A	A	A	A	A	A	A	C	A	A	B	A	A	A	A	A140°
n-Amyl Amine (1-Aminopentane) $CH_3(CH_2)_4NH_2$		X	C	X		X		A												
Amyl Borate $C_5H_{11}BO_3$		B	A			A		A		B										
Amyl Chloride (Chloropentane) $CH_3(CH_2)_4Cl$		X	X	X		A		A		C	X	A	A	B	X	A	A	C		C
Amyl Chloronaphthalene $C_6H_4(OH)C_5H_{11}$		X	B			A		A		C										
Amyl Naphthalene $C_{15}H_{18}$		X	X	X		A		A		C										
Amyl Phenol $C_6H_4(OH)C_5H_{11}$			X			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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Aniline (Aniline Oil) (Amino Benzene) $C_6H_5NH_2$	X	X	X	C	X	B	A	A	A	B	B	A	A	B	A	A	A	A	A	B[122°]
Aniline Dyes	X	C	C	C		B	A	A	A	B	B	C	B							
Aniline Hydrochloride $C_6H_5NH_2 \bullet HCl$		X	C			B		A		A	X	X	X		X		A	X		C[140°]
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							
Anisole (Methylphenyl Ether) $C_6H_5OCH_3$		X				X		A			B	B	B	B						C[140°]
Ansul Ether		X	C			X		A		X										
Anthraquinone $C_{14}H_8O_2$								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 $SbCl_5$			X					A			A	A	A	A						A[140°]
Antimony Trichloride $SbCl_3$			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	B
Aroclor® PCB mixtures		X	C	X		A		A			A	B	A	[90%]A	X			A		
Aromatic Hydrocarbons		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	X	A	B	A		A		A		A	A	X	B	B	A		A	X	A	
Arsenic Trichloride (Arsenic Butter)		A	C	X		X		A		B	B	B	X	B						A[140°]
Ascorbic Acid						A		A			A	X	A							
Askarel® (Pyranol®)	X	X	B	X		C		A		X			A							
Asphalt	B	C	B	X	B	A	A	A	A	B	A	B	A		A	B	A	A		
Asphalt Topping		A	C		B	C		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						
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						
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						

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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
ASTM — Ref Motor Fuel (C) (50% Aromatic) (Hydrocarbons)	X	X	B	X	C	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 $BaCO_3$		A	A	A		A		A		A	X	B	B	B	A		A	A	A	A[140°]
Barium Chloride Dihydrate $BaCl_2 \bullet 2H_2O$	A	A	A	A		A	A	A	A		[50%]B	B	B[212°]	B		A	A	A	B	A
Barium Cyanide $Ba(CN)_2$		A	C		X	A				A			A		X			A		
Barium Hydroxide (Barium Hydrate) $Ba(OH)_2$	A	A	A	A	B	A	A	A	A	A	X	B	[50%]A[122°]	B	A		A	A	A	A[140°]
Barium Nitrate $Ba(NO_3)_2$		A	A					A		A	B	A	A	A	A	B	A	A		
Barium Sulfate (Blanc Fixe) $BaSO_4$	A	A	A	A	X	A		A		A	B	B	B		A	B	A	A	A	A
Barium Sulfide BaS	A	A	A	A		A	A	A	A	A	X		B	A	A		A	A	A	A[120°]
Beef Extract		A	A			A		A				X	A							
Beer Water, carbonate	X	A	C	A	B	A	A	A	A	A	A	X	A	A	A[75°]	A	A[175°]	A	A	A[140°]
Beet Sugar Liquors (Sucrose)	X	A	A	A		A	A	A		A	A	B	A		A	B	A	A		
Benzaldehyde C_6H_5CHO	X	X	X	B	B	X		A	A	B	A	A	A	A	X		A	X	A	C
Benzene (Benzol) C_6H_6	X	X	X	X	C[70°]	B	A	A	A	C	B	B	A[167°]	B	X	A	B	A	A	C
Benzene Sulfonic Acid $C_6H_5SO_3H$		A	C	C		A		A			C	A	A	[90%]A	X		B[100°]	X	A	A
Benzoic Acid (Benzene Carboxylic Acid) C_6H_5COOH		B	X	B		A		A			B	X	B	[70%]A	X	B	A	X	A	A[140°]
Benzoyl Chloride C_6H_5COCl	X	X	X	X		B		A	A		X	A	B	B			A			
Benzyl Acetate $CH_3CO_2 \bullet H_2C_6H_5$			X			X		A			A	A	A	B						
Benzyl Alcohol $C_6H_5CH_2OH$	X	X	X	C	NR	A		A	A		A	A	A	B	A		A	X	A	A[170°]
Benzyl Benzoate $C_6H_5CO_2CH_2C_6H_5$		X	X	B		A		A		C	A	B	B	B						
Benzyl Chloride (Chlorotoluene) $C_6H_5CH_2Cl$	X	X	X	X		A		A		C	X	A	B	A	X	A	A	A	A	
Benzyl Dichloride (Benzal Chloride) $C_6H_5CHCl_2$			X					A			X	B	A	B						
Biphenyl (Diphenyl) $C_6H_5C_6H_5$		X	X	X		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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Bismuth Subcarbonate (Bismuth Carbonate) $(BiO)_2CO_3$		A	A	A		A		A					10%B							A140°
Black Sulfate Liquor	X	A	B	A	B	A	A	A	A		C	B	A	B						A140°
Blast Furnace Gas CO,H_2,CH_4,CO_2,N_2		A	C		B	A		A	A	A										
Bleach Solutions Water, chlorine, oxygen		X	X	A	C	B		A	A	B	X		B	A125°	X					A140°
Borax (Sodium Borate) $B_4Na_2O_7$	A	A	B	A	A	A	A	A	A	A	B	B	A	A	A	B	A	A	A	A140°
Bordeaux Mixture Copper sulfate salts		A	A	A	B	B		A		A			A	A						
Boric Acid (Boracic Acid) H_3BO_3	A	A	A	A	A	A	A	A	A	A	A	X	30%A	80%A167°	A	C	A	B	A	A120°
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			A140°
Bromine — Anhydrous Br_2	X	X	X	C	X	A	X	A		C	B	C	X	A	X		A150°			X
Bromine Trifluoride BrF_3	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_6H_5Br	X	X	X	X		B		A		X	X	B	A	B	X					
Bromochloromethane $BrCH_2Cl$		X	X	B		C		A			X	B	B	B						
Bromotoluene $C_6H_4BrCH_3$			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_4H_6	X	C	X	C		C		A	A	C	A	A	A		X		A	A	A	C
Butane (LPG) (Butyl Hydride) C_4H_10	B	B	A	X	A	A	A	A	A	C	A	A	A	A	X	B	A	A	A	A140°
Butter Fats	A	C	A	A	B	A		A		B	A	X	A							A140°
Buttermilk Fats, water		A	A			A				A	A		A		A		A	B		
Butyl Acetate $CH_3CO_2(CH_2)_3CH_3$	C	X	X	B	C	X	A	A	A	B	A	A	A	A	X	B	A100°	A	A	B
n-Butyl Acetate $CH_3CO_2(CH_2)_3CH_3$		X	X	X		X		A		A	A	A	A	A						
Butyl Acetyl Ricinoleate $C_{24}H_{44}O_5$		X	C	C		B		A		B				A						
Butyl Acrylate $CH_2CHCO_2C_4H_9$		X	X	X		X		A		C							C			

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Butyl Alcohol (Butanol) $CH_3(CH_2)_3OH$	X	A	A[140°]	C	B	A	A	A	A	B	A		A	A	B	A	A	B	A	A[150°]
Butyl Amine (Aminobutane) $CH_3(CH_2)_2CH_2NH_2$	X	X	B	X		X		A	A	A	A	A	A		X	C	B[70°]	A	A	
Butyl Benzoate $C_6H_5COO \bullet (CH_2)_3CH_3$		X		B		A		A		C	B	B	B	B						
Butyl Bromide $CH_3(CH_2)_2CH_2Br$			X			B		A									A			
Butyl Butyrate $CH3(CH_2)_2 \bullet CH_2CO_2C_4H_9$			X			X		A			A	A	A	A						
Butyl Carbitol® $CH_3(CH_2)_3OCH_2\ CH_2OCH_2CH_2OH$		B	A	A		A		A		B										
Butyl Cellosolve® $HOCH_2CH_2OC_4H_9$		C	B			C		A		A							B			
Butyl Chloride (Chlorobutane) $CH_3(CH_2)_3CL$			X			A		A			X	B	B	B	X		A	A		
Butyl Ether (Dibutyl Ether) $(CH_3(CH_2)_3)_2O$		B	A			C		A			A	B	A	A	X		A[100°]	A	A	
Butyl Oleate $C_{22}H_{42}O_2$		X		C		A		A		C										
Butyl Stearate $CH_3(CH_2)_{16} \bullet CO_2(CH_2)_3CH_3$																				
Butylene (Butene) C_4H_8	X	X	B	X		B		A		X	A		A		X		A	B	A	
Butyraldehyde $CH_3(CH_2)_2CHO$	C	X	X	C		X		A		C	A	A	A	A						C
Butyric Acid $CH_3(CH_2)_2CO_2H$		X	C	C	B	C		A		A	A	X	B	A	A	X	A	C	A	B
Butyronitrile $CH_3CH_2CH_2CN$		X	X	A				A												
Calcium Acetate Hydrate $Ca(CH_3COO)_2 \bullet H_2O$		C	B	A		X		A			C	C	B	B						
Calcium Bisulfite $Ca(HSO_3)_2$	A	A	A	X	X	A	A	A	A		X	X	[90%]A	A		A	X	A	B	A
Calcium Carbonate (Chalk) $CaCO_3$		A	A	A		A		A		A	C	B	B	B	A	A	A	A		A
Calcium Chlorate $Ca(ClO_3)_2$		A	A	A		A		A			[30%]B	B	[0%]B	[70%]B	A		A			A[140°]
Calcium Chloride (Brine) $CaCl_2 \bullet 6H_2O$	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	X	A	B	A	A[140°]
Calcium Hydrosulfide (Calcium Sulfhydrate) $Ca(HS)_2 \bullet 6H_2O$			A			A		A												A[140°]
Calcium Hydroxide (Slaked Lime) $Ca(OH)_2$	A	A	A	A	B	A	A	A	A	A	X	B	[50%]B	[50%]A	A	X	A	B		
Calcium Hypochlorite 20% (Calcium Oxichloride) $Ca(ClO)_2$	X	X	C	B	[5%]A	B	A	A	A	A	X	X	B	B[125°]	A	A	A	A	A	A[120°]
Calcium Nitrate $Ca(NO_3)_2$	A	A	A	A		A		A	A	A	[40%]B[212°]	[30%]B[212°]	[50%]B[212°]	[10%]B	A	X	A	A	A	A[140°]

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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Calcium Oxide (Unslaked Lime) CaO		A	A	A	B			A			A	A	A	A						$A^{140°}$
Calcium Silicate Ca_2SiO_4			A			A		A			A	B	A	A						
Calcium Sulfate (Gypsum) $CaSO_4$	B	A	A	A		A		A			A	C	$^{10\%}$B	$^{10\%}$A	A	A	X	A	X	$A^{140°}$
Calcium Sulfide CaS	A	B	A	A		A		A		A	$^{20\%}$A	B	B	A	$A^{120°}$		A			
Calcium Sulfite $CaSO_3 \bullet 2H_2O$			A			A		A			$^{10\%}$B	B	$^{10\%}$A							
Calgon® $(NaPO_3)_6$		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		A			
Capryl Alcohol (Octanol) $CH_3(CH_2)_6CH_2OH$	X	B	A	C		B		A			A	A	A	A						
Caprylic Acid (Octanoic Acid) $CH_3(CH_2)_6$ $COOH$			C					A			A		A	A			A			
Carbamate H_2NCO_2R	X	C	C	C		A		A		A										
Carbitol® $CH_3CH_2OCH_2CH_2 \bullet OCH_2CH_2OH$	X	C	B	C		C		A		B	A	A	A	A						
Carbolic Acid (see Phenol) C_6H_5OH	X	C	X	C		A		A	A	A	B	A	B	A	C	X	$A^{150°}$	X	A	A
Carbon Dioxide (Carbonic Acid Gas) CO_2	A	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C
Carbon Disulfide (Carbon Bisulfide) CS_2	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	A	B	A	A		$A^{140°}$
Carbon Tetrachloride (Tetrachloromethane) CCL_4	X	X	C	X	X	A	X	A	A	X	X	C	B	A	X	B	A	B	A	X
Carbonated Beverages $CO_2 \bullet H_2O$	A	A	A					A		A	C		A	A	A		A			
Carbonic Acid (liquid) H_2CO_3		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						$A^{140°}$
Catsup (Ketchup)		C	A			A		A		A	B	X	A	A	A					$A^{140°}$
Cellosolve® (Glycol Ethers) $C_8H_{12}O_5$		C	C	C	X	B		A		C	A		A	A	$A^{100°}$	A	A	A	A	

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Cellulose Acetate $C_8H_{12}O_5$		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) $CA(ClO)_2$	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 Dioxide ClO_2		X	X	C		B	A	A	A	X	B		X	B	X		A			
Chlorine Trifluoride ClF_3	X	X	X	X		B	X	A	C	X	A		A		X			X		B
Chlorine, Anhydrous Liquid Cl_2		X	X			A		A		X	X	X	X	A	X		A			X
Chlorine, Dry CL_2		C	C		X	A		A	A	C	X	X			X	X	A	X	X	B
Chlorine, Wet $Cl_2 \bullet H_2O$	X	X	C	X	X	A	A	A	A	C	B	C	A	A	X	X	A	X	X	B
Chloroacetic Acid (Monochloroacetic Acid) $ClCH_2COOH$	X	C	X	B	X	C	A	A			X	X	X	A	A	X	A	X	A	
Chloroacetone (Monochloroacetone) $ClCH_2COCH_3$		C	X	A		C		A		C	X	B	B	B	X					
Chlorobenzene (Monochlorobenzene) C_6H_5Cl	X	X	X	X	X	A		A		C	X	B	B	B	X	A	A[150°]	B	A	X
Chlorobromomethane $ClCH_2Br$		X	X			A		A		X	X	B	B		X					X
Chlorobutadiene (Chloroprene) C_4H_5CL		X	X	X		A		A		C	X	B	B	B	X					
Chloroform $CHCl_3$	X	X	X	X	X	A		A	A	X	X	A	A	A	X	B	A	X	A	
1-Chloronaphthalene $C_{10}H_7Cl$		X	X	X		C		A		X	X	B	B	A	X					
Chlorosulfonic Acid HSO_3CL	X	X	X	X	X	X	A	A		A	B	B	B	A	X	X	X	X	X	
0-Chlorophenol C_6H_5ClO		X	X	X		B		A			B	B	B	B		B	A	X	A	
Chlorothene® (Chlorinated Solvents) CH_3CCL_3		X	X			C	A	A	A		X	X	A	A						
Chlorotrifluoroethylene $C_2H_2ClF_3$			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		A		X	A		A					
Chromic Acid — 25%-50% H_2CrO_4	X	X	X	C	X	A		A	A	X	X	B	X	B	A	X	A[120°]	X	A	A[122°]

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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Chromic Acid — Over 50% H_2CrO_4	X	X	X	C	X	A		A	A	X	X	B	X	B	X	X	A[120°]	X	A	A[122°]
Chromic Acid — To 10% H_2CrO_4		X	X	A	X	A		A	A	X	[10%]B	B	X	B	X	X	A[120°]	X	A	A[140°]
Cider (Apple Juice) Sucrose, water		A	A		B	A		A		A	B	X	A	A						A[140°]
Cinnamon Oil Cinnamic acid esters		C						A		C		X	A							
Citric Acid $C_6H_8O_7 \bullet H_2O$	A	A	B	A	A	A	A	A	A	A	B	X	[30%]A	A	B	B	A[250°]	X	A	A[140°]
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) $C_{10}H_{12}O_2$		C						A		C		X	A							A
Cobalt Chloride $C_0Cl_2 \bullet 6H_2O$	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[140°]
Coffee Fatty oils, acids, cellulose, water		A	A					A		A	A		A	A	A					A[140°]
Coke Oven Gas H_2(53%),CH_4(26%) N_2(11%),CO(7%) hydrocarbons (3%)																				
Copper Acetate $Cu(C_2H_3O_2)_2 \bullet CuO \bullet 6H_2O$		C	B	A				A		A	X	[90%]A	[10%]B	[10%]B			A			
Copper Chloride $CuCl_2 \bullet 2H_2O$	A	A	A	A	A	A	A	A	A	A	X	X	X	[40%]B	A		A			A[140°]
Copper Cyanide CuCN	A	A	A	A		A		A		A	X	A	[10%]A	A[170°]	A		A	A	A	A[140°]
Copper Fluoroborate			A	B			A				A	X	X	X	B					
Copper Nitrate Hexahydrate $Cu(NO_3)_2 \bullet 6H_2O$		A	A	A		A		A			X	X	A	B	A	A	A	X	A	
Copper Sulfate (Blue Copperas) $CuSO_4 \bullet 5H_2O$	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[140°]
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

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Cresylic Acid (Cresol) $C_8H_{10}O_2$	X	X	C	X		A		A	A	B	B	C	A	B	X	X	$A^{150°}$	X		A
Crotonaldehyde $CH_3CHCHCHO$		A	X			A		A			A	A	A	A						
Cumeme (Isopropylbenzene) $C_6H_5CH(CH_3)_2$		X	X	X		A		A			B	B	B	B						
Cutting Oil (Sulfur Base)		C	A					A			A	A	A	A						
Cutting Oil (Water Soluble)		X	C			A		A			A	A	A	A						
Cyclohexane C_6H_{12}	C	X	B	X	A	A		A	A	C	B	B	B	B	X	A	A	A	A	A
Cyclohexanol $C_6H_{11}OH$		A	B	X		A		A		B	C	B	A	A	B	A	$A^{150°}$	A	A	$A^{140°}$
Cyclohexanone $C_6H_{10}O$		X	X	C		X		A	A	C	B	B	B	B	X	A	A	A	A	B
Cyclopentane C_5H_{10}		A	B	X		A		A			B	B	B	B						
Cymene (Isopropyltoluene) $C_{10}H_{14}$		X	C	X		A		A												
Decahydronaphthalene (Decalin®) $C_{10}H_{18}$	X	X	X	X		A		A												
Decanal $CH_3(CH_2)_8CHO$			X	X		X		A												
Decane $CH_3(CH_2)_8CH_3$	C	X	B	C		A		A		C					$A^{70°}$		A			
Decyl Alcohol (Decanol) $C_{10}H_{21}OH$		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	$A^{140°}$
Developing Fluids & Solutions	X	A	A	C	X	A		A		A		X	A	A					$A^{140°}$	
Dextrose $C_6H_{12}O_6$	A	B	B	A	$B^{140°}$	A		A			A	X	A	A	A		A			$A^{140°}$
Diacetone Alcohol (Diacetone) $CH_3COCH_2C(CH_3)_2OH$	X	X	X	A	C	X		A		B	A	A	A	A	B	A	B	A		
Dibenzyl Ether $(C_6H_5CH_2)_2O$	C	X	X	C		C		A		C	B	B	B	B			C			
Dibenzyl Sebecate $C_{24}H_{30}O_4$	X	X	X	C	A	B		A	A	C										
Dibutyl Amine $(C_4H_9)_2NH$		X	C	X		X		A		B		A	A	A	X		$B^{70°}$			
Dibutyl Mercaptan $(C_4H_9)_2S$		X	X			A		A		B										
Dibutyl Phthalate (DBP) $C_6H_4(CO_2C_4H_9)_2$	C	X	X	A	A	B		A	A	B	A	A	A	A	X		X	A	A	A
Dibutyl Sebecate (DBS) $C_{18}H_{34}O_4$	X	X	X	C		C		A		B		A	A		C					
Dichloro Isopropyl Ether $C_6H_{12}OCl_2$	C	X	X	X		X		A		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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Dichloroacetic Acid $Cl_2CHCOOH$		X	X			X		A												
Dichlorobutane $C_4H_8Cl_2$			X			A		A			X	B	B							
Dichloroethyl Ether $[ClCH_2CH_2]_2O$			X					A			B									
Dicyclohexylamine $(C_6H_{11})_2NH$		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			$A^{122°}$
Diester Synthetic Oils	X	X	B	X		A		A			A	A	A	A						
Diethano Amine $(HOCH_2CH_2)_2NH$	C	A	B					A				A	A	A	A			A		
Diethyl Amine $(CH_3CH_2)_2NH$	C	C	C	C		X		A			B	B	A	A	A		A	A		
Diethyl Benzene $C_6H_4(C_2H_5)_2$	X	X	X	X		A		A		C										
Diethyl Carbonate $(C_2H_5O)_2CO$		X	X					A	A			A								
Diethyl Ether (Ether) $(CH_3CH_2)_2O$	A	C	B	X	C	X		A	A	B	B	A	A	A	X	A	A	B	A	X
Diethyl Phthalate (DEP) $C_6H_4(CO_2C_2H_5)_2$			X			C		A			A	A	A	A						
Diethyl Sebecate $C_{14}H_{26}O_4$		X	X	C	A	B		A		B	A	A	A	A	$A^{120°}$		$A^{120°}$			
Diethylene Ether (Dioxane) $C_4H_8O_2$		X	X	A		X		A			A	A	A							
N,N-Dimethyl Formamide (DMF) $HCON(CH_3)_2$		X	C		C	X		A	A	A	A		A	A	$A^{120°}$	B	$A^{120°}$	A	A	
Diethylene Glycol (DEG) $HOCH_2CH_2OCH_2 \bullet CH_2OH$	X	A	A	A	A	A		A		A	A	A	A	A	A			A		$A^{140°}$
Diethylene Triamine $(NH_2C_2H_4)_2NH$			B					A			A	A	A	A						
Diisobutyl Ketone $C_4H_9COC_4H_9$		X	X	B		X		A			A	A	A	A						
N,N-Dimethylaniline $C_6H_5N(CH_3)_2$		X	X	C		X		A		B	B	B			X		A	A	A	
Diisobutylene $[HC=C(CH_3)_2]_2$		C	B			C		A		C					A		A	A	A	
Diisodecyl Adipate (DIDA) $C_{26}H_{50}O_4$			X			C		A												
Diisodecyl Phthalate (DIDP) $C_{28}H_{47}O_4$		X	X	A		C		A												
Diisooctyl Adipate (DIOA) $C_{22}H_{42}O_4$			X			C		A			A	A	A	A						
Diisooctyl Phthalate (DIOP) $C_{24}H_{39}O_4$			X			C		A												
Diisooctyl Sebecate (DIOS) $C_{26}H_{46}O_4$				B		A		A												

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Diisopropyl Amine $[(CH_3)_2CH]_2NH$			B					A												
Diisopropyl Benzene $C_6H_4 \bullet [CH(CH_3)_2]_2$		X	X	X		A		A		C										
Diisopropyl Ketone $[(CH_3)_2CH]_2CO$		X	X	A		X		A		C			A							
Dimethyl Ether CH_3OCH_3		B	A			A		A	A		B	B	B	B						
Dimethyl Phthalate $C_6H_4(CO_2CH_3)_2$		X	X	C	A	C		A		A							$A^{70°}$	B	A	
Dimethyl Sulfate $(CH_3)_2SO_4$			X			X		A				A								
Dimethyl Sulfide $(CH_3)_2S$			X					A			A	A	A	A						
Dinitrotoluene (DNT)$CH_3C_6H_3(NO_2)_2$		X	X	X		C		A		B			A							
Dioctyl Phthalate (DOP) $C_{24}H_{38}O_4$	X	X	X	B	A	B		A		C	A	A	A	A						A
Dioctyl Sebecate $C_{26}H_{50}O_4$	C	X	X	C		C		A		C	A	A	A	A						
Dioxolanes (Dioxolans) Glycol ethers		X	X	B		C		A		C										
Dipentene (Limonene) $C_{10}H_{16}$		X	C	X		A		A		C	A	A	A	A						
Diphenyl Oxides (Phenyl Ether) $C_6H_5OC_6H_5$	C	X	X	C		A		A		C	B	A	A	A			A			
Dipropyl Ketone (Butyrone) $(C_3H_7)_2CO$			X					A												
Dipropylamine $(CH_3CH_2CH_2)_2$ NH			B					A												
Dipropylene Glycol $(C_3H_6OH)_2O$			A			A		A							A		A			
Dispersing Oil #10		X	X	X		C		A			A	A	A	A						
Divinyl Benzene (DVB) $C_6H_4(CH{=}CH_2)_2$			X			A		A												
Dodecyl Benzene (Alkane) $C_6H_5(CH_2)_{11}CH_3$			X			A		A			A	A	A							
Dow Corning® Silicones $[(CH_3)_2SiO]_2$	A	A	A			A		A			A									
Dowtherm™ (Biphenyl & Phenyl Ether) $(C_6H_5)_2 \bullet (C_6H_5)_2O$	C	X	X	X		A		A		X	A	B	A	A				A		
Drycleaning Fluids Chlorinated hydrocarbons		X	C			A		A		X	A	A	A		X					
Dyes			C				A				B	B		A						
Epichlorohydrin C_3H_5ClO		X	X	B	X	X		A	A	B	X	A	A	A	A	A	X	A	A	
Epsom Salts (Magnesium Sulfate) $MgSO_4 \bullet {}_7H_2O$		A	A			A		A		A	A		A	B	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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Ethane C_2H_6	C	C	A	X		A		A	A	C	A	A	A	A	C	A		A		
Ethanolamine (Aminoethanol) $H_2NCH_2 \bullet CH_2OH$	X	C	B	B		X		A		A	B	A	A		X	X	C	A	A	$A^{140°}$
Ethyl Acetate $CH_3COOC \bullet H_2CH_3$	X	X	X	B	C	X	A	A	A	C	A	A	A	A	C	A	A	A	A	$B^{122°}$
Ethyl Acetoacetate (Acetoacetic Ester) $CH_3COCH_2 \bullet COOCH_2CH_3$	C	X	X	C		X		A		C	A	A	A	A			$A^{70°}$			
Ethyl Acrylate $CH_2CHCO_2 \bullet CH_2CH_3$	X	X	X	C		X		A		C	A	A	A	A	B		$B^{70°}$			
Ethyl Alcohol (Ethanol) C_2H_5OH	X	A	A	A	A	B		A	A	A	B	A	A	A	$A^{180°}$	A	A	B	A	$A^{140°}$
Ethyl Aluminum Dichloride $CH_3CH_2AlCl_2$			X			B		A												
Ethyl Amine (Monoethylamine) $CH_3CH_2NH_2$		C	X	A		X		A			B	B	A							
Ethyl Benzene $CH_3CH_2C_6H_5$	X	X	X	X		A		A		C	B	B	B	A	X	A	A			A
Ethyl Benzoate $C_6H_5CO_2CH_2CH_3$		X	X	C		A		A		C	A	A	A	A	B			X		
Ethyl Bromide (Bromoethane) CH_3CH_2Br		B	X	B				A		X	A	A	A							
Ethyl Butyl Acetate $CH_3CO_2CH_2 \bullet CH(C_2H_5)_2$			X			X		A												
Ethyl Butyl Alcohol $CH_3CH(C_2H_5) \bullet (CH_2)_2OH$			A			B		A												
Ethyl Butyl Ketone $CH_3CH_2COC_4H_9$			X			X		A												
Ethyl Butyraldehyde $C_6H_{12}O$			X			X		A												
Ethyl Butyrate $CH_3CH_2CH_2 \bullet C^{140°} CO_2C_2H_5$		X	X	X		C		A			B	A	A	A	B			A		
Ethyl Caprylate $CH_3(CH_2)_6 \bullet CO_2C_2H_5$			X	X	X				A											
Ethyl Cellosolve® $C_2H_5O(CH_2)_2OH$		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_2H_5Cl	C	C	A	A	X	A	A	A	A	C	X	B	A	B	X	A	A	B	A	X
Ethyl Chlorocarbonate (Ethyl Chloroformate) $ClCO_2C_2H_5$		C				A		A		A										
Ethyl Cyanide (Propionitrile) C_2H_5CN		B	X	A		X		A												
Ethyl Formate $HCOOCH_2\ CH_3$		B	X	C		A		A		B	B	A	B	B						C
Ethyl Iodide CH_3CH_2I																				

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	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Ethyl Isobutyrate $(CH_3)_2 \bullet CHCOOCH_2CH_3$		X	X	X				A												
Ethyl Mercaptan (Ethanethiol) CH_3CH_2SH		C	X	X		B		A		C	B	A	B	B						
Ethyl Oxalate $C_2H_5O_2C \bullet CO_2C_2H_5$	A	X	X	A		B		A		B										
Ethyl Pentachlorobenzene $C_2H_5C_6Cl_5$		X	X			A		A		X	X				X					
Ethyl Propionate $CH_3CH_2 \bullet COOCH_2CH_3$		X	X	X				A			A	A	A	A						
Ethyl Silicate $Si(OCH_2CH_3)_4$		A	A	A		A		A		B	B	A	A	A						
Ethyl Sulfate $C_2H_5OSO_2OH$			A			A		A		B			X					A		
Ethylene (Ethene) C_2H_4		A	B	C		A		A	A	C	A	A	A							
Ethylene Chlorohydrin $ClCH_2CH_2OH$	X	B	X	A	X	B		A		C		B	A	A	X		$A^{70°}$			
Ethylene Diamine $(CH_2)_2(NH_2)_2$		A	B	A		X		A		A	C	A	A	A	A	A	B	B	A	A
Ethylene Dibromide (Ethylene Bromide) $Br(CH_2)_2Br$		X	X	C		B		A	A		X	X	B	B	X		A			
Ethylene Dichloride (Dutch Oil) $Cl(CH_2)_2Cl$	X	X	X	X	X	B		A	A	X	X	B	B	B	X	B	A	B	A	X
Ethylene Glycol (Ethylene Alcohol) (Glycol) $(CH_2OH)_2$	B	A	A	A	A	$A^{70°}$	A	A	A	A	A	A	A	A	$A^{120°}$	A	A	B	A	$A^{140°}$
Ethylene Glycol Monobutyl (Ether) (Butyl Cellosolve®) $C_4H_9OCH_2CH_2OH$	X	X	B	B		C		A			A	A	A	A						
Ethylene Glycol Monoethyl (Ether Acetate) (Cellosolve® Acetate) $C_2H_5O(CH_2)_2 \bullet O_2CCH_3$	X	X	C	B		C		A			A	A	A	A						
Ethylene Glycol Monomethyl (Ether) (Methyl Cellosolve®) $CH_3O(CH_2)_2OH$	X	C	C	B		X		A			B	B	A	A						
Ethylene Oxide $(CH_2)_2O$	X	X	X	X	A	C		A	A	A	A	B	A	A	C		A	A	X	A
Ethylene Trichloride (Trichloroethene) $ClCHCCl_2$		X	X	X		A		A		X	X	A	A		X					
Ethylhexyl Acetate $CH_3CO_2CH_2 \bullet CH(C_2H_5)C_4H_9$			X			X		A												
Ethylhexyl Alcohol (Ethylhexanol) $C_8H_{17}OH$			A			B		A			A	A	A	A						
Ethylidene Chloride CH_3CHCl_2		X	X	X				A			X	B	A	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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Fatty Acids $C_nH_{2n+1}COOH$		C	B	X	B	A		A		B	90%A	X	A	A	B	A	A	A		A140°
Ferric Chloride $FeCl_3$	A	A	A	A	X	A	A	A	A	A	X	X	X	10%A	A	A	A	X	A	A140°
Ferric Hydroxide $FeHO_2$			B			C		A					A	10%B						
Ferric Nitrate $Fe(NO_3)_3$	A	A	A	A		A		A		A	X	X	B	10%A	A	A	A	X	A	A140°
Ferric Sulfate $Fe_2(SO_4)_3$		A	A	A		A	A	A	A	A	C	X	B	30%A	A	B	A	X	A	A140°
Ferrous Chloride $FeCl_2$		A	A	A	X	A		A		A	X	X	30%B	50%B	A	B	A	X	A	A
Ferrous Sulfate $FeSO_4$		A	A	A	A	A		A		A	10%A	C	B	30%A	A	B	A	C	A	A140°
Fish Oil			A			A		A		B										
Fluoboric Acid (Fluoroboric Acid) HBF_4		B	A	A	X	C		A		A	X	X	30%A		A		A	X	A	A140°
Fluorine (Liquid) F_2		C	X	C	X	B	X	A	C	X	A		A		X		A70°	X		A
Fluorobenzene FC_6H_5		X	X	X		A		A		C					X					
Fluorolube (Fluorocarbon Oils) FxCyHz		A	C	A		B		A		X	A	A	A	A	X					
Fluosilicic Acid (Sand Acid) H_2SiF_6	B	A	B	B	B	A		A		A	X	X	A212°	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	A120°	C	A	A140°
Formamide $HCONH_2$		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	A70°	X	A	X	A	A140°
Freon 11 (Trichlorofluoromethane) CCl_3F	X	C	C	X	A	B		A	A	X	B	A	A		B		A	X	A	
Freon 113 (Trichlorotrifluoroethane) (TF) Cl_3CCF_3	C	A	B	X	A	B		A	A	X	B		A				A			
Freon 114 (Dichlorotetrafluoroethane) $C_2Cl_2F_4$	A	A	A	C	A	A		A	A	X	B		A				A			
Freon 114B2 (Dibromotetrafluoroethane) $C_2Br_2F_4$		A	B	X		B		A	A	X										
Freon 115 (Chloropentafluoroethane) C_2ClF_5		A	A	A		B		A	A	X	A									
Freon 12 (Dichlorodifluoromethane) Cl_2CF_2	A	B	B	B	A	B		A	A	X	A	A	A				A			

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Freon 13 (Chlorotrifluoromethane) $ClCF_3$		A	A	A	C	A		A		X	A	A	A	A						
Freon 13B1 (Bromotrifluoromethane) $BrCF_3$	A	A	A	A		A		A	A											
Freon 14 (Tetrafluoromethane) CF_4		X	X	B				A	A											
Freon 21 (Dichlorofluoromethane) $FCHCl_2$		B	X	X		X		A	A	X	A						A			
Freon 22 (Chlorodifluoromethane) $HCClF_2$	X	B	X	C	X	X		A	A	X	A	A	A	A			A			
Fruit Juices Water, sucrose		A	A	A	B	A		A	A	A	0%A	X	A	A	A		A	X	A	$A^{140°}$
Fuel Oils (ASTM #1 thru #9) Hydrocarbons	C	C	A	X	B	A	A	A	A	C	A	A	A	A	C	C	A	A	A	A
Fumaric Acid (Boletic Acid) HOOCCH = CHCOOH		B	C			A		A		A										
Furan (Furfuran) C_4H_4O		X	X	X	X	C		A		C					C		X		A	
Furfural (Ant Oil) $C_5H_4O_2$	X	B	X	B		C	A	A	A	C	A	B	20%A	B	X	B	$B^{120°}$	A	A	B
Furfuryl Alcohol $C_5H_6O_2$	X		X	B	B	X		A			A	A	A	A			$B^{100°}$			
Fusel Oil (Grain Oil) $(CH_3)_2 \bullet CHCH_2CH_2OH$	C	A	A	A		A		A												
Gallic Acid $C_6H_2(OH)_3 \bullet COOH$	X	C	B	B	X	A		A		B	20%A	X	B	B	$A^{70°}$		$A^{70°}$	B	A	$A^{140°}$
Gasoline (Petrol) Hydrocarbons	B	C	A	X	A	A	A	A	A	C	A	A	A	A	C	A	A	A	A	C
Gasoline (Unleaded) C_4 to C_{12} • Hydrocarbons	X	X	X	X		A		A	A	C	A	A	A	A	C	A	A	A	A	B
Gelatin Water soluble Proteins	A	A	A	A	B	B	A	A	A	A	A	A	A		A	B	A	A		A
Ginger Oil $C_{17}H_{26}O_4$		A				A		A		C		X	A							
Glauber's Salt (Sodium Sulfate Decahydrate) $Na_2SO_4 \bullet 10H_2O$	A	A	A	B	B	A		A												
Gluconic Acid $C_6H_{12}O_7$			C			A		A			B	C	50%A		A					
Glucose (Corn Syrup) $C_6H_{12}O_6$	A	A	A	A	B	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	A	B	A	A	B		A		A
Glycerol (Glycerine) $C_3H_8O_3$	A	A	A	A	A	A	A	A	A	A	A	B	A	A	A	A	A	B	A	$A^{140°}$
Glycolic Acid $HOCH_2COOH$		A	A			A				A				A	A		A		A	$A^{140°}$

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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Glycols		A	A			A		A	A	A	B	B	B		A	A	A	A	A	A[140°]
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					A				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 $CH_3(CH_2)_5CHO$			A			A	X				A	A	A	A	A					
Heptane C_7H_{16}	B	C	A	X		A		A	A	C	A	A	A	A	C[140°]	A	A	A	A	A
Hexalin (Cyclohexanol) $C_6H_{11}OH$		A	B	C		A		A												
n-Hexane C_6H_{14}	B	B	A	X	A	A		A	A	A	A	A	A	A	C[140°]	C	A	A	A	B
n-Hexane 1 (Hexylene) $H_2CCH(CH_2)_3CH_3$	A	B	A	X		A		A		C										
Hexanal $CH_3(CH_2)_4CHO$	C	A	X	B		C		A			A	B	A	B						
Hexyl Alcohol (1-Hexanol) $C_6H_{13}OH$	X	B	B	C		A		A			A	A	A	A	A[70°]		A		A[70°]	
Hexylene Glycol (Brake Fluid) $C_6H_{12}(OH)_2$		A	A	C		A		A			A	A	A	A						
Honey		A						A		A	A	A	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_2NNH_2	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[140°]
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 (Formonitrile) HCN	C	C	B	A	X	A	A	A	A	B	[10%]A	X	A	B	A	X	A	A		A[122°]
Hydrofluoric Acid (Conc.) Cold HF *SEE NOTE BELOW	X	C		C	X	B	X	A	C	X	C	X	X	B	[40%]A	X	A	X	A	A[140°]
Hydrogen Fluoride — Anhydrous HF	C	C	X	C		A	X	A	C		X		X	A	A		A	X		

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***NOTE: Glass-filled Polypropylene pump sections are not compatible with Hydrofluoric Acid.**

Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Hydrogen Peroxide — 10% H_2O_2		C	C	B	X	A		A	A		A	B	A	A	A		A	X	X	A[122°]
Hydrogen Peroxide — 3% H_2O_2		B	B	B	X	A		A	A	A	A				A		A	X	X	A[122°]
Hydrogen Peroxide — 30% H_2O_2		X	C	B	X	A		A	A		A	X	B	A	A		A	X	X	A[122°]
Hydrogen Peroxide — 90% H_2O_2	C	B	X	C	X	A		A	A		A	X	A					X	X	A
Hydrogen Sulfide (Wet) H_2S		C	X	A	A	X	A	A	A	A	[90%]A	X	A[167°]	A[167°]	A	C	A	X	A	A
Hydroquinone $C_6H_4(OH)_2$		X	C			C		A		A	[90%]A	B	[10%]A	B			A			A[140°]
Hydroxyacetic Acid — 10% $HOCH_2COOH$		X	X					A		[70%]A	B		B							
Hypochlorous Acid HClO		X	X	B		A		A		A	X	X	X	A	A		A	X		A[140°]
Ink	A	A			A		A		A	C	X	A	A						A[140°]	
Iodine I_2		B	B	B	B	A		A		A	A	X	X	A	A		A[150°]	X		B
Iodoform CHI_3				A				A		B	A	A	A	A			A			
Isoamyl Acetate $CH_3CO_2CH_2CH_2CH \bullet (CH_3)_2$	X	X	X	B		X		A			A	A	A	A						
Isoamyl Alcohol $(CH_3)_2 \bullet CHCH_2CH_2OH$	C	A	A	A		A		A												
Isoamyl Butyrate $C_9H_{18}O_2$			X			X		A			A	A	A	A						
Isoamyl Chloride $(CH_3)_2 \bullet CHCH_2CH_2Cl$		X	X	X		A		A			X									
Isobutyl Acetate $CH_3CO_2CH_2 \bullet CH(CH_3)_2$		X	X	C		X		A			A	A	A	A						
Isobutyl Alcohol (Isobutanol) $(CH_3)_2CHCH_2OH$	X	A	B	A		A		A		NR	A	A	A	A	A	A	A	A	A	
Isobutyl Amine $(CH_3)_2 \bullet CHCH_2NH_2$			X			X		A												
Isobutyl Chloride $(CH_3)_2 \bullet CHCH_2Cl$			X			B		A			X	B	B	[90%]A						
Isobutyric Acid $(CH_3)_2 \bullet CHCOOH$		B	X	A				A			A									
Isododecane $(CH_3)_2 \bullet CH(CH_2)_8CH_3$	B	A	B	X		A		A			B	B	B	B						
Isooctane (Trimethylpentane) C_8H_{18}	B	B	A	X	A	A		A		C	A	A	A	A	A		A	A	A	
Isopentane $(CH_3)_2 \bullet CHCH_2CH_3$			A			A		A												
Isophorone $C_9H_{14}O$	C	X	X	C		X		A		B	A	A	A	A						
Isopropyl Acetate $CH_3COOCH \bullet (CH_3)_2$	A	X	X	B		X		A		B	A	A	A	A	B			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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Isopropyl Alcohol (Isopropanol) $CH_3CH(OH)CH_3$	X	B	B	B	A	A		A	A	A	A	A	A	A	A	A	A	X	A	
Isopropyl Amine $C_3H_7NH_2$			X			X		A				A	A							
Isopropyl Chloride $(CH_3)_2CHCl$	X	X	X	X		B		A		C	X	A	A	A	X					
Isopropyl Ether $(CH_3)_2CHOCH \bullet (CH_3)_2$	C	C	C	X		C		A		C	B		A		X		A70°	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	C140°
Lacquer Solvents	X	X	X	X	C	X	A	A	A	C	A	B	A	A	C	B	X	B		
Lacquers	X	X	X	X	X	X	A	A	A	C	A	B	A	A		B		A		
Lactic Acid $CH_3CHOH \bullet COOH$		B	B	A	X	A	A	A	A	A	A	X	70%A	60%A	A	C	A	X	A	A140°
Lactol (Aliphatic Naptha Solvent) $CH_3CHOH \bullet CO_2C_{10}H_7$		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		A140°
Latex Rubber emulsion		A	A					A			A		A		A	C		A		
Lauryl Alcohol (n-Dodecanol) $CH_3(CH_2)_{10} \bullet CH_{20}H$			A			B				A	A	A	A	A						A140°
Lavender Oil Ester mixture		X	B	X		B		A		B										
Lead Acetate (Sugar of Lead) $Pb(CH_3CO_2)_2$	X	A	B	A		X		A		A	X		B	B	A	A	A	B	A	A
Lead Chloride $PbCl_2$		B						A			X		B	B	A		A			
Lead Nitrate $Pb(NO_3)_2$		A	B	A		A		A			X	B	B	B	A		A			A125°
Lead Sulfamate			A	B			A		A		A					A			B	
Lemon Oil (Cedro Oil) Hydrocarbons			C				A		A		C	A		A						
Lignin Liquor (Blend of natural aromatic oils)		A	A			A		A					A							
Ligroin (Ligroine) (Benzine) Petroleum fraction		B	A	X		A		A		B		A	A		X					
Lime Bleach		C	A	A		A		A		A	X				B					
Lime Slurries		A	B		C	B		A			B		B							
Lime Sulfur $CaS+CaSO_4$		A	A	A		A		A		B	X		A		A			B		A
Lime, Soda (Slaked Lime & Soda Ash) CaO	C	B	B	A		B		A		A										
Limonene $C_{10}H_{16}$		X	C	X		A		A												

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	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Lindol (Tritolyl Phosphate) $C_{21}H_{21}O_4P$		C	X			B		A		A										
Linoleic Acid $C_{18}H_{32}O_2$		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
Lithium Bromide $LiBrH_2O$		X	A			A		A	A			A					A			
Lubricating Oils (Petroleum) Hydrocarbons	C	B[150°]	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[150°]	C	A	A[140°]
Magnesium Carbonate $MgCO_3$		A	A	C	A	A		A		A	A	B	B	B	A	A	A	A		A[140°]
Magnesium Chloride $MgCl_2O$	A	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) $Mg(OH)_2$	A	B	B	A	C	A	A	A	A	A	[10%]A	A	A	A	A	A	A	B	A	A
Magnesium Nitrate $Mg(NO_3)_2 \bullet 6H_2O$		A	A	A		A		A		A	[50%]B	B	A	B	A		A	A	A	A[140°]
Magnesium Oxide MgO		A	A			B		A		A	[10%]A	A	A	A						
Magnesium Sulfate (Epsom Salts) $MgSO_4 \bullet 7H_2O$		A	A	A	B	A	A	A		A	[70%]A	A	[50%]A	A	A	A	A	A	A	A
Maleic Acid $(CHCOOH)_2$		A	X	X		A		A		A	[20%]A	[60%]B	B	A	A		A	X		A[140°]
Maleic Anhydride $C_4H_2O_3$				X		A		A		A	[20%]A	B	A	A						
Malic Acid (Apple Acid) $C_4H_6O_5$		C	B	X		A		A		A	B		A	B[212°]						
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					A
Mercuric Chloride $HgCl_2$		B	A	A		A	A	A	A	A	X	X	X	[30%]B	A	B	A	X		A[140°]
Mercuric Cyanide $Hg(CN)_2$		B	B	A		A		A		A	X	B	B	B	A		A			A[140°]
Mercurous Nitrate $Hg_2(NO_3)_2 \bullet 2H_2O$		B	B	A		A		A			X	B	B[212°]	B	A		A			A[140°]
Mercury Hg	A	A	A	A	A	A	A	A	A	A	X	A	A	A	A	C	A	A		
Mesityl Oxide $(CH3)_2C = CHCOCH_3$		X	X	B		X		A		C	A	A	A	A						
Methane CH_4	C	B	A	X	B	A		A	A	C	A	A	A	A	B	A	A	A		
Methyl Acetate $CH_3CO_2CH_3$		C	X	C	C	X		A		B	A	A	A	A	C	B		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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Methyl Acetoacetate $CH_3COCH_2 \bullet COOCH_3$			X			X		A				A	A	A						
Methyl Acrylate $CH_2CHCO_2CH_3$		C		C		X		A		B		A	A				$A^{70°}$			
Methyl Acrylic Acid (Crotonic Acid) $CH_3(CH)_2COOH$		C		C		X		A	A											
Methyl Alcohol (Methanol) CH_3OH	X	A	A	A	A	X	A	A	A	A	A	A	A	A	$A^{70°}$	A	A	B	A	A
Methyl Amine (Monomethylamine) CH_3NH_2		A	B	A		$^{90\%}$A		A			B	B	A	B	X		C			
Methyl Amyl Acetate $C_8H_{16}O_2$			A			X		A			A	A	A	A						
Methyl Amyl Alcohol $C_6H_{13}OH$			A			X		A			A	A	A	A						
Methyl Aniline $C_6H_5NH(CH_3)$		A	A	A				A												
Methyl Bromide (Bromo Methane) CH_3Br		X	C	A	X	A		A		X	X	A	A	B	X		A	X		C
Methyl Butyl Ketone (2-hexanone) $CH_3COC_4H_9$		X	X	B		X		A		C			A		X					
Methyl Butyrate $CH_3(CH_2)_2 \bullet CO_2CH_3$		X	X	X				A			A	A	A	A						
Methyl Cellosolve® $CH_3OCH_2 \bullet CH_2OH$		X	X			X		A		B	A				A		A	A		
Methyl Chloride CH_3Cl	X	X	X	C	X	B	A	A	A	X	X	A	A	A	X	B	A	B	A	C
Methyl Cyclopentane C_6H_{12}		X	B	X		A		A		C			A							
Methyl Dichloride CH_2Cl_2		X	X			A				X	X				X					
Methyl Ethyl Ketone (Butanone) $CH_3CO \bullet CH_2CH_3$	X	X	X	A	C	X		A	A	B	A	A	A	A	X	B	X	A	A	X
Methyl Formate $HCOOCH_3$		B	X	C		X		A		B	A	A	A							
Methyl Hexane C_7H_{16}		A	A	X		A		A												
Methyl Iodide CH_3I		X	X	A				A			X	A	A	A						
Methyl Isobutyl Ketone (Hexone) $CH_3COCH_2CH \bullet (CH_3)_2$		X	X	C	X	X		A	A	C	A	B	B	A	$C^{70°}$	A	$A^{70°}$	X	A	
Methyl Isopropyl Ketone $CH_3COCH(CH_3)_2$		X	X	C	X	X		A		C			A		C		$A^{70°}$			
Methyl Methacrylate $CH_2C(CH_3) \bullet CO_2CH_3$		X	X	X		C		A	A	B	B		A				$A^{70°}$			

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	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Methyl Oleate $C_{19}H_{36}O_2$		X	X	C		B		A		C										
Methyl Propyl Ketone $CH_3CH_2 \bullet CH_2COCH_3$		X	X	B		X		A												
Methyl Salicylate (Betula Oil) $HOC_6H_4 \bullet COOCH_3$		X	X	C		B		A		B	A	A								
Methylacrylic Acid $CH_3CHCHCO_2H$		B				B		A	A	A										
Methylamine CH_3NH_2		A	B	A		90%A		A		A	B	B	A	B	A					
Methylene Bromide CH_2Br_2		X	X			B		A			X	A	A	A			A			
Methylene Chloride CH_2Cl_2	X	X	X	X	X	B		A	A	X	X	B	90%A	A	X		B100°	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) $H_2SO_4 \bullet HNO_3$	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_6H_5Cl		X	X		C	A		A		C	X	A	A		X	A	A100°	B	A	B
N-Methyl Aniline $C_6H_5NHCH_3$		X	X			C		A							C					
Monoethanolamine $NH_2C_2H_4OH$		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
Naphtha Coal Tar (Benzol) Hydrocarbons	X	X	X	X		A		A	A		A	B	A	A						
Naphthalene (Tar Camphor) $C_{10}H_8$	C	X	X	X	C	A		A	A	C	B	A	A	A	A	A	A	A	A	B
Naphthoic Acid $C_{11}H_8O_2$			B	X		A		A			B	B	A	B						
Neatsfoot Oil			A	C		A		A		B			A							
Neohexane (2,2-dimethylbutane) C_6H_{14}			A			A		A												
Neosol	X	A	A	B		C		A			B	B	A	A						
Neville Acid		C	C	C		B		A		A										
Nickel Acetate $Ni(CH_3CO_2)_2$		B	B	A		X		A		A	10%B		A		A		A			
Nickel Chloride $NiCl_2$	A	A	A	A	X	A	A	A	A	A	X	X	B	80%A200°	A	B	A	B	A	A
Nickel Nitrate $Ni(NO_3)_2 \bullet 6H_2O$		A	A	A		A		A			X		A	B	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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Nickel Sulfate $NiSO_4$	A	A	A	A		A	A	A	A	A	X	X	40%A	B	A	A	A	B	A	A
Nitrana (Ammonia Fertilizer)		B	B			C		A					A							
Nitric Acid — 10% HNO_3	C	B	X	B	C	A		A	A	A	A	X	A	A	A		A	X	X	A140°
Nitric Acid — 25% HNO_3	C	C	X	B	X	A		A	A	20%B	X	X	30%A	30%A	A		A	X	X	A140°
Nitric Acid — 35% HNO_3	C	X	X	C	X	A	A	A	A		X	X	50%A	50%A	B		A	X	X	C140°
Nitric Acid — 70% HNO_3	X	X	X	X	X	A		A	A			X	A	X			A	X	X	X
Nitric Acid (Conc.) HNO_3	X	X	X	X	X	B		A	A	C	A	X	A	40%A	X		A120°	X	X	
Nitric Acid (Red Fuming)	X	X	X	X	X	B	X	A	A	X	A	X	A	B	X		C			X
Nitric Acid —50% HNO_3	C	X	X	X	X	A		A	A	C	X	X	A	X	C		A	X	X	X
Nitrobenzene $C_6H_5NO_2$	X	X	X	X	X	B	A	A	A	B	A	A	A	55%B212°	B	B	A70°	B	A	X
Nitroethane $C_2H_5NO_2$		C	X	C		X		A		A	A	A	A	A	C		A70°			
Nitrogen Tetroxide N_2O_4		X	X	X	50%B	C		A	A		A	B	A	A	X		C			
Nitromethane CH_3NO_2		C	X	C	X	X		A	A	A	A	A	A	A	C	A120°	B	A		
1-Nitropropane $CH_3(CH_2)_2NO_2$		C	X	A		X		A	A		A	A	A	A						
Octachlorotoluene C_7Cl_8		X	X			A		A			X				X					
Octadecane $CH_3(CH_2)_{16}CH_3$	A	B	A	X		A		A		B										
n-Octane C_8H_{18}			A	X		A		A		B					X		A	A		
Octyl (Caprylic Alcohol) $C_8H_{17}OH$		A	B			A		A		B	A		A	A	A		B			
Octyl Acetate $CH_3COO \bullet (CH_2)_7CH_3$			X			X		A			A		A							
o-Dichlorobenzene $C_6H_4Cl_2$	X	X	X	X	X	A		A		X	X	B	B	A	B		A150°		X	
o-Dichlorobenzene $C_6H_4Cl_2$		X	X			A		A		X	X	A	A		X					
Oleic Acid (Red Oil) $C_{18}H_{34}O_2$	X	X	C	C	A	B	A	A	A		A	C	B	A	B	B	A	B	A	A
Olein (Triolene) $C_{57}H_{104}O_6$		C	B					A												
Oleum (Fuming Sulfuric Acid) $H_2SO_4 \bullet SO_3$		X	C		X	A		A		X	X	X	A		X		X			X
Olive Oil	A	C	A	C		A		A		B	A	A	A	A	A	A	A	A		A140°

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Oxalic Acid (Mixed glycerides of acids) $(COOH)_2$		B	C	A	X	C	A	A	A	A	B	X	90%B	B	A	X	A120°	B	A	A140°
Ozone O_3	A	B	X	A	C	A	A	A	A	A	10%A	0%A	A	A	X	C	A	X		B
Paint Thinner, DUCO Hydrocarbons	X	C	A	X		B		A		C	X		A	A	X					
Paints & Solvents		X	X					A			X		A	A						
Palm Oil Mixture of terpenes		C	A			A		A		B		A	A	A						A140°
Palmitic Acid $CH_3(CH_2)_{14}$ COOH	A	C	B	B	A	B	A	A	A	B	B	B	A		A		A	C		
Paraffins (Paraffin Oil) Hydrocarbons			A					A	A	A	A		A	A	A	A		A		A
Paraformaldehyde $(CH_{20})N$		B	B			C		A			10%A	A	A	A						
Paraldehyde $C_6H_{12}O_3$		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	A70°		A			
Pentachloroethane (Pentalin) $Cl_2 \bullet CHCCl_3$		X	X			A		A			X	A	A	A						
Pentachlorophenol (PCP) C_6Cl_5OH		X	X	X		A		A	A		A	A	A	A						
Pentane (Amyl Hydride) C_5H_{12}		B	A	X	B	A		A	A	A	A	B	B					A		
Peppermint Oil		X	X			A		A		C			A							C
Perchloric Acid $HClO_4$		B	X	B	X	A	A	70%A	A	C	X	X	B			C	A	X	A	A140°
Perchloroethylene (Tetrachloroethylene) C_2Cl_4	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) $C_6H_5(CH_2)_2OH$	X	X	X	B		X		A			A	A	A	A						
Phenol (Carbolic Acid) C_6H_5OH	X	C	X	C	X	A		A	A	A	B	A	B	A	C	X	A100°	X	A	C
Phenyl Acetate $CH_3COOC_6H_5$	X	X	X	B		X		A												
Phenyl Ethyl Ether (Phenetole) $C_6H_5OC_2H_5$		X	X	X		C		A		C										
Phenyl Hydrazine $C_6H_5NHNH_2$		X	X	X		A		A		B	A	X			X		A120°			
Phenyl Sulfonic Acid $C_6H_4(OH)SO_3H$			X			X		A			B	B	B							
Phenylbenzene C_6H_5		X	X			A		A		C										

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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Phorone (Diisopropylidene Acetone) $C_9H_{14}O$		X	X	C		A		A		B										
Phosphoric Acid — 10% H_3PO_4	A	B	A	A		A		A	B	A	X	X	A		A120°		A	X	A	A140°
Phosphoric Acid — 20% H_3PO_4	A	B	C	A		A		A	B	A	X	X	A212°	A	A120°		A	X	A	A140°
Phosphoric Acid — 50% H_3PO_4	A	B	X	B		A	X	A	B	45%B	X	X	A	C	A120°		A	X	A	A140°
Phosphoric Acid (Conc.) H_3PO_4	C	B	X	B	X	A		A	C		X	X	A212°		A120°		A	X	A	A140°
Phosphorus Oxychloride $POCl_3$		X						A			B	B	B	B						
Phosphorus Trichloride PCl_3		X	X	A		A		A		B	C	B	A	A	X		A		A	A140°
Photographic Developer		A	A		X	A				A	C	X	A	A	A	C	A	B	A	A140°
Pickling Solution	C	X		X		B		A		A				A						A
Picric Acid (Carbazotic Acid) $(NO_2)_3 \bullet C_6H_2OH$	B	B	B	B	X	A		A	A	B	A	C	A	B	B		A	X		A140°
Pine Oil (Yarmor) Cyclic terpene alcohols		X	B	X		A		A		C	A	B	A							C
Pinene $C_{10}H_{16}$	C	X	B	X		A		A	A	C										
Piperidine $C_5H_{11}N$		X	X	X		X		A	A	B										
Plating Solution — Cadmium			B	B					A		A			A		X		B	A	
Plating Solution — Chrome	X	X	X	C		A		A		A					A131°	X		B	X	A140°
Plating Solution — Lead		B	B					A		A						A		B	X	C140°
Plating Solution — Others		C	A	A		B		A		A			A							A140°
Polyvinyl Acetate Emulsion PVAc + H_2O		C		A				A		A		B					A			
Potassium Acetate CH_3CO_2K		B	B	A		X		A	A	A	10%B	A	B	B	A		A			
Potassium Bicarbonate $KHCO_3$		A	A			A		A		A	B	50%B	30%A	50%B	A		A	A	A	A
Potassium Bisulfate $KHSO_4$		A	A			A		A			10%A	X	10%A		A		A			A
Potassium Bisulfite $KHSO_3$		A	A			A		A			10%B		10%B	90%B						
Potassium Bromide KBr		A	A	A		A		A		A	A	80%B212°	90%B212°	70%A167°	A		A	A	A	
Potassium Carbonate (Potash) K_2CO_3	C	A	A	A		A		A	A	A	X	B	B	90%A	A	B	A	C	A	A
Potassium Chlorate $KClO_3$		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%A167°	A	B	A	B	A	A
Potassium Chromate K_2CrO_4		A	A			50%A	A	A	A	A	A	A	A		A		A	A		A140°

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Potassium Copper Cyanide $K_3[Cu(CN)_4]$	A	A	A	A		A		A							A		A			
Potassium Cyanide KCN	A	A	A	A		A	A	A	A	A	C	B	90%B212°	30%B	A	C	A	A	A	A140°
Potassium Dichromate $K_2Cr_2O_7$	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	A150°	B	A	A140°
Potassium Iodide KI		A	A	A		A		A			10%B		B	B	A		A			B
Potassium Nitrate (Saltpeter) KNO_3	A	A	A	A		A		A	A	A	80%A	B	80%B212°	80%B212°	A	B	A	B	A	A
Potassium Nitrite KNO_2	A	A	A	A	B	A		A			B	B	B	B						
Potassium Permanganate (Purple Salt) $KMnO_4$		C	C	A	X	B		A	A	A	10%A	B	30%B212°	A	B	A	A	X	A	A140°
Potassium Phosphate KH_2PO_4		A	A	A		A		A			X	X	30%B	10%B						
Potassium Silicate $K_2Si_2O_5$		A	A	A		A		A			B	B	B	B						
Potassium Sulfate K_2SO_4	A	A	A	A	B	A	A	A	A	A	B	B	A	A	A	B	A	B	A	A
Potassium Sulfide K_2S	A	A	A	A		A		A			X	B	B	10%B	A		A	A	A	A140°
Potassium Sulfite $K_2SO_{32}H_2O$		A	A	A		A		A			A	X	50%B		A		A			A140°
Propane (LPG) C_3H_8	B	B	A	X	B	A	A	A	A	C	A	A	A	A	X	A	A	C		A
Propionaldehyde (Propanal) C_2H_5CHO			X			X		A			A	A	A	A						
Propionic Acid (Methylacetic Acid) $CH_3CH_2CO_2H$		X	X	A		X		A			A	X	B	90%A						
n-Propyl Acetate $CH_3COO \bullet (CH_2)_2CH_3$		X	X	A		X		A		B	A		A	A	C		A			
Propyl Alcohol (1-Propanol) C_3H_7OH	X	A	A	A		A		A		A	A	A	A	A	A	A	A	X	A	A170°
n-Propyl Nitrate (NPN) $CH_3(CH_2)_2NO_3$			A	B		C	A	A		B	A	X								
Propylene C_3H_6		X	X	X		A		A	A	B	A	A	A	A						
Propylene Dichloride $CH_3CH(Cl)CH_2Cl$		X	X	X		B		A			X	A	A	B						X
Propylene Glycol (Methyl Glycol) $C_3H_6(OH)_2$		C	A	A		A		A		A	A	A	A	A	A	A	A	B	A	A140°
Propylene Oxide C_3H_6O		X		C		X		A		A	B	B	A		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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Pydraul (Phosphate Eser Base Fluid)	X	X	X	B	A	A		A		A		A	A	A				C		
Pyranol		X	A			A		A												
Pyridine $N(CH)_4CH$	X	X	X	C	X	X		A		A	A	B	A	50%A100°	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_4H_5N		X	X	X		C		A		C										
Quaternary Ammonium Salts NH_4 (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 $C_{20}H_{30}O_2$		C	A					A		A	A		A	A	A	B		A		A
Rosin Oil (Rosinol)		A	A			A		A												
Rotenone $C_{23}H_{22}O_6$		A	A	A		A		A												
Rubber Latex Emulsions $(C_5H_8)N/H_2O$						A		A			A		A	A						
Rubber Solvents (Petroleum Distillate) Hydrocarbons		C	X			X		A			A		A	A						
Rum Alcoholic liquor from molasses																				
Rust Inhibitors		C	A			A				B			A		A					
Sal Ammoniac (Ammonium Chloride) NH_4Cl	A	A	A	A	A	A	A	A		A	X	X	B	A	A	X	A	B	A	
Sal Soda (Sodium Carbonate) $NaCO_3$		A	A	A		A		A			X	A	A	A						
Salad Dressing Fats, oils, water			A			A				A	B	X	A		A					
Salicylic Acid $HOC_6 \bullet H_4COOH$		B	B	A		B		A			A	X	B	A	A		A	A		A140°
Salt Water (Brine) $NaCl \bullet H_2O$	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	C	A	A	A	A	A	A	A	A140°
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 $Si(OR)_4$	A	A	B	X	C	A		A		B										
Silicone Oils (Versilube Etc.) $[(CH_3)_2SiO_2]_N$	A	C	A	A	A	A		A		C	B	B	A	A	A		A	A	A	A
Silver Cyanide AgCN		A						A			X	A	A	A	A		A			A140°

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	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Silver Nitrate $AgNO_3$	A	A	B	A		A		A	A	A	X	X	60%A	60%A	A	A	A	A	A	A
Skydrol® Hydraulic Fluid		X	X	A	A	C		A		B			A	A				C		
Soap Solutions (Phosphate Ester Base) Salt of fatty acid in H_2O	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_2CO_3		A	A	A	B	A	A	A	A	A	X	A	A	A						
Sodium Acetate CH_3COONa	X	C	C	A		X		A		A	A	A	A	A	A	A	A	B	A	A
Sodium Aluminate $Na_2Al_2O_4$		A	A			A		A		A		50%A	50%A	10%B	A		A	A		
Sodium Bicarbonate (Baking Soda) $NaHCO_3$		A	A	A	B	A	A	A	A	A	B	C	20%A	20%A	A	X	A	B	A	A
Sodium Bisulfite (Cream of Tartar) $NaHSO_3$		A	C	A	B	A		A		A	B	20%B	50%A	B	A	X	A	X		A
Sodium Bisulfite (Niter Cake) $NaHSO_4$		A	A	A	B	A	A	A		A	50%B	C	50%B	B	A	C	A	B	A	A
Sodium Borate $Na_2B_4O_7$		A	A	A	B	A		A		A	B		A	A	A140°	C	A	A	A	A
Sodium Bromide NaBr								A			C	C	30%B	50%B	A		A	A		A140°
Sodium Chlorate $NaClO_3$		B	A	A		A		A	A	A	70%B212°	B	B	70%B212°	A	B	A	B	A	A140°
Sodium Chloride (Table Salt) NaCl	A	A	A	A	A	A	A	A	A	A	B	30%B	A	A	A	A	A	A	A	A140°
Sodium Chromate Na_2CrO_4		A	A		A	A		A	A	80%A212°	60%A	60%A	60%A	A		A	A			
Sodium Cyanide NaCN		A	A	A	A	A	A	A	A	A	X	A	A		A	C	A	B	A	A
Sodium Dichromate (Sodium Bichromate) $Na_2Cr_2O_7 \bullet 2H_2O$	A	B		A	20%X	A		A							A		A	X	A	A140°
Sodium Fluoride NaF		A	A	A		A		A			30%B		10%B	10%B	A		A	A		A140°
Sodium Hexametaphosphate (Calgon) $(NaPO_3)_6$	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%B212°	A	X	A	C	X	A140°
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	A140°
Sodium Metaphosphate (Kurrol's Salt) $Na(PO_3)H$	B	C	B	A		A		A	A	A	X		B	A	X	B		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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Sodium Metasilicate Na_2SiO_3		A	A			A				A	B		A	A	A	B	A			
Sodium Nitrate (Chile Saltpeter) $NaNO_3$		B	C	A	B	A	A	A	A	A	90%A	90%A	90%A	30%A	A	A	A	B	A	A
Sodium Nitrite $NaNO_2$		X	A			A		A			A	A	A	A	A		A			A140°
Sodium Perborate $NaBO_3$		B	C	A	B	A	A	A	A	A	X	10%B	A	10%B	A	B	A	B		A
Sodium Peroxide (Sodium Dioxide) Na_2O_2	X	B	B	B	B	A	A	A	A	B	10%B	90%A	10%B	10%B	B	X	A	X		A140°
Sodium Phosphate (Tribasic) (TSP) Na_3PO_4	A	B	B	A	B	A	A	A	B	A	X	B167°	B	A	A		A	B		A
Sodium Silicates (Water Glass) $Na_2O \bullet SiO_2$		A	A	A	A	A		A	B	A	A	A	A	B	A		A	A	A	A
Sodium Sulfate (Salt Cake) (Thenardite) Na_2SO_4	A	B	A	A	A	A	A	A	A	A	30%B	B	A	A	A		A	B	A	
Sodium Sulfide (Pentahydrate) $Na_2S \bullet 5H_2O$	A	A	A	A	A	A	A	A	A	A	30%A212°	B	30%A167°	50%B212°	A	A	A	B	A	
Sodium Sulfite Na_2SO_3	A	A	A	A	A	A		A			30%A	X	30%A	30%B212°	A	A	A	B	A	
Sodium Tetraborate $Na_2B_4O_7 \bullet 10H_2O$				A		B	A		A		A			A		C		A	B	A
Sodium Thiosulfate (Antichlor) $Na_2S_2O_3$	A	A	A	A		A	A	A	A		A	C	A122°	B122°	A	B	A	B	A	
Sorgum			A	A					A		A		A	A	A					
Soy Sauce Fermented soya bean/wheat			A	A					A		A		X	A						
Soybean Oil Triglycerides of acids		C	A	A	C	A	A	A	A	A	B	A	A	A	A	B	B		A	A
Sperm Oil (Whale Oil) Fatty acid esters		X	A			A		A		B		A	A	A						
Stannic Chloride (Tin Chloride) $SnCl_4$	B	B	A	B	B	A	A	A	A	A	X	C	10%A	B	A		A	B	A	
Stannous Chloride (Tin Chloride) $SnCl_2$	B	A	A	B	15%B	A		A			X	B	10%A	A	A		A	B	A	
Starch *SEE NOTE BELOW $C_6H_{10}O_5$		A	A	B	B	C		A	A	A	A	C	A	A	A	B		A	A	
Stearic Acid $CH_3(CH_2)_{16}\ CO_2H$	A	B158°	B	B	B	A	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) $C_6H_5CHCH_2$	C	X	X	X	X	A		A	A	C	A	A	A	A			A	A		
Sucrose Solution (Sugar) $C_{12}H_{22}O_{11} \bullet H_2O$	X	A	A	A	A	A		A		A	A	A	A	A						

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***NOTE: When using a unit in a starch application, please reference TECH BULLETIN 80.**

Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Sulfamic Acid H_2NSO_3H		A	B		A			A			10%A	X	X		X		X			
Sulfate Dodecahydrate $KAl(SO_4)_2 \cdot 12H_2O$		A	A	A		X		A	A	A			B	B	A		A	C		A140°
Sulfite Liquors			B	A	C	B	A		A		A				A					
Sulfur S		B	B	X	A	A	A	A	A		A	A	A	A	B	A	A	A	A	A
Sulfur Chloride S_2Cl_2		X	C	X	C	A	A	A	A	X	B	X	B	A	X		A	C		
Sulfur Dioxide SO_2	B	A	X	B	X	A	A	A	A	A	A	B	10%A	80%A	A	B	A	C	A	
Sulfur Hexafluoride SF_6		A	B	A	A	A	A	A		B										
Sulfur Trioxide SO_3	B	C	C	C	X	A	A	A	A	C	B	B	B	B	X		X	A		
Sulfuric Acid (Conc.) H_2SO_4	X	X	X	C		A		A	B	98%B	X	B	B	A	X		A120°	X		
Sulfuric Acid (Fuming) H_2SO_4	X	X	X	X	X	B	A	A			C	X	B	B						
Sulfuric Acid 10% H_2SO_4	B	A	B	A	A	A	A	A	A	A	X	X	A	A	A		A	X	X	
Sulfuric Acid 25% H_2SO_4	X	B	C	B	A	A	A	A	A	A	X	X	B	A	A		A150°	X	X	
Sulfuric Acid 50% H_2SO_4	X	B	C	B	A	A	A	A	A	A	X	X	X	A	A		A150°	X	X	
Sulfuric Acid 60% H_2SO_4	X	C	X	B	X	A	A	A	A	A	X	X	X	A	A		A150°	X	X	
Sulfuric Acid 75% H_2SO_4	X	X	X	C	X	A	A	A	A	A	X	C	C	A	A		A150°	X	X	
Sulfuric Acid 95% H_2SO_4	X	X	X	C	X	A	A	A	B	A	X	B	A	A	X		A120°	X	X	
Sulfurous Acid H_2SO_3	X	X	B	C	C	A	A	A	A	A	B	X	B	B	A	X	A	X	A	A140°
Tall Oil (Liquid Rosin) Rosin acids		B	A	X		A		A		A	X	B212°	B	A	A		A			
Tallow Fat from cattle, sheep			A			A		A		B	A		A		B	C		A		A
Tannic Acid $C_{76}H_{52}O_{46}$	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				A140°
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 $C_4H_6O_6$	A	A	B	B	B	A	A	A	A	A	20%A	X	A	90%A	A	X	A	A	A	
Terpenes C_{10} hydrocarbons	C	X	C	X		A		A			A	X								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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Terpineol (Terpilenol) $C_{10}H_{18}O$	X	X	C	C		A		A		B	A	A	A	A	X		B[120°]			
Tertiary Butyl Alcohol $(CH_3)_3COH$		A	A			B		A		B					B					
Tertiary Butyl Catechol $C_9H_{14}O_2$		B	X			A		A		B	C	B	B							
Tertiary Butyl Mercaptan $C_4H_{10}S$		X	X			A		A		B										
Tetra Bromomethane CBr_4		X	X			A		A	A	X	X				X					
Tetrabutyl Titanate $Ti(C_4H_9)$		A	B	B		A		A		B										
Tetrachlorodifluoroethane $(Cl_2FC)_2$		X	X					A												
Tetrachloroethane (Acetylene Tetrachloride) $(Cl_2HC)_2$		X	X	X		A		A		X	X	A	C	90%A[212°]	X	A	A	C		
Tetrachloroethylene $Cl_2C = CCl_2$									A	X							A			B
Tetraethyl Lead $Pb(C_2H_5)_4$		X	B	X		B		A		C	B	A	A		A		A			A[140°]
Tetraethylene Glycol (TEG) $HOCH_2 \bullet (CH_2OCH_2)_3CH_2OH$																				
Tetrahydrofuran (THF) C_4H_8O	C	X	X	C	C	X		A	A	B					C[100°]	A	B70°	A	A	B
Tetrahydronaphthalene (Tetralin) $C_{10}H_{12}$		X	X	X		A		A			A	A	A	A	C			A	A	X
Thionyl Chloride $SOCl_2$		X	X	X		B		A	A	B	C	A	A	10%A	B	B	X	X		C
Thiophene C_4H_4S		X	X	X		C		A												
Titanium Tetrachloride $TiCl_4$		X	C	X		A		A	A	X	X	A	B	B	B		B	A		
Toluene (Toluol) C_7H_8	X	X	C	X	C	B	A	A	A	C	A	A	A	A	X	B	A	A	A	X
Toluene Diisocyanate $CH_3C_6H_3(NCO)_2$		X		A	B			A		B										
Toluidine $CH_3C_6 \bullet H_4NH_2$			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 $C_3H_5 \bullet (OCOCH_3)_3$	X	B	A	A		X		A		A	B									
Triallyl Phosphate $P(OC_3H_5)_3$	C	C	X	A		A		A							B		A	A		

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Chemical Formula	ELASTOMERS										METAL PARTS				PLASTICS					
	RUPPLON™ (Polyurethane)	NEOPRENE	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Triaryl Phosphate $(C_6H_5O)_3PO$		C	X			A		A												
Tributyl Phosphate (TBP) $(C_4H_9)_3PO_4$	X	X	X	C	C	X		A		B	A	A	A		$B^{100°}$		$A^{100°}$	B		
Tributyoxyl Ethyl Phosphate $(C_4H_9O)_3P(C_2H_5)$	X	X	X	A		B		A		B										
Trichloroacetic Acid (TCA) CCl_3COOH		B	C	C	X	B		A	A	B	X	X	X	B	B		B	X	A	$C^{140°}$
Trichlorobenzenes $C_6H_3Cl_3$		X	X			B		A			X	A	A	B						
Trichloroethane $C_2H_3Cl_3$	X	X	X	X		B		A		X	X	A	A	A	X		A	X	A	
Trichloroethylene (Ex-Tri) (Hi-Tri ®) C_2HCl_3	X	X	X	X	X	C	A	A	A	X	X	B	$^{90\%}A^{167°}$	A	X	B	A	C	A	X
Trichloropropane $CH_2ClCH\ ClCH_2Cl$		A	X			B		A		X	X	A	A	A	X					
Tricresyl Alcohol (Tridecanol) $C_{12}H_{25} \bullet CH_2OH$			A			B		A												
Tricresyl Phosphate (Lindol) (TCP) $(CH_3C_6H_4O)_3 \bullet PO$	X	C	X	A	C	C		A	A	B		A	B	A	B		X	A		
Triethanol Amine (TEA) $N(C_2H_4OH)_3$	X	A	X	B	X	C		A	A	A	A	A	A	A	A	B	X	A	A	A
Triethyl Aluminum (ATE) $Al(C_2H_5)_3$		X	X			B		A	A	B										
Triethyl Amine $(CH_3CH_2)_3N$		B	A					A				A	A	A	C		$A^{120°}$			
Triethyl Borane $(C_2H_5)_3B$		X	X			A		A		B										
Triethylene Glycol (TEG) $(CH_2OCH_2CH_2OH)_2$			A			A		A							A			A		
Trimethylene Glycol $HO(CH_2)_3OH$			A	A		A		A			A	A	A	A						
Trinitrotoluene (TNT) $CH_3C_6H_2(NO_2)_3$		B	X	X		C		A		A										
Trioctyl Phosphate $(C_8H_{17}O)_3PO$		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 $C_{10}H_{16}$	X	X	A	X	B	A	A	A	A	C	A	A	A	A	X	A	A	B	A	C
Unsymmetrical Dimethyl (Hydrazine) (UDMN) $H_2NN(CH_3)_2$		C	C	A		X		A		B							A			
Urea (Carbamide) $CO(NH_2)_2$		B	B		B	A		A			B		$^{50\%}B$		A	A	A	A	A	A
Urine		X	A			A		A		A	A	A	A	A	A	C	A	A		$A^{140°}$
Valeric Acid $CH_3(CH_2)_3COOH$		X	X	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	NITRILE	E.P.D.M.	HYTREL®	(FKM) FLUOROCARBON	BLUE GYLON®	PTFE, PFA	ENVELON®	SANTOPRENE®	ALUMINUM	CAST IRON/STEEL	STAINLESS STEEL	Alloy C (Hastelloy Equiv.)	POLYPROPYLENE	ACETAL	PVDF	NYLON	RYTON®	UHMW POLYETHYLENE
Vanilla Extract (Vanillin) $C_6H_3(CHO) \bullet (OCH_3)(OH)$		X	A			X		A					A							$A^{140°}$
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
Vinegar Dilute acetic acid	X	B	C	A	C	A	A	A	A	A	C	X	A	A	A	C	A	X	A	$A^{140°}$
Vinyl Acetate CH_3COOC, HCH_2		B	X			X		A			B	A	A	A	B		A			X
Vinyl Chloride (Chloroethylene) CH_2CHCl		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_2O	A	C	A	A		$A^{72°}$	A	A	A	A	A	C	A	A	A	A	A	A	A	$A^{140°}$
Water, Fresh H_2O	A	B	A	A	$A^{72°}$	$A^{72°}$	A	A	A	A	A	A	A	A	A	A	A	B	A	$A^{140°}$
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	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	A	C	X	A	A	A	B	A	A		$A^{140°}$
Wort, Distillery Sugar solution from malt		A				A		A			A	B	A	A						
Xylene (Xylol) $C_6H_4(CH_3)_2$	X	X	X	X	C	A		A	A	C	A	B	B	A	X	A	A	A	A	X
Xylidines (Xylidin) $(CH_3)_2C_6H_3NH_2$		X		X		X		A		C	B	B								
Zeolite Hydrated alkali aluminum silicates		C	C	A		A		A		A			A	A						
Zinc Acetate $Zn(C_2H_3O_2)_2$		B	C	A		X		A		A	C				A		A			
Zinc Carbonate $ZnCO_3$			A			A		A			B	B	B	B						
Zinc Chloride $ZnCl_2$	A	B	B	A	A	A	A	A	A	A	$^{10\%}A$	B	$^{10\%}A$	A	A	B	A	C	A	$A^{140°}$
Zinc Hydrosulfite $ZnHSO_3$		A	A			A		A		A	X		A							
Zinc Sulfate $ZnSO_4$		A	A	A	X	B	A	A	A	A	$^{20\%}B$	X	B	$^{90\%}B$	A	B	A	B	A	A

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

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