PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
1-Chloronaphthalene	C10H7Cl	X	X	X		C	A	X	X	B	X	
1-Nitropropane	CH3(CH2)2NO2	C	X	A		X	A		A	A		
Acetaldehyde (Ethanal)	CH3CHO	X	X	A	B	X	A	B	A	A	C	A 150°F
Acetamide (Acetic Acid Amide)	CH3CONH2	B	B	A		B	A	A	A	X	A	A 140°F
Acetate Solvents	CH3COOR	X	X			X	A	B	A	A	X	A
Acetic Acid _ 20%		B	C	A	A	C	A	B		A	B	X
Acetic Acid _ 30%		B	C	A	A	X	A	B	X	A		
Acetic Acid _ 50%	CH3COOH	C	C	A		C	A	B	X	A		
Acetic Acid _ Glacial	CH3COOH	X	C	B	A	X	A	B	B	A	C	A 120°F
Acetic Anhydride (Acetic Oxide)	(CH3CO)2O	B	C	B	C	X	A	A	B	A	X	B 70°F
Acetone (Dimethylketone)	CH3COCH3	X	X	A	C	X	A	B	B	A	X	X
Acetone Cyanohydrin	(CH3)2C(OH)CN	B	X	X		X	A	A	B	B		
Acetonitrile (Methyl Cyanide)	CH3CN	A	C	A		X	A	A	A	A		A
Acetophenone (Phenyl Methyl Ketone)	C6H5COCH3	X	X	A		X	A	B	B	A	A 70°F	A
Acetyl Acetone (2,4-Pentanedione)	CH3COCH2COCH3	X	X	A		X	A	B	X	B		
Acetyl Chloride	CH3COCl	X	X	C	X	B	A	B	X	B	X	A
Acetyl Salicylic Acid (Aspirin)	(CH3OCO) C6H4COOH	X		B			A	A	X	B		
Acetylene (Ethyne)	HC=CH	C	A	A	A	A	A	C	A	A	X	A
Acetylene Tetrabromide (Tetra Bromoethane)	(CHBr2)2	X	X			A	A	X	X			
Acrolein (Acrylaldehyde)	H2C=CHCHO		B			A	A	A	B	B		
Acrylonitrile (Vinyl Cyanide)	CH2=CHCN	X	X	X		X	A	B	A	A	B	A
Adipic Acid (1,4-Butanedicarboxylic Acid)	HOOC(CH2)4 (COOH)	X	B			A	A	B	B	B	A	A
Alcohols	R-OH				B						A	A
Alkazene (Chlorethyl or Polyisopropyl benzenes)		X	X	X		A	A	X				
Allyl Alcohol (2-Propen-1-ol)	CH2CHCH2OH	A	A	A		B	A	B	A	A		A
Allyl Bromide (3-Bromopropene)	H2C=CHCH2Br	X	X	X		B	A		X			
Allyl Chloride (3-Chloropropene)	CH2=CHCH2Cl	X	X	X		B	A		X	B	A 70°F	A
Almond Oil (Artificial)		X	X	B		X	A					
Alum (Aluminum Potassium Sulfate Dodecahydrate)	KAl(SO4)2 &1&2H2O	A	A	A		X	A	A		B	A	A
Aluminum Acetate (Burow's Solution)		C	C	A		X	A	A		C	A	
Aluminum Ammonium Sulfate (Alum)	AlNH4(SO4)2	B	B			A	A				A	A
Aluminum Bromide	AlBr3	A	A				A					A
Aluminum Chloride	AlCl3	A	A	A	B	A	A	A 20%	X	B	A	A
Aluminum Fluoride	AlF3	A	B	B		A	A	A	A 50%	C	A	A
Aluminum Hydroxide (Alumina Trihydrate)	Al(OH)3	A	A	A		C	A	A	B 10%	B	A	A
Aluminum Nitrate	Al(NO3)3 &9H2O	A	A	A		A	A	A	X	A 10%	A	A
Aluminum Phosphate	AlPO4	A	A	A		A	A	A				
Aluminum Potassium Sulfate (Potash Alum)	KAl(SO4)2	A	A	A		A	A	A	A 10%	A	A	A
Aluminum Sodium Sulfate (Soda Alum)	NaAl(SO4)2	A	A	A		A	A					
Aluminum Sulfate (Cake Alum)	Al2(SO4)3	A	A	A	B	A	A	A	B 30%	A 50% 167°F	A	A
Amines	R-NH2	B	X		A 70°	X		A	A	A	B	
Ammonia Anhydrous, Liquid	NH3	B	B	A	X	X	A	A	A	A	A	A
Ammonia Gas _ Cold		A	A			A	A	A				
Ammonia Gas _ Hot		B	C			X	A	A				
Ammonia Liquors		A				X	A	A	A	A		
Ammonium Acetate	CH3CO2NH4	A				A	A	A	B 50%			
Ammonium Bicarbonate	NH4HCO3	A	A	A		A	A	B	B			
Ammonium Bifluoride _ 10%	NH4HF2	X	B				A	A	C	B	A	A
Ammonium Carbonate	(NH4)2CO3	B	X	A		A	A	A	B	B 70% 212°F	A	A
Ammonium Casenite		A						A		A		
Ammonium Chloride (Sal Ammoniac)	NH4Cl	A	A	A	A	A	A	A	X	B	A	A
Ammonium Cupric Sulfate	(NH4)2Cu(SO4)2		A			A	A					
Ammonium Dichromate	(NH4)2Cr2O7	A	A	A			A	A	A			

Rating :- A : Excellent - Recommended B : Good - minor to moderate effect C : Poor - Moderate to severe effect D : Unsatisfactory - not recommended

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Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Ammonium Fluoride	NH4F	B	B			A 20%	A		B 10%	B	B	A
Ammonium Hydroxide (Aqua Ammonia)	NH4OH	B	B	A		B	A	A	A 30%	A 50%	A	A
Ammonium Metaphosphate		A	A	A		A	A		B 90%	B	A	A
Ammonium Nitrate	NH4NO3	B	A	A	B	A	A	A	B	A	A	A
Ammonium Nitrite	NH4NO2	A	A				A	A			A 70°F	A
Ammonium Oxalate	(NH4OOC)2	A	A					A		A		
Ammonium Persulfate	(NH4)2S2O8	A	C	B		A	A	A	C	A	A	A
Ammonium Phosphate, Di-Basic	(NH4)2HPO4	A	A			A	A	A	B	A	A	A
Ammonium Phosphate, Monobasic	(NH4)H2PO4	A	A	A	B	A	A	A	X	B	A	A
Ammonium Phosphate, Tri-Basic	(NH4)3PO4&3H2O	A	A			A	A	A	X	B	A	A
Ammonium Sulfate	(NH4)2SO4	A	A	A	C	A	A	A	X	A 80% 212°F	A	A
Ammonium Sulfide	(NH4)2S	A	A			A	A		B	B		
Ammonium Sulfite	(NH4)2SO3H2O		A			A	A		C	B	A	
Ammonium Thiocyanate	NH4SCN	A	A	A		A	A		C	A 50%		
Ammonium Thiosulfate	(NH4)2S2O3	A	A	A		A	A	A	A 40%	A 10%		
Amyl (1-Pentanol)	C4H9CH2OH	B	B			B	A	A	B	A	B	A
Amyl Acetate (Banana Oil)	CH3CO2C5H11	X	X	A	C	X	A	B	A	A	X	A 120°F
Amyl Alcohol (Pentyl Alcohol)	CH3(CH2)4OH	A	B	A	A	A	A	B	A	A	A	A
Amyl Borate	C5H11BO3	B	A			A	A	B				
Amyl Chloride (Chloropentane)	CH3(CH2)4Cl	X	X	X		A	A	C	X	A	X	A
Amyl Chloronaphthalene		X	B			A	A	C			A	
Amyl Naphthalene	C15H18	X	X	X		A	A	C				
Amyl Phenol	C6H4(OH)C5H11		X			A	A		A	A		
Aniline (Aniline Oil) (Amino Benzene)	C6H5NH2	X	X	C	X	B	A	B	B	A	A	A
Aniline Dyes		C	C	C		B	A	B	B	B		
Aniline Hydrochloride	C6H5NH2HCl	X	C			B	A	A	X	X	X	A
Animal Fats & Oils		C	A	B	B	A	A	C	A	A		A
Animal Gelatin		A	A	A		A	A			A		
Anisole (Methylphenyl Ether)	C6H5OCH3	X				X	A		B	B		
Ansul Ether		X	C			X	A	X				
Anthraquinone	C14H8O2						A		B	B		
Anti-Freeze (Alcohol Base)		A	A	A		A	A		A	A		
Anti-Freeze (Glycol Base, Prestone etc)		B	A	A		A	A	A	A	A		
Antimony Pentachloride	SbCl5		X				A		A	A		
Antimony Trichloride	SbCl3		B	A		A	A		B	A	A	A
Aqua Regia (Nitric & Hydrochloric Acid)		X	X	X		B	A	X	X	X	C	A
Aroclor	PCB mixtures	X	C	X		A	A		A	A	X	
Aromatic Hydrocarbons	C6H5R	X	X		C	A	A	C	A	A		
Aromatic Solvents (Benzene etc.)		X	C	X		B	A			A		
Arsenic Acid	AsH3O4	A	B	A		A	A	A	A	B	A	A
Arsenic Trichloride (Arsenic Butter)	AsCl3	A	C	X		X	A	B	B	X		
Ascorbic Acid	C6H8O6					A	A		A	A		
Askarel (Pyranol)	PCB mixtures	X	B	X		C	A	X		A		
Asphalt	Hydrocarbons	C	B	X	B	A	A	B	A	A	A	A
Asphalt Topping	Hydrocarbons	A	C		B	C	A			A		
ASTM _ Ref #1 Oil (High Aniline)	Hydrocarbons	B	A	X	A 212°F	A	A	A	A	A		
ASTM _ Ref #2 Oil (Medium Aniline)	Hydrocarbons	B	A	X	A	A	A	A	A	A		
ASTM _ Ref #3 Oil (Low Aniline)	Hydrocarbons	C	A	X	A 212°F	A	A	B	A	A		
ASTM _ Ref #4 Oil (High Aniline)	Hydrocarbons	X	B	X		A	A		A	A		
ASTM _ Ref Motor Fuel A (Aliphatic)	Hydrocarbons	B	A	X	A 158°F	A	A		A	A		
ASTM _ Ref Motor Fuel B (30% Aromatic)	Hydrocarbons	X	A	X	A 158°F	A	A		A	A		
ASTM _ Ref Motor Fuel C (50% Aromatic)	Hydrocarbons	X	B	X	C	A	A		A	A		
Aviation Gasoline		C	A	X		A	A		A	A		

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Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Barbeque Sauce	Water, oils, spices	A	A				A			A		
Barium Carbonate	BaCO3	A	A	A		A	A	A	X	B	A	A
Barium Chloride Dihydrate	BaCl2 &2H2O	A	A	A		A	A		B 50%	B 212°F	A	A
Barium Cyanide	Ba(CN)2	A	C		X	A		A		A	X	
Barium Hydroxide (Barium Hydrate)	Ba(OH)2	A	A	A	B	A	A	A	X	A 50% 122°F	A	A
Barium Nitrate	Ba(NO3)2	A	A				A	A	B	A	A	A
Barium Sulfate (Blanc Fixe)	BaSO4	A	A	A	X	A	A	A	B	B	A	A
Barium Sulfide	BaS	A	A	A		A	A	A	X	B	A	A
Beef Extract		A	A			A	A			A		
Beer	Water, carbonate	A	C	A	B	A	A	A	A	A	A 75°F	A 175°F
Beet Sugar Liquors (Sucrose)		A	A	A		A	A	A	A	A	A	A
Benzaldehyde	C6H5CHO	X	X	B	B	X	A	B	A	A	X	A
Benzene (Benzol)	C6H6	X	X	X	C70°	B	A	C	B	A 167°F	X	B
Benzene Sulfonic Acid	C6H5SO3H	A	C	C		A	A		C	A	X	B 100°F
Benzoic Acid (Benzene Carboxylic Acid)	C6H5COOH	B	X	B		A	A		B	B	X	A
Benzol (Benzene)	C6H6	X	X	X	C70°	B	A	B	B	A 167°F	X	B
Benzoyl Chloride	C6H5COCl	X	X	X		B	A		X	B		A
Benzyl (Phenylcarbinol)	C6H5CH2OH	B	X			A	A	A	B	A	A	A
Benzyl Acetate	CH3COZ CH2C6H5		X			X	A		A	A		
Benzyl Alcohol	C6H5CH2OH	C	X	C		A	A		A	A	A	A
Benzyl Benzoate	C6H5CO2CH2C6H5	X	X	B		A	A	C	A	B		
Benzyl Chloride (Chlorotoluene)	C6H5CH2Cl	X	X	X		A	A	C	X	B	X	A
Benzyl Dichloride (Benzal Chloride)	C6H5CHCl2		X				A		X	A		
Biphenyl (Diphenyl)	C6H5C6H5	X	X	X		A	A		A			
Bismuth Subcarbonate (Bismuth Carbonate)	(BiO)2CO3	A	A	A		A	A			B 10%		
Black Sulfate Liquor		A	B	A	B	A	A		C	A		
Blast Furnace Gas	CO,H2,CH4,CO2,N2	A	C		B	A	A	A				
Bleach Solutions	Water, chlorine, oxygen	X	X	A	C	B	A	B	X	B	X	
Borax (Sodium Borate)	B4Na2O7	A	B	A	A	A	A	A	B	A	A	A
Bordeaux Mixture	Copper sulfate salts	A	A	A	B	B	A	A		A		
Boric Acid (Boracic Acid)	H3BO3	A	A	A	A	A	A	A	A	A 30%	A	A
Brake Fluid (Non-Petroleum Base)	Silicones or glycols	A	X	A			A	A	A	A	X	
Brewery Slop		A	A			A	A	A		A		
Brine (Sodium Chloride)	Salt water	B	A	A	B	A	A			A	A	A
Bromine _ Anhydrous	Br2	X	X	C	X	A	A	C	B	X	X	A 150°F
Bromine Trifluoride	BrF3	X	X	X		X	A	C	A	B	X	
Bromine Water		B	X	X		B	A	B	X	X	X	A
Bromobenzene	C6H5Br	X	X	X		B	A	X	X	A	X	
Bromochloromethane	BrCH2Cl	X	X	B		C	A		X	B		
Bromotoluene	C6H4BrCH3		X			B	A		X	A		
Bronzing Liquid		X	X	B		X	A	A		A		
Bunker Oil (Fuel) #5, #6 & C	Hydrocarbons	B	A	X		A	A	B	A	A		
Butadiene	C4H6	C	X	C		C	A	C	A	A	X	A
Butane (LPG) (Butyl Hydride)	C4H10	B	A	X	A	A	A	C	A	A	X	A
Butter	Fats	C	A	A	B	A	A	B	A	A		
Buttermilk	Fats, water	A	A			A		A	A	A	A	A
Butyl (Butanol)	C3H7CH2OH	A	A			A	A	A	B	A	B	A
Butyl Acetate	CH3CO2(CH2)3CH3	X	X	B	C	X	A	B	A	A	X	A 100°F
Butyl Acetyl Ricinoleate	C24H44O5	X	C	C		B	A	B		A		
Butyl Acrylate	CH2CHCO2C4H9	X	X	X		X	A	C		A		C
Butyl Alcohol (Butanol)	CH3(CH2)3OH	A	A	B	B	A	A	A	A	A	A	A
Butyl Amine (Aminobutane)	CH3(CH2)2CH2NH2	X	B	X		X	A	A	A	A	X	B 70°F
Butyl Benzoate	C6H5COO(CH2)3CH3	X		B		A	A	C	B	A		

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Butyl Bromide	CH3(CH2)2CH2Br		X			B	A			A		A
Butyl Butyrate	CH3(CH2)2 CH2CO2C4H9		X			X	A		A	A		
Butyl Carbitol	CH3(CH2)3OCH CH2OcH2CH2OH	B	A	A		A	A	B				
Butyl Cellosolve	HOCH2CH2OC4H9	C	B			C	A	A				B
Butyl Chloride (Chlorobutane)	CH3(CH2)3CL		X			A	A		X	B	X	A
Butyl Ether (Dibutyl Ether)	(CH3(CH2)3)2O	B	A			C	A		A	A	X	A 100°F
Butyl Oleate	C22H42O2	X		C		A	A	C				
Butyl Stearate	CH3(CH2)16 CO2(CH2)3CH3	X	A	C		B	A	C	B	B		A
Butylene (Butene)	C4H8	X	B	X		B	A	X	A	A	X	A
Butyraldehyde	CH3(CH2)2CHO	X	X	C		X	A	C	A	A		
Butyric Acid	CH3(CH2)2CO2H	X	C	C	B	C	A	A	A	B	A	A
Butyric Anhydride	(CH3CH2CH2CO)2O		C				A		A	A		
Butyronitrile	CH3CH2CH2CN	X	X	A			A					
Calcium Acetate Hydrate	Ca(CH3COO)2 H2O	C	B	A		X	A		C	B		
Calcium Bisulfite	Ca(HSO3)2	A	A	X	X	A	A		X	A 90%	A	A
Calcium Carbonate (Chalk)	CaCO3	A	A	A		A	A	A	C	B	A	A
Calcium Chlorate	Ca(ClO3)2	A	A	A		A	A		B 30%	B 30%	A	A
Calcium Chloride (Brine)	CaCl2 &6H2O	A	A	A	A	A	A	A	A	A	A	A
Calcium Hydrosulfide (Calcium Sulfhydrate)	Ca(HS)2&6H2O		A			A	A					
Calcium Hydroxide (Slaked Lime)	Ca(OH)2	A	A	A	B	A	A	A	X	B 50%	A	A
Calcium Hypochlorite 20% (Calcium Oxichloride)	Ca(ClO)2	X	C	B	A 5%	B	A	A	X	B	A	A
Calcium Nitrate	Ca(NO3)2	A	A	A		A	A	A	B 40% 212°F	B 40% 212°F	A	A
Calcium Oxide (Unslaked Lime)	CaO	A	A	A	B		A		A	A		
Calcium Silicate	Ca2SiO4		A			A	A		A	B		
Calcium Sulfate (Gypsum)	CaSO4	A	A	A		A	A	A	C	A 10%	A	A
Calcium Sulfide	CaS	B	A	A		A	A	A	A 20%	B	A 120°F	A
Calcium Sulfite	CaSO3&2H2O		A			A	A		B 10%	A 10%		
Calgon	(NaPO3)6	A	A			A		A		A	A	
Cane Juice	Sucrose, water	A	A					A	B	A	X	
Cane Sugar Liquors	Sucrose, water	A	A	A	B	A	A	A	A	A	A	A
Capryl Alcohol (Octanol)	CH3(CH2)6CH2OH	B	A	C		B	A		A	A		
Caprylic Acid (Octanoic Acid)	CH3(CH2)6 COOH		C				A		A	A		A
Carbamate	H2NCO2R	C	C	C		A	A	A				
Carbitol	CH3CH2OCH2CH2OCH2CH2OH	C	B	C		C	A	B	A	A		
Carbolic Acid (see Phenol)	C6H5OH	C	X	C		A	A	A	B	B	C	A 150°F
Carbon Dioxide (Carbonic Acid Gas)	CO2	A	A	B	A	A	A	A	A	A	A	A
Carbon Disulfide (Carbon Bisulfide)	CS2	X	X	X	C	A	A	X	A	A 90%	X	A
Carbon Monoxide	CO	A	C	C	A	C	A	A	A	A	A	A
Carbon Tetrachloride (Tetrachloromethane)	CCL4	X	C	X	X	A	A	X	X	B	X	A
Carbonated Beverages	CO2/H2O	A	A				A	A	C	A	A	A
Carbonic Acid (liquid)	H2CO3	A	B		C	A	A	A	A	B	A	A
Casein	a phosphoprotein	A	A	A		A	A		B	B		
Castor Oil	A mixture of fatty acids	A	A	B	B	A	A	B	A	A		
Catsup (Ketchup)		C	A			A	A	A	B	A	A	
Cellosolve (Glycol Ethers)	HOCH2CH2OR	C	C	C	X	B	A	C	A	A	A 100°F	A
Cellulose Acetate	C8H12O5	B	B			C	A		B	A		
Cellulube Hydraulic Fluids (Phosphate Esters)		X	X	A	C	B	A	X	A	A		
Chlorinated Lime _ 35% Bleach	CA(CIO)2	X	C	A	A 6%	A	A	X		A		
Chlorinated Water		C	C		X	A	A		C	B	B	A
Chlorine Dioxide	ClO2	X	X	C		B	A	X	B	X	X	A
Chlorine Trifluoride	ClF3	X	X	X		B	A	X	A	A	X	
Chlorine, Anhydrous Liquid	Cl2	X	X			A	A	X	X	X	X	A
Chlorine, Dry	CL2	C	C		X	A	A	C	X		X	A

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Chlorine, Wet	Cl2/H2O	X	C	X	X	A	A	C	B	A	X	A
Chloroacetic Acid (Monochloroacetic Acid)	ClCH2COOH	C	X	B	X	C	A		X	X	A	A
Chloroacetone (Monochloroacetone)	ClCH2cOCH3	C	X	A		C	A	C	X	B	X	
Chlorobenzene (Monochlorobenzene)	C6H5Cl	X	X	X	X	A	A	C	X	B	X	A 150°F
Chlorobromomethane	ClCH2Br	X	X			A	A	X	X	B	X	
Chlorobutadiene (Chloroprene)	C4H5CL	X	X	X		A	A	C	X	B	X	
Chloroform	CHCl3	X	X	X	X	A	A	X	X	A	X	A
Chlorosulfonic Acid	HSO3CL	X	X	X	X	X	A	A	B	B	X	X
Chlorothene (Chlorinated Solvents)	CH3CCL3	X	X			C	A		X	A		
Chlorotrifluoroethylene	C2H2ClF3		X				A		B	B		
Chocolate syrup	Corn syrup, water, sugar	A	A				A	A		A	A	
Chromic Acid _ 25%-50%	H2CrO4	X	X	C	X	A	A	A	X	X	X	A 120°F
Chromic Acid _ Over 50%	H2CrO4	X	X	C	X	A	A	A	X	X	X	A 120°F
Chromic Acid _ To 25%	H2CrO4	X	X	A	X	A	A	A	B 10%	X	X	A 120°F
Cider (Apple Juice)	Sucrose, water	A	A		B	A	A	A	B	A		
Cinnamon Oil	Cinnamic acid esters	C					A	C		A		
Citric Acid	C6H8O7 H2O	A	B	A	A	A	A	A	X	A 30%	B	A 250°F
Citric Oils	Citric acid esters	X	C	B		A	A	C		A	A	
Citrus Pectin Liquor		A	A			A	A			A		
Clorox		B	C			A	A	B		A	B	
Clove Oil (Eugenol)	C10H12O2	C					A	C		A		
Cobalt Chloride	CoCl2&6H2O	A	A	C		A	A	A	X		A	
Coconut Oil (Coconut Butter)	Fatty acid mixture	B	B	A		A	A	B	B	A		
Cod Liver Oil (Fish Oil)	Glycerides, acids, esters	B	B	A		A	A	C	A	A		
Coffee	Fatty oils, acids, ellulose, water	A	A				A	A	A	A	A	
Coke Oven Gas	H2(&5&3%), CH4 (&2&6%), N2 (&1&1%),	C	C			A	A	B				A
Copper Acetate	Cu(c2H3O2)2 CuO &6H2O	C	B	A			A	A	X	B 10%		A
Copper Chloride	CuCl2&2H2O	A	A	A	A	A	A	A	X	X	A	A
Copper Cyanide	CuCN	A	A	A		A	A	A	X	A 10%	A	A
Copper Fluoroborate		A	B			A		A	X	X		
Copper Nitrate Hexahydrate	Cu(NO3)2&6H2O	A	A	A		A	A		X	A	A	A
Copper Sulfate (Blue Copperas)	CuSO4&5H2O	A	A	A	A	A	A	A 5%	X	A 10%	A	A
Copper Sulfide	CuS		A			A	A					
Corn Oil (Maize oil)	Glycerides of fatty acids	C	A	C	A	A	A	B	B	B	A	A
Cotton Seed Oil		C	A	A	A	A	A	B	A	A	A	A
Cream		C	A			A	A	A		A	A	
Creosote, Coal-Tar (Tar Oil)	Hydrocarbon mixture	C	A	X	X	A	A	B	B	B	X	
Creosote, Wood-Tar	Phenol mixture	B	A	X	X	A	A			B	X	
Cresylic Acid (Cresol)	C8H10O2	X	C	X		A	A	B	B	A	X	A 150°F
Crotonaldehyde	CH3CHCHCHO	A	X			A	A		A	A		
Cumeme (Isopropylbenzene)	C6H5CH(CH3)2	X	X	X		A	A		B	B		
Cutting Oil (Sulfur Base)		C	A				A		A	A		
Cutting Oil (Water Soluble)		X	C			A	A		A	A		
Cyclohexane	C6H12	X	B	X	A	A	A	C	B	B	X	A
Cyclohexanol	C6H11OH	A	B	X		A	A	B	C	A	B	A 150°F
Cyclohexanone	C6H10O	X	X	C		X	A	C	B	B	X	A
Cyclopentane	C5H10	A	B	X		A	A		B	B		
Cymene (Isopropyltoluene)	C10H14	X	C	X		A	A					
Decahydronaphthalene (Decalin)	C10H18	X	X	X		A	A					
Decanal	CH3(CH2)8CHO		X	X		X	A					
Decane	CH3(CH2)8CH3	X	B	C		A	A	C			A 70°F	A
Decyl Alcohol (Decanol)	C10H21OH	X	A			B	A					
Denatured Alcohol	Ethanol and denaturant	B	A	A		B	A	B	B	A	A	A

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CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Detergent Solutions		A	A	A	B	A	A	B	B	A	A	
Developing Fluids & Solutions		A	A	C	X	A	A	A		A		
Dextrose	C6H12O6	B	B	A	B 140°	A	A		A	A	A	A
Diacetone (Tyranton)	(CH3)2C(OH) CH2COCH3	X	X	B		X	A	C	A	A	X	A
Diacetone Alcohol (Diacetone)	(CH3)2COHCH2 COCH3	X	X	B	C	X	A	B	A	A	X	C
Dibenzyl Ether	(C6H5CH2)2O	X	X	C		C	A	C	B	B		C
Dibenzyl Sebecate	C24H30O4	X	X	C	A	B	A	C				
Dibutyl Amine	(C4H9)2NH	X	C	X		X	A	B		A	X	B 70°F
Dibutyl Mercaptan	(C4H9)2S	X	X			A	A	B				
Dibutyl Phthalate (DBP)	C6H4(CO2C4H9)2	X	X	A	A	B	A	B	A	A	X	X
Dibutyl Sebecate (DBS)	C18H34O4	X	X	C		C	A	B		A	C	
Dichloro Isopropyl Ether	C6H12OCI2	X	X	X		X	A	X			X	
Dichloroacetic Acid	CI2CHCOOH	X	X			X	A					
Dichlorobutane	C4H8CI2		X			A	A		X	B		
Dichloroethyl Ether	[CICH2CH2]2O		X				A		B			
Dicyclohexylamine	(C6H11)2NH	X	X	X		B	A	B				
Diesel Oil (Fuel ASTM #2)	Hydrocarbons	C	A	X	B	A	A	C	A	A	B	A
Diester Synthetic Oils		X	B	X		A	A		A	A		
Diethanol Amine	(HOCH2CH2)2NH	A	B				A			A	A	
Diethyl Amine	(CH3CH2)2NH	C	C	C		X	A		B	A	A	A
Diethyl Benzene	C6H4(C2H5)2	X	X	X		A	A					
Diethyl Carbonate	(C2H5O)2CO	X	X				A	C				
Diethyl Ether (Ether)	(CH3CH2)2O	C	B	X	C	X	A		B	A	X	A
Diethyl Phthalate (DEP)	C6H4(CO2C2H5)2		X			C	A	B	A	A		
Diethyl Sebecate	C14H26O4	X	X	C	A	B	A		A	A	A 120°F	A 120°F
Diethylene Ether (Dioxane)	C4H8O2	X	X	A		X	A	B	A	A		
Diethylene Glycol (DEG)	HOCH2CH2OCH2CH2OH	A	A	A	A	A	A		A	A	A	
Diethylene Triamine	(NH2C2H4)2NH		B				A	A	A	A		
Diisobutyl Ketone	C4H9COC4H9	X	X	B		X	A		A	A		
Diisobutylene	[HC=C(CH3)2]2	C	B			C	A	C			A	A
Diisodecyl Adipate (DIDA)	C26H50O4		X			C	A					
Diisodecyl Phthalate (DIDP)	C28H47O4	X	X	A		C	A					
Diisooctyl Adipate (DIOA)	C22H42O4		X			C	A		A	A		
Diisooctyl Phthalate (DIOP)	C24H39O4		X			C	A					
Diisooctyl Sebecate (DIOS)	C26H46O4			B		A	A					
Diisopropyl Amine	[(CH3)2CH]2NH		B				A					
Diisopropyl Benzene	C4H4 [CH(CH3)2]2	X	X	X		A	A	C				
Diisopropyl Ketone	[(CH3)2CH]2CO	X	X	A		X	A	C		A		
Dimethyl Ether	CH3OCH3	B	A			A	A		B	B		
Dimethyl Phthalate	C6H4(CO2CH3)2	X	X	C	A	C	A	A				A 70°F
Dimethyl Sulfate	(CH3)2SO4		X			X	A					
Dimethyl Sulfide	(CH3)2S		X				A		A	A		
Dinitrotoluene (DNT)	CH3C6H3(NO2)2	X	X	X		C	A	B		A		
Dioctyl Phthalate (DOP)	C24H38O4	X	X	B	A	B	A	C	A	A		
Dioctyl Sebecate	C26H50O4	X	X	C		C	A	C	A	A		
Dioxolanes (Dioxolans)	Glycol ethers	X	X	B		C	A	C				
Dipentene (Limonene)	C10H16	X	C	X		A	A	C	A	A		
Diphenyl Oxides (Phenyl Ether)	C6H5OC6H5	X	X	C		A	A	C	B	A		A
Dipropyl Ketone (Butyrone)	(C3H7)2CO		X				A					
Dipropylamine	(CH3CH2CH2)2 NH		B				A					
Dipropylene Glycol	(C3H6OH)2O		A			A	A				A	A
Dispersing Oil #10		X	X	X		C	A		A	A		
Divinyl Benzene (DVB)	C6H4(CH=CH2)2		X			A	A					

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Dodecyl Benzene (Alkane)	C6H5(CH2)11CH3		X			A	A		A	A		
Dow Corning (Silicones)	[(CH3)2SiO]2	A	A			A	A		A			
Dowtherm (Biphenyl & Phenyl Ether)	(C6H5)2 and (C6H5)2O	X	X	X		A	A	X	A	A		
Drycleaning Fluids	Chlorinated hydrocarbons	X	C			A	A	X	A	A	X	
Dyes		C				A		B	B	A		
Epichlorohydrin	C3H5ClO	X	X	B	X	X	A	B	X	A	A	X
Epsom Salts (Magnesium Sulfate)	MgSO4 &7H2O	A	A			A	A	A	A	A	A	A
Ethane	C2H6	C	A	X		A	A	C	A	A	C	
Ethanolamine (Aminoethanol)	H2NCH2 CH2OH	C	B	B		X	A	A	A	A	X	C
Ethyl (Ethanol)	CH3CH2OH	A	A		X	B	A	B	B	A	A 100°F	A
Ethyl Acetate	CH3COOC H2CH3	X	X	B	C	X	A	C	B	A	C	A
Ethyl Acetoacetate (Acetoacetic Ester)	CH3COCH2 COOCH2CH3	X	X	C		X	A	C	A	A		A 70°F
Ethyl Acrylate	CH2CHCO2CH2CH3	X	X	C		X	A	C	A	A	B	B 70°F
Ethyl Alcohol (Ethanol)	CH3CH2OH	A	A		X	B	A		A	A	A 100°F	A
Ethyl Aluminum Dichloride	CH3CH2AlCl2		X			B	A		B			
Ethyl Amine (Monoethylamine)	CH3CH2NH2	C	X	A		X	A		B	A		
Ethyl Benzene	CH3CH2C6H5	C	X	X		A	A	C	B	B	X	A
Ethyl Benzoate	C6H5CO2CH2CH3	X	X	C		A	A	C	A	A	B	
Ethyl Bromide (Bromoethane)	CH3CH2Br	B	X	B			A	X	A	A		
Ethyl Butyl Acetate	CH3CO2CH2CH(C2H5)2		X			X	A					
Ethyl Butyl Alcohol	CH3CH(C2H5) (CH2)2OS		A			B	A					
Ethyl Butyl Ketone	CH3CH2COC4H9		X			X	A					
Ethyl Butyraldehyde	C6H12O		X			X	A					
Ethyl Butyrate	CH3CH2CH2 CO2C2H5	X	X	X		C	A		B	A	B	
Ethyl Caprylate	CH3(CH2)6 CO2C2H5	X	X	X			A					
Ethyl Cellosolve	C2H5O(CH2)2OH	C	C	B		X	A	B				
Ethyl Cellulose (Ethocel)		B	B	B	B	C	A	A	B	B	C	
Ethyl Chloride (Chloroethane)	C2H5Cl	C	A	A	X	A	A	C	X	A	X	A
Ethyl Chlorocarbonate (Ethyl Chloroformate)	ClCl2C2H5	C				A	A	A				
Ethyl Cyanide (Propionitrile)	C2H5CN	B	X	X		X	A					
Ethyl Formate	HCOOCH2 CH3	B	X	C		A	A	B	B	B		
Ethyl Iodide	CH3CH2I											
Ethyl Isobutyrate	(CH3)2 CHCOOCH2CH3	X	X	X			A					
Ethyl Mercaptan (Ethanethiol)	CH3CH2SH	C	X	X		B	A	C	B	B		
Ethyl Oxalate	C2H5O2C CO2C2H5	X	X	A		B	A	B				
Ethyl Pentachlorobenzene	C2H5C6Cl5	X	X			A	A	X	X		X	
Ethyl Propionate	CH3CH2 COOCH2CH3	X	X	X			A		A	A		
Ethyl Silicate	Si(OCH2CH3)4	A	A	A		A	A	B	B	A		
Ethyl Sulfate	C2H5OSO2OH		A			A	A	B		X		
Ethylene (Ethene)	C2H4	A	B	C		A	A	C	A	A		
Ethylene Chlorohydrin	ClCH2CH2OH	B	X	A	X	B	A	C		A	X	A 70°F
Ethylene Diamine	(CH2)2(NH2)2	A	B	A		X	A	A	C	A	A	B
Ethylene Dibromide (Ethylene Bromide)	Br(CH2)2Br	X	X	C		B	A		X	B	X	A
Ethylene Dichloride (Dutch Oil)	Cl(CH2)2Cl	X	X	X	X	B	A	X	X	B	X	A
Ethylene Glycol (Ethylene Alcohol, Glycol)	(CH2OH)2	A	A	A	A	A 70°F	A	A	A	A	A 120°F	A
Ethylene Glycol Monobutyl Ether (Butyl Cellosolve)	C4H9OCH2CH2OH	X	B	B		C	A		A	A		
Ethylene Glycol Monoethyl, Ether Acetate (Cellosol	C2H5O(CH2)2 O2CCH3	X	C	B		C	A		A	A		
Ethylene Glycol Monomethyl, Ether (Methyl Cellosol	CH3O(CH2)2OH	C	C	B		X	A		B	A		
Ethylene Oxide	(CH2)2O	X	X	X	A	C	A	A	A	A	C	A
Ethylene Trichloride (Trichloroethene)	ClCHCCl2	X	X	X		A	A	X	X	A	X	
Ethylhexyl Acetate	CH3CH2CH2 CH(C2H5)C4h9		X			X	A					
Ethylhexyl Alcohol (Ethylhexanol)	C8H17OH		A			B	A		A	A		
Ethylidene Chloride	CH3CHCl2	X	X	X			A		X	A		

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Fatty Acids	CnH2n+1COOH	C	B	X	B	A	A	B	A 90%	A	B	A
Ferric Chloride	FeCl3	A	A	A	X	A	A	A	X	X	A	A
Ferric Hydroxide	FeHO2		B			C	A			A		
Ferric Nitrate	Fe(NO3)3	A	A	A		A	A	A	X	B	A	A
Ferric Sulfate	Fe2(SO4)3	A	A	A		A	A	A	C	B	A	A
Ferrous Chloride	FeCl2	A	A	A	X	A	A	A	X	B 30%	A	A
Ferrous Sulfate	FeSO4	A	A	A	A	A	A	A	A 10%	B	A	A
Fish Oil			A			A	A	B				
Fluoboric Acid	HBF4	B	A	A	X	C	A	A	X	A 30%	A	A
Fluorine (Liquid)	F2	C	X	C	X	B	A	X	A	A	X	A 70°F
Fluorobenzene	FC6H5	X	X	X		A	A	C			X	
Fluorolube (Fluorocarbon Oils)	FxCyHz	A	C	A		B	A	X	A	A	X	
Fluosilicic Acid (Sand Acid)	H2SiF6	A	B	B	B	A	A	A	X	A 212°F	A	A
Formaldehyde (Formalin)	HCHO	C	B	A	C 40%	A	A	B	A	A 90%	A	A 120°F
Formamide	HCONH2	A	A	A		X	A		A	B		
Formic Acid	HCOOH	B	C	B	C	C	A	A	X	C	A 70°F	A
Freon 11 (Trichlorofluoromethane)	CCl3F	C	C	X	A	B	A	X	B	A	B	A
Freon 113 (Trichlorotrifluoroethane) (TF)	Cl3CCF3	A	B	X	A 130°F	B	A	X	B	A		A
Freon 114 (Dichlorotetrafluoroethane)	C2Cl2F4	A	A	C	A	A	A	X	B	A		A
Freon 114B2 (Dibromotetrafluoroethane)	C2Br2F4	A	B	X		B	A	X				A
Freon 115 (Chloropentafluoroethane)	C2ClF5	A	A	A		B	A	X	A			
Freon 12 (Dichlorodifluoromethane)	Cl2CF2	B	B	B	A	B	A	X	A	A		A
Freon 13 (Chlorotrifluoromethane)	ClCF3	A	A	A	C	A	A	X	A	A		
Freon 13B1 (Bromotrifluoromethane)	BrCF3	A	A	A		A	A					
Freon 14, (Tetrafluoromethane)	CF4	X	X	B			A					
Freon 21 (Dichlorofluoromethane)	FCHCl2	B	X	X		X	A	X	A			A
	HCClF2	B	X	C	X	X	A	X	A	A		A
Fruit Juices	Water, sucrose	A	A	A	B	A	A	A	A 10%	A	A	A
Fuel Oils (ASTM #1 thru #9)	Hydrocarbons	C	A	X	B	A	A	C	A	A	C	A
Fumaric Acid (Boletic Acid)	HOOCCH = CHCOOH	B	C			A	A	A				
Furan (Furfuran)	C4H4O	X	X	X	X	C	A	C			C	X
Furfural (Ant Oil)	C5H4O2	B	X	B		C	A	C	A	A 20%	X	B 120°F
Furfuryl Alcohol	C5H6O2		X	B	B	X	A		A	A		B 100°F
Fusel Oil (Grain Oil)	(CH3)2 CHCH2CH2OH	A	A	A		A	A					
Gallic Acid	C6H(OH)3 COOH	C	B	B	X	A	A	B	A 20%	B	A 70°F	A 70°F
Gasoline (Petrol)	Hydrocarbons	C	A	X	A	A	A	C	A	A	C	A
Gasoline (Unleaded)	C4 TO C12 hydrocarbons	X	X	X		A	A	C	A	A	C	A
Gelatin	Water soluble proteins	A	A	A	B	B	A	A	A	A	A	A
Ginger Oil	C17H26O4	A				A	A	C		A		
Glauber's Salt (Sodium Sulfate Decahydrate)	NA2SO4 &1&0H2O	A	A	B	B	A	A					
Gluconic Acid	C6H12O7		C			A	A		B	A 50%		
Glucose (Corn Syrup)	C6H12O6	A	A	B	B	A	A	A	A	A	A	A
Glue		A	A	B	B	A	A	A PVA	A	B	A	
Glycerol (Glycerine)	C3H8O3	A	A	A	A	A	A	A	A	A	A	A
Glycolic Acid	HOCH2COOH	A	A			A		A			A	A
Glycols		A	A			A	A	A	B	B	A	A
Gold Monocyanide	AuCN	A	A			A		A		X		
Grape Juice	Water, sucrose	X	C			A	A	A		A	A	A
Grapefruit Oil		X	X				A			A		
Grease	Hydrocarbons	X	A		A	A	A	B	A	A		
Green Sulfate Liquor		B	B	A	X	A	A	A	B	A	A	
Halowax Oil	Chlorinated naphthalenes	X	X	X		A	A	X	X			
Heptanal	CH3(CH2)5CHO		A			A			A	A	A	

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PUMP ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Heptane	C7H16	C	A	X		A	A	C	A	A	C 140°F	A
Hexalin (Cyclohexanol)	C6H11OH	A	B	C		A	A					
Hexanal	CH3(CH2)4CHO	A	X	B		C	A		A	A		
Hexyl (1-Hexanol)	C5H11CH2OH	B	A			A	A	B	A	A	A 70°F	A
Hexyl Alcohol (1-Hexanol)	C6H13OH	B	A	C		A	A		A	A		A
Hexylene Glycol (Brake fluid)	C6H12OH	A	A	C		A	A		A	A		
Honey		A					A	A	A	A	A	
Hydraulic Oil (Petroleum base)	Hydrocarbons	B	A	X	X	A	A	X	A	A	X	
Hydrazine (Diamine)	H2NNH2	C	C	A	X	X	A	A	A	A	X	X
Hydrobromic Acid	HBr	C	X	A		A	A	B	X	X	B	A
Hydrochloric Acid 10% (Muratic)	HCl	B	B	A		A	A	A	X	X	A	A
Hydrochloric Acid 20% (Muratic)	HCl	B	B	A	C	A	A	A	X	X	A	A
Hydrochloric Acid 30% (Conc.)	HCl	C	C	A	X	B	A		X	X	B	A
Hydrocyanic Acid (Formonitrile)	HCN	C	B	A	X	A	A	B	A 10%	A	A	A
Hydrofluoric Acid (Conc.) Cold	HF	C		C	X	B	A	X	C	X	X	A
Hydrogen Fluoride _ Anhydrous	HF	C	X	C		A	A		X	X	A	A
Hydrogen Peroxide _ 10%	H2O2	C	C	B	X	A	A		A	A	A	A
Hydrogen Peroxide _ 3%	H2O2	B	B	B	X	A	A	A	A		A	A
Hydrogen Peroxide _ 30%	H2O2	X	C	B	X	A	A		A	B	A	A
Hydrogen Peroxide _ 90%	H2O2	B	X	C	X	A	A		A	A		
Hydrogen Sulfide (Wet)	H2S	C	X	A	A	X	A	A	A 90%	A 167°F	A	A
Hydroquinone	C6H4(OH)2	X	C			C	A	A	A 90%	A 10%		A
Hydroxyacetic Acid _ 10%	HOCH2COOH	X	X				A	A 70%	B	B		
Hypochlorous Acid	HClO	X	X	B		A	A	A	X	X	A	A
Ink		A	A			A	A	A	C	A		
Iodine	I2	B	B	B	B	A	A	A	A	X	A	A 150°F
Iodoform	CHI3			A			A	B	A	A		A
Isoamyl Acetate	CH3CO2CH2CH2CH(CH3)2	X	X	B		X	A		A	A		
Isoamyl Alcohol	(CH3)XCHCH2CH2OH	A	A	A		A	A					
Isoamyl Butyrate	C9H18O2		X			X	A		A	A		
Isoamyl Chloride	(CH3)2 CHCH2CH2Cl	X	X	X		A	A		X			
Isobutyl (2-Methyl-1-Propanol)	C3H7CH2OH	A	C			A	A	A	B	A		A
Isobutyl Acetate	CH3CO2CH2 CH(CH3)2	X	X	C		X	A		A	A		
Isobutyl Alcohol (Isobutanol)	(CH3)2 CHCH2OH	B	B	A		A	A		A		A	A
Isobutyl Amine	(CH3)2 CHCH2NH2		X			X	A					
Isobutyl Chloride	(CH3)2 CHCH2Cl		X			B	A		X	B		
Isobutyric Acid	(CH3)2 CHCOOH	B	X	A			A		A			
Isododecane	(CH3)2 CH(CH2)8CH3	A	B	X		A	A		B	B		
Isooctane (Trimethylpentane)	C8H18	B	B	X	A	A	A	C	A	A	A	A
Isopentane	(CH3)2CHCH2CH3		A			A	A					
Isophorone	C9H14O	X	X	C		X	A	B	A	A		
Isopropyl (2-Propanol)	H3CCH(OH)CH3	B	C			A	A	B	B	A	A	A 150°F
Isopropyl Acetate	CH3COOCH(CH3)2	X	X	B		X	A	B	A	A	B	
Isopropyl Alcohol (Isopropanol)	CH3CH(OH)CH3	A	B	B	A	A	A		A 90%	A	A	A
Isopropyl Amine	C3H7NH2		X			X	A			A		
Isopropyl Chloride	(CH3)2CHCl	X	X	X		B	A	C	X	A	X	
Isopropyl Ether	(CH3)2CHOCH(CH3)2	C	C	X		C	A	C	B	A	X	A 170°F
Jet Fuels (JP1 to JP6) (ASTM-A, A1 & B)		C	A	X	A JP4	A	A	C	A	A	X	A
Kerosine (Kerosene)	Hydrocarbons	C	A	X	A	A	A	C	A	A	X	A
Lacquer Solvents		X	X	X	C	X	A	C	A	A	C	X
Lacquers		X	X	X	X	X	A	C	A	A		
Lactic Acid	CH3CHOHCOOH	B	B	A	X	A	A	A	A	A 70%	A	A
Lactol (Aliphatic Naptha Solvent)	CH3CHOH CO2C10H7	X	C			A	A		A	A		

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Lard (Lard Oil)	Olein, stearin	C	A	X	B	A	A	B	A	B	A	A
Latex	Rubber emulsion	A	A				A		A	A	A	
Lauryl Alcohol (n-Dodecanol)	CH3(CH2)10 CH2OH		A			B		A	A	A	A	
Lavender Oil	Ester mixture	X	B	X		B	A	B				
Lead Acetate (Sugar of Lead)	Pb(CH3CO2)2	A	B	A		X	A	A	X	B		A
Lead Chloride	PbCl2	B					A		X	B	A	A
Lead Nitrate	Pb(NO3)2	A	B	A		A	A		X	B	A	A
Lead Sulfamate		A	B			A	A	A			A	
Lemon Oil (Cedro Oil)	Hydrocarbons	C				A	A	C	A	A		
Lignin Liquor	Blend of nautal aromatic oils	A	A			A	A			A		
Ligroin (Ligroine) (Benzine)	Petroleum fraction	B	A	X		A	A	B		A	X	
Lime Bleach		C	A	A		A	A	A	X		B	
Lime Slurries		A	B		C	B	A		B	B		
Lime Sulfur	CaS+CaSO4	A	A	A		A	A	B	X	A	A	
Lime, Soda (Slaked Lime & Soda Ash)	CaO	B	B	A		B	A	A				
Limonene	C10H16	X	C	X		A	A					
Lindol (Tritolyl Phosphate)	C21H21O4P	C	X			B	A	A				
Linoleic Acid	C18H32O2	X	B	X		B	A	B	A	A	A	A
Linseed Oil (Flaxseed Oil)	Glycerides	A	A	C	B	A	A	B	A	A	A	A
Lithium Bromide	LiBrH2O	X	A			A	A					A
Lubricating Oils (Petroleum)	Hydrocarbons	B 150°	A	X	A	A	A	X	A	A	C	A
Lye (Potassium Hydroxide)	KOH	B	C		C	B	A	A		A	A	A 150°F
Magnesium Carbonate	MgCO3	A	A	C	A	A	A	A	A	B	A	A
Magnesium Chloride	MgCl2O	A	A	A	A	A	A	A	A 20%	B 40%	A	A
Magnesium Hydroxide (Milk of Magnesia)	Mg(OH)2	B	B	A	C	A	A	A	A 10%	A	A	A
Magnesium Nitrate	Mg(NO3)2 &6H2O	A	A	A		A	A	A	B 50%	A	A	A
Magnesium Oxide	MgO	A	A			B	A	A	A 10%	A		
Magnesium Sulfate (Epsom Salts)	MgSO4&7H2O	A	A	A	B	A	A	A	A 70%	A 40%	A	A
Maleic Acid	(CHCOOH)2	A	X	X		A	A	A	A 20%	B	A	A
Maleic Anhydride	C4H2O3			X		A	A	A	A 20%	A		
Malic Acid (Apple Acid)	C4H6O5	C	B	X		A	A	A	B	A		
Maple Sugar Liquors (Sucrose)	Water, sucrose	A	A	A		A	A			A		
Mayonnaise	Water, fats, oils	A	A				A	A	X	A	A	
Mercuric Chloride	HgCl2	B	A	A		A	A	A	X	X	A	A
Mercuric Cyanide	Hg(CN)2	B	B	A		A	A	A	X	B	A	A
Mercurous Nitrate	Hg(NO3)2 &2H2O	B	B	A		A	A		X	B 212°F	A	A
Mercury	Hg	A	A	A	A	A	A	A	X	A	A	A
Mesityl Oxide	(CH3)2C = CHCOCH3	X	X	B		X	A	C	A	A		
Methane	CH4	B	A	X	B	A	A	C	A	A	B	A
Methyl (Methanol)	CH3OH	A	A	X		X	A	A	B	A	A 120°F	A
Methyl Acetate	CH3CO2CH3	C	X	C	C	X	A	B	A	A	C	
Methyl Acetoacetate	CH3COCH2 COOCH3		X			X	A			A		
Methyl Acrylate	CH2CHCO2CH3	C		C		X	A	B		A		A 70°F
Methyl Acrylic Acid (Crotonic Acid)	CH3(CH)2COOH	C		C		X	A					
Methyl Alcohol (Methanol)	CH3OH	A	A	A	A	B	A	A	B	A	A	A
Methyl Amine (Monomethylamine)	CH3NH2	A	B	A		A 90%	A		B	A	X	C
Methyl Amyl Acetate	C8H16O2		A			X	A		A	A		
Methyl Amyl Alcohol	C6H13OH		A			X	A		A	A		
Methyl Aniline	C6H5NH(CH3)	A	A	A		A	A					
Methyl Bromide (Bromo Methane)	CH3Br	X	C	A	X	A	A	X	X	A	X	A
Methyl Butyl Ketone (2-hexanone)	CH3COC4H9	X	X	B		X	A	C		A	X	
Methyl Butyrate	CH3(CH2)2 CO2CH3	X	X	X			A		A	A		
Methyl Cellosolve	CH3OCH2 CH2OH	X	X			X	A	B	A		A	A

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Methyl Chloride	CH3Cl	X	X	C	X	B	A	X	X	A	X	A
Methyl Cyclopentane	C6H12	X	B	X		A	A	C		A		
Methyl Dichloride	CH2Cl2	X	X			A		X	X		X	
Methyl Ethyl Ketone (Butanone)	CH3COCH2CH3	X	X	A	C	X	A	B	A	A	X	X
Methyl Formate	HCOOCH3	B	X	C		X	A	B	A	A		
Methyl Hexane	C7H16	A	A	X		A	A					
Methyl Iodide	CH3I	X	X	A			A		X	A		
Methyl Isobutyl Ketone (Hexone)	CH3COCH2CH (CH3)2	X	X	C	X	X	A	C	A	B	C 70%F	A 70°F
Methyl Isopropyl Ketone	CH3COCH(CH3)2	X	X	C	X	X	A	C		A	C	A 70°F
Methyl Methacrylate	CH2C(CH3)CO2CH3	X	X	X		C	A	B	B	A		A 70°F
Methyl Oleate	C19H36O2	X	X	C		B	A	C				
Methyl Propyl Ketone	CH3CH2CH2COCH3	X	X	B		X	A					
Methyl Salicylate (Betula Oil)	HOC6H4 COOCH3	X	X	C		B	A	B	A			
Methylacrylic Acid	CH3CHCHCO2H	B				B	A	A				
Methylamine	CH3NH2	A	B	A		A 90%	A	A	B	A	A	
Methylene Bromide	CH2Br2	X	X			B	A		X	A		A
Methylene Chloride	CH2Cl2	X	X	X	X	B	A	X	X	A 90%	X	B 100°F
Milk		A	B	A	B	A	A	A	A	A	A	A
Mine Water			A				A		B	B		
Mineral Oil (Petroleum)	Hydrocarbons	B	A	X	A	A	A	C	A	A	B	A
Mixed Acids (Sulfuric & Nitric)	H2SO4, HNO3	X	X	B		A	A		X	B	X	A
Molasses		A	A	A	B	A	A	A	A	A	A	A
Monochlorobenzene	C6H5Cl	X	X		C	A	A	C	X	A	X	A 100°F
Monoethanolamine	NH2C2H4OH	C	B			C	A	A	B	A	X	X
Mustard		A	C		B	X	A	A	B	A	A	
N,N-Dimethyl Formamide (DMF)	HCON(CH3)2	X	C		C	X	A	A	A	A	A 120°F	A 120°F
N,N-Dimethylaniline	C6H5N(CH3)2	X	X	C		X	A	B	B		X	A
n-Amyl Amine (1-Aminopentane)	CH3(CH2)4NH2	X	C	X		X	A					
Naphtha (Petroleum Spirits) (Thinner)	Petroleum fractions	X	A	X	A	A	A	C	A	A	X	A
Naphtha Coal Tar (Benzol)	Hydrocarbons	X	X	X		A	A		A	A		
Naphthalene (Tar Camphor)	C10H8	X	X	X	C	A	A	C	B	A	A	A
Naphthoic Acid	C11H8O2		B	X		A	A		B	A		
n-Butyl Acetate	CH3CO2(CH2)3CH3	X	X	X		X	A	A	A	A		
Neatsfoot Oil			A	C		A	A	B		A		
Neohexane (2,2-dimethylbutane)	C6H14		A			A	A					
Neosol		A	A	B		C	A		B	A		
Neville Acid		C	C	C		B	A	A				
n-Hexane	C6H14	B	A	X	A	A	A	A	A	A	C 140°F	A
n-Hexane 1 (Hexylene)	H2CCH(CH2)3CH3	B	A	X		A	A	C				
Nickel Acetate	Ni(CH3CO2)2	B	B	A		X	A	A	B 10%	A	A	A
Nickel Chloride	NiCl2	A	A	A	X	A	A	A	X	B	A	A
Nickel Nitrate	Ni(NO3)2&6H2O	A	A	A		A	A		X	A	A	A
Nickel Sulfate	NiSO4	A	A	A		A	A	A	X	A 40%	A	A
Nitrana (Ammonia Fertilizer)		B	B			C	A			A		
Nitric Acid (Conc.)	HNO3	X	X	X	X	B	A	C	A	A	X	A 120°F
Nitric Acid (Red Fuming)		X	X	X	X	B	A	X	A	A	X	C
Nitric Acid _ 10%	HNO3	B	X	B	C	A	A	A	A	A	A	A
Nitric Acid _ 25%	HNO3	C	X	B	X	A	A	B 20%	X	A 30%	A	A
Nitric Acid _ 35%	HNO3	X	X	C	X	A	A		X	A 40%	B	A
Nitric Acid _ 50%	HNO3	X	X	X	X	A	A	C	X	A	C	A
Nitric Acid _ 70%	HNO3	X	X	X	X	A	A			A		A
Nitrobenzene	C6H5NO2	X	X	X	X	B	A	B	A	A	B	A 70°F
Nitroethane	C2H5NO2	C	X	C		X	A	A	A	A	C	A 70°F

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE
CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Nitrogen Tetroxide	N2O4	X	X	X	B 50%	C	A		A	A	X	C
Nitromethane	CH3NO2	C	X	C	X	X	A	A	A	A	C	A 120°F
N-Methyl Aniline	C6H5NHCH3	X	X			C	A				C	
n-Octane	C8H18		A	X		A	A	B			X	A
n-Propyl Acetate	CH3COO(CH2)2CH3	X	X	A		X	A	B	A	A	C	A
n-Propyl Nitrate (NPN)	CH3(CH2)2NO3		A	B		C	A	B	A			
o-Chlorophenol	C6H5ClO	X	X	X		B	A		B	B		A
Octachlorotoluene	C7Cl8	X	X			A	A		X		X	
Octadecane	CH3(CH2)16CH3	B	A	X		A	A	B				
Octyl (Caprylic Alcohol)	C7H15 CH2OH	B	B			A	A	B	A	A		
Octyl Acetate	CH3COO(CH3)7CH3		X			X	A		A	A		
o-Dichlorobenzene	C6H4Cl2	X	X	X	X	A	A	X	X	B	B	A 150°F
Oleic Acid (Red Oil)	C18H34O2	X	C	C	A	B	A		A	B	B	A
Olein (Triolene)	C57H104O6	C	B				A					
Oleum (Fuming Sulfuric Acid)	H2SO4/SO3	X	C		X 25%	A	A	X	X	A	X	X
Olive Oil	Mixed glycerides of acids	C	A	C		A	A	B	A	A	A	A
Oxalic Acid	(COOH)2	B	C	A	X	C	A	A cold	B	B 90%	A	A 120°F
Ozone	O3	B	X	A	C	A	A	A	A 10%	A	X	A
Paint Thinner, DUCO	Hydrocarbons	C	A	X		B	A	C	X	A	X	
Paints & Solvents		X	X				A		X	A		
Palm Oil	Mixture of terpenes	C	A			A	A	B		A		
Palmitic Acid	CH3(CH2)14 COOH	C	B	B	A	B	A	B	B	A	A	A
Paraffins (Paraffin Oil)	Hydrocarbons		A				A	A	A	A	A	
Paraformaldehyde	(CH2O)n	B	B			C	A		A 10%	A		
Paraldehyde	C6H12O3	B	C			X	A		A	A		
Peanut Oil	Glycerides of fatty acids	B	A	A		A	A	B		A	A 70°F	A
Pentachloroethane (Pentalin)	Cl2 CHCCl3	X	X	X		A	A		X	A		
Pentachlorophenol (PCP)	C6Cl5OH	X	X	X		A	A		A	A		
Pentane (Amyl Hydride)	C5H12	B	A	X	B	A	A	A	A	B		
Peppermint Oil		X	X			A	A	C		A		
Perchloric Acid	HClO4	B	X	B	X	A	A 70%	C	X	B		A
Perchloroethylene (Tetrachloroethylene)	C2Cl4	X	X	X	X	A	A	A	X	A 90%	X	A
Petroleum (Crude Oil) (Sour)	Hydrocarbons	C	B	X	C	A	A		B	A	X	A
Phenethyl Alcohol (Benzyl Carbinol)	C6H5(CH2)2OH	X	X	B		X	A		A	A		
Phenol (Carbolic Acid)	C6H5OH	C	X	C	X	A	A	A	B	B	C	A 100°F
Phenyl Acetate	CH3COOC6H5	X	X	B		X	A					
Phenyl Ethyl Ether (Phenetole)	C6H5OC2H5	X	X	X		C	A	C				
Phenyl Hydrazine	C6H5NHNH2	X	X	X		A	A	B	A		X	A 120°F
Phenyl Sulfonic Acid	C6H4(OH)SO3H		X			X	A		B	B		
Phenylbenzene	C6H5	X	X			A	A	C				
Phorone (Diisopropylidene Acetone)	C9H14O	X	X	C		A	A	B				
Phosphoric Acid (Conc.)	H3PO4	B	X	B	X	A	A		X	A 212°F	A 120°F	A
Phosphoric Acid _ 10%	H3PO4	B	A	A		A	A	A	X	A	A 120°F	A
Phosphoric Acid _ 20%	H3PO4	B	C	A		A	A	A	X	A 212°F	A 120°F	A
Phosphoric Acid _ 50%	H3PO4	B	X	B		A	A	B 45%	X	A	A 120°F	A
Phosphorus Oxychloride	POCl3	X					A		B	B		
Phosphorus Trichloride	PCl3	X	X	A		A	A	B	C	A	X	A
Photographic Developer		A	A		X	A		A	C	A	A	A
Pickling Solution		X		X		B	A	A				
Picric Acid (Carbazotic Acid)	(NO2)3 C6H2OH	B	B	B	X	A	A	B	A	A	B	A
Pine Oil (Yarmor)	Cyclic terpene alcohols	X	B	X		A	A	C	A	A		
Pinene	C10H16	X	B	X		A	A	C				
Piperidine	C5H11N	X	X	X		X	A	B				

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Plating Solution _ Cadmium		B	B				A	A		A	X	B
Plating Solution _ Chrome		X	X	C		A	A	A			A 131°F	
Plating Solution _ Lead		B	B				A	A				
Plating Solution _ Others		C	A	A		B	A	A		A		
Polyvinyl Acetate Emulsion	PVac + H2O	C		A			A	A				A
Potassium Acetate	CH3CO2K	B	B	A		X	A	A	B 10%	B	A	A
Potassium Bicarbonate	KHCO3	A	A			A	A	A	B	A 30%	A	A
Potassium Bisulfate	KHSO4	A	A			A	A		A 10%	A 10%	A	A
Potassium Bisulfite	KHSO3	A	A			A	A		B 10%	B 105		
Potassium Bromide	KBr	A	A	A		A	A	A	A	B 90% 212°F	A	A
Potassium Carbonate (Potash)	K2CO3	A	A	A		A	A	A	X	B	A	A
Potassium Chlorate	KCIO3	A	A	A		A	A	A	X	A 60%]	A	A
Potassium Chloride	KCl	A	A	A		A	A	A	X	A	A	A
Potassium Chromate	K2CrO4	A	A			A 40%	A	A	A	A	A	A
Potassium Copper Cyanide	K3[Cu(CN)4]	A	A	A		A	A				A	A
Potassium Cyanide	KCN	A	A	A		A	A	A	C	B 90% 212°F	A	A
Potassium Dichromate	K2Cr2O7	A	A	A		A	A	A	A	A	A	A
Potassium Hydroxide (Caustic Potash) (Lye)	KOH	B	B	A	C	B	A	A	X	A	A	A 150°F
Potassium Iodide	KI	A	A	A		A	A		B 10%	B	A	A
Potassium Nitrate (Saltpeter)	KNO3	A	A	A		A	A	A	A 80%	B 80% 212°F	A	A
Potassium Nitrite	KNO2	A	A	A	B	A	A		B	B	A	
Potassium Permanganate (Purple Salt)	KMnO4	C	C	A	X	B	A	A	A 10%	B 30% 212°	B	A
Potassium Phosphate	KH2PO4	A	A	A		A	A		X	B 30%		
Potassium Silicate	K2Si2O5	A	A	A		A	A		B	B		
Potassium Sulfate	K2SO4	A	A	A	B	A	A	A	B	A	A	A
Potassium Sulfide	K2S	A	A	A		A	A		X	B	A	A
Potassium Sulfite	K2SO32H2O	A	A	A		A	A		A	B 50%	A	A
Propane (LPG)	C3H8	B	A	X	B	A	A	C	A	A	X	A
Propionaldehyde (Propanal)	C2H5CHO		X			X	A		A	A		
Propionic Acid (Methylacetic Acid)	CH3CH2CO2H	X	X	A		A	A		A	B		
Propyl (Propanol)	C2H5CH2OH	A	A			A	A	A	A	A	A	A 120°F
Propyl Alcohol (1-Propanol)	CH3CH2CH2OH	B	B	A		A	A		A	A	A	A
Propylene	C3H6	X	X	X		A	A	B	A	A		
Propylene Dichloride	CH3CH(CI)CH2CI	X	X	X		B	A		X	A		
Propylene Glycol (Methyl Glycol)	C3H6(OH)2	C	A	A		A	A	A	A	A	A	A
Propylene Oxide	C3H6O	X		C		X	A	A	B	A	X	X
Pydraul (Phosphate Eser Base Fluid)		X	X	B	A	A	A	A		A		
Pyranol		X	A			A	A					
Pyridine	N(CH)4CH	X	X	C	X	X	A	A	A	A	C	X
Pyroligneous Acid (Wood Vinegar)		C	C	C		A	A		B	A 10%	A	A
Pyrrole (Azole)	C4H5N	X	X	X		C	A	C				
Quaternary Ammonium Salts	NH4 (X)	A	A			A	A			A		
Quench Oil		B	B			A	A		A	A		
Rape-Seed Oil (Colza Oil)		C	B	A		A	A	B		A		
Rose Oil	Geraniol, citronellol	C				A	A	A		A		
Rosin	C20H30O2	C	A				A	A	A	A	A	
Rosin Oil (Rosinol)		A	A			A	A					
Rotenone	C23H22O6	A	A	A		A	A					
Rubber Latex Emulsions	(C5H8)n/H2O					A	A		A	A		
Rubber Solvents (Petroleum Distillate)	Hydrocarbons	C	X			X	A		A	A		
Rum (Alcoholic liquor from molasses)		A	A	A		B	A	A		A		
Rust Inhibitors		C	A			A		B		A	A	
Sal Ammoniac (Ammonium Chloride)	NH4CI	A	A	A	A	A	A	A	X	B	A	A

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Sal Soda (Sodium Carbonate)	NaCO3	A	A	A		A	A		X	A		
Salad Dressing	Fats, oils, water		A			A		A	B	A	A	
Salicylic Acid		B	B	A		B	A		A	B	A	A
Salt Water (Brine)	NaCl/H2O	B	A	A	A	A	A	A	B	A	A	A
Sea Water (Brine)		B	A	A	X	A	A	A	A	A	A	A
Sesame Seed Oil	Olein, stearin, palmitin	C	A			A	A	B		A		
Sewage		B	A	C	B	A	A	A	B	A	A	A
Silicate Esters	Si(OR)4	A	B	X	C	A	A	B				
Silicone Oils (Versilube etc.)	[(CH3)2SiO2)]n	C	A	A	A	A	A	C	B	A	A	A
Silver Cyanide	AgCN	A					A		X	A	A	A
Silver Nitrate	AgNO3	A	B	A		A	A	A	X	A 60%	A	A
Skydrol Hydraulic Fluid (Phosphate Ester Base)		X	X	A	A	C	A	B		A		
Soap Solutions	Salt of fatty acid in H2O	B	A	A	A	A	A	A	C	A	A	A
Soda Ash (Sodium Carbonate)	Na2CO3	A	A	A	B	A	A	A	X	A		
Sodium Acetate	CH3COONa	C	C	A		X	A	A	A	A	A	A
Sodium Aluminate	Na2Al2O4	A	A			A	A	A		A 40%	A	A
Sodium Bicarbonate (Baking Soda)	NaHCO3	A	A	A	B	A	A	A	B	A 20%	A	A
Sodium Bisulfite (Cream of Tartar)	NaHSO3	A	C	A	B	A	A	A	A	A 50%	A	A
Sodium Bisulfite (Niter Cake)	NaHSO4	A	A	A	B	A	A	A	B 50%	B 50%	A	A
Sodium Borate	Na2B4O7	A	A	A	B	A	A	A	B	A	A 140°F	A
Sodium Bromide	NaBr						A		C	B 30%	A	A
Sodium Chlorate	NaClO3	B	A	A		A	A	A	B 70% 212°F	B	A	A
Sodium Chloride (Table Salt)	NaCl	A	A	A	A	A	A	A	B	A	A	A
Sodium Chromate	Na2CrO4	A	A		A	A	A	A	A 80% 212°F	A 60%	A	A
Sodium Cyanide	NaCN	A	A	A	A	A	A	A	X	A	A	A
Sodium Dichromate (Sodium Bichromate)	Na2Cr2O7&2H2O	B		A	X 20%	A	A				A	A
Sodium Fluoride	NaF	A	A	A		A	A		B 30%		A	A
Sodium Hexametaphosphate (Calgon)	(NaPO3)6	B	B	B		A	A		C	B		
Sodium Hydroxide (Caustic Soda) (Lye)	NaOH	B	B	A	X	X	A	A 50%	X	B 50%	A	A
Sodium Hypochlorite	NaClO	C	X	C	A 5%	B	A	A 20%	X	X	X	A
Sodium Metaphosphate (Kurrol's Salt)	NA(PO3)H	A	B	A		A	A	A	X		X	
Sodium Metasilicate	Na2SiO3	B	A			A		A	B	A	A	A
Sodium Nitrate (Chile Saltpeter)	NaNO3	X	C	A	B	A	A	A	A 90%	A 90%	A	A
Sodium Nitrite	NaNO2	B	A			A	A		A	A	A	A
Sodium Perborate	NaBO3	B	C	A	B	A	A	A	X	A	A	A
Sodium Peroxide (Sodium Dioxide)	Na2O2	B	B	B	B	A	A	B	B 10%	B 10%	B	A
Sodium Phosphate (Tribasic) (TSP)	Na3PO4	A	B	A	B	A	A	A	X	B	A	A
Sodium Silicates (Water Glass)	Na2O SiO2	B	A	A	A	A	A	A	A	A	A	A
Sodium Sulfate (Salt Cake) (Thenardite)	Na2SO4	A	A	A	A	A	A	A	B 30%	A	A	A
Sodium Sulfide (Pentahydrate)	Na2S &5H2O	A	A	A	A	A	A	A	A 30% 212°F	A 30% 167°F	A	A
Sodium Sulfite	Na2SO3	A	A	A	A	A	A		A 30%	A 30%	A	A
Sodium Tetraborate	Na2B4O7 &1&0H2O		A		B	A	A	A		A	C	A
Sodium Thiosulfate (Antichlor)	Na2S2O3	A	A	A		A	A		A	A 122°F	A	A
Sorghum		A	A				A	A		A		
Soy Sauce	Fermented soya bean/wheat	A	A				A	A		A		
Soybean Oil	Triclycerides of acids	A	A	C	A	A	A	B	A	A	B	
Sperm Oil (Whale Oil)	Fatty acid esters	X	A			A	A	B		A		
Stannic Chloride (Tin Chloride)	SnCl4	B	A	B	B	A	A	A	X	A 10%	A	A
Stannous Chloride (Tin Chloride)	SnCl2	A	A	B	B 15%	A	A		X	A 10%	A	A
Starch	C6H10O5	A	A	B	B	C	A	A	A	A	A	
Stearic Acid	CH3(CH2)16CO2H	B 158°	B	B	B	A	A	B	C	A	A	A
Stoddard Solvent	Petroleum distillate	C	A	X	A		A	C	A	A	A	X
Styrene (Vinylbenzene)	C6H5CHCH2	X	X	X	X	A	A	C	A	A		A

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PUMP
ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Sucrose Solution (Sugar)	C12H22O11/H2O	A	A	A	A	A	A	A	A	A		
Sulfamic Acid	H2NSO3H	A	B		A	A	A		A 10%	X	X	X
Sulfite Liquors		B	A	C	B	A	A	A				
Sulfur	S	B	X	A	A	A	A	A	A	A	A	A
Sulfur Chloride	S2Cl2	X	C	X	C	A	A	X	B	B	X	A
Sulfur Dioxide	SO2	A	X	B	X	A	A	A	A	A 10%	A	A
Sulfur Hexafluoride	SF6	A	B	A	A	A	A	B				
Sulfur Trioxide	SO3	C	C	C	X	A	A	C	B	B	X	X
Sulfuric Acid (Conc.)	H2SO4	X	X	C		A	A	B 98%	X	B	X	A 120°F
Sulfuric Acid (Fuming)	H2SO4	X	X	X	X 20%	B	A		C	B		
Sulfuric Acid 10%	H2SO4	A	B	A	A	A	A	A	X	A	A	A
Sulfuric Acid 25%	H2SO4	B	C	B	A	A	A	A	X	B	A	A 150°F
Sulfuric Acid 50%	H2SO4	B	C	B	A	A	A	A	X	X	A	A 150°F
Sulfuric Acid 60%	H2SO4	C	X	B	X	A	A	A	X	X	A	A 150°F
Sulfuric Acid 75%	H2SO4	X	X	C	X	A	A	A	X	C	A	A 150°F
Sulfuric Acid 95%	H2SO4	X	X	C	X	A	A	A	X	A	X	A 120°F
Sulfurous Acid	H2SO3	X	B	C	C	A	A	A	B	B	A	A
Tall Oil (Liquid Rosin)	Rosin acids	B	A	X		A	A	A	X	B	A	A
Tallow	Fat from cattle, sheep		A			A	A	B	A	A	B	
Tannic Acid	C76H52O46	B	C	C	A 10%	A	A	A	A	A	A	A
Tanning Liquors	Tannic acid	B	A				A	A	A	A	A	
Tar, Bituminous (Coal tar, pitch)	Mixture of aromatic & phenolic hydrocarbo	C	B	X	X	A	A	B	A	A	A	
Tartaric Acid	C4H6O6	A	B	B	B	A	A	A	A 20%	A	A	A
Terpenes	C10 hydrocarbons	X	C	X		A	A		A			
Terpineol (Terpilenol)	C10H18O	X	C	C		A	A	B	A	A	X	B 120°F
Tertiary Butyl Alcohol	(CH3)3COH	A	A			B	A	B			B	
Tertiary Butyl Catechol	C9H14O2	B	X			A	A	B	C	B		
Tertiary Butyl Mercaptan	C4H10S	X	X			A	A	B				
Tetra Bromomethane	CBr4	X	X			A	A	X	X		X	
Tetrabutyl Titanate	Ti(C4H9)	A	B	B		A	A	B	A			
Tetrachlorodifluoroethane	(Cl2FC)2	X	X				A		A			
Tetrachloroethane (Acetylene Tetrachloride)	(Cl2HC)2	X	X	X		A	A	X	X	C	X	A
Tetrachloroethylene	Cl2C = CCl2							X	A			A
Tetraethyl Lead	Pb(C2H5)4	X	B	X		B	A	C	B	A	A	A
Tetraethylene Glycol (TEG)	HOCH2(CH2OCH2)3CH2OH		A			A	A					
Tetrahydrofuran (THF)	C4H8O	X	X	C	C	X	A	B			C 100°F	B 70°F
Tetrahydronaphthalene (Tetralin)	C10H12	X	X	X		A	A		A	A	C	
Thionyl Chloride	SOCl2	X	X	X		B	A	B	C	A	B	X
Thiophene	C4H4S	X	X	X		C	A					
Titanium Tetrachloride	TiCl4	X	C	X		A	A	X	X	B	B	B
Toluene (Toluol)	C7H8	X	C	X	C	B	A	C	A	A	X	A
Toluene Diisocyanate	CH3C6H3(NCO)2	X		A	B		A	B				
Toluidine	CH3C6H4NH2		X			B	A		A	A		
Tomato Pulp & Juice			A				A	A	B	A	A	A
Toothpaste		C	A			A	A			A		
Transformer Oil (Petroleum)	Hydrocarbons	C	B	X	B	A	A	X	A	A	B	
Transmission Fluid (Type A)		C	A	X		A	A	C	A	A		
Triacetin	C3H5(OCOCH3)3	B	A	A		X	A	A	B			
Triallyl Phosphate	P(OC3H5)3	C	X	A		A	A				B	A
Triaryl Phosphate	(C6H5O)3PO	C	X			A	A					
Tributyl Phosphate (TBP)	(C4H9)3PO4	X	X	C	C	X	A	B	A	A	B 100°F	A 100°F
Tributyoxyl Ethyl Phosphate	(C4H9O)3P(C2H5)	X	X	A		B	A	B				
Trichloroacetic Acid (TCA)	CCl3COOH	B	C	C	X	B	A	B	X	X	B	B

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PUMP ENGINEERING INNOVATION

CHEMICAL RESISTANCE CHART

Chemical	Formula	Neoprene	Buna-n	EPDM	Hytrel	Viton	PTFE	Santoprene	Aluminum	Stainless Steel	Polypropylene	PVDF
Trichlorobenzenes	C6H3Cl3	X	X			B	A		X	A		
Trichloroethane	C2H3Cl3	X	X	X		B	A	X	X	A	X	A
Trichloroethylene (Ex-Tri) (Hi-Tri)	C2HCl3	X	X	X	X	C	A	X	X	A 90% 167°F	X	A
Trichloropropane	CH2ClCHClCH2Cl	A	X			B	A	X	X	A	X	
Tricresyl Alcohol (Tridecanol)	C12H25 CH2OH		A			B	A					
Tricresyl Phosphate (Lindol) (TCP)	(CH3C6H4O)3 PO	C	X	A	C	C	A	B		B	B	X
Triethanol Amine (TEA)	N(C2H4OH)3	A	X	B	X	C	A	A	A	A	A	X
Triethyl Aluminum (ATE)	Al(C2H5)3	X	X			B	A	B				
Triethyl Amine	(CH3CH2)3N	B	A				A			A	C	A 120°F
Triethyl Borane	(C2H5)3B	X	X			A	A	B				
Triethylene Glycol (TEG)	(CH2OCH2CH2OH)2		A			A	A				A	
Trimethylene Glycol	HO(CH2)3OH		A	A		A	A		A	A		
Trinitrotoluene (TNT)	CH3C6H2(NO2)3	B	X	X		C	A	A				
Trioctyl Phosphate	(C8H17O)3PO	X	X	A		B	A	B				
Tung Oil (Wood Oil)	Fatty acids	C	A	X	B	A	A	B	A	A	A	
Turpentine	C10H16	X	A	X	B	A	A	C	A	A	X	A
Unsymmetrical Dimethyl Hydrazine (UDMN)	H2NN(CH3)2	C	C	A		X	A	B				A
Urea (Carbamide)	CO(NH2)2	B	B		B	A	A		B	B 50%	A	A
Urine		X	A			A	A	A	A	A	A	A
Valeric Acid	CH3(CH2)3COOH	X	X	A			A		A			
Vanilla Extract (Vanillin)	C6H3(CHO)(OCH3)(OH)	X	A			X	A			A		
Varnish (Oil, gum resins, oil of turpentine)		C	B	X		A	A		A	A	A	A
Vegetable Juices		C	A				A	A	C	A		
Vegetable Oils		C	B	A		A	A	B	A	A	X	
Vinegar	Dilute acetic acid	B	C	A	C	A	A	A	C	A	A	A
Vinyl Acetate	CH3COOCHCH2	B	X			X	A		B	A	B	A
Vinyl Chloride (Chloroethylene)	CH2CHCl	X	X	C		A	A	X	X	A	X	B
Walnut Oil		B	A			A	A					
Water, Distilled (Also Deionized)	H2O	C	A	A	A	A	A	A	A	A	A	A
Water, Fresh	H2O	B	A	A	A 72°	A	A	A	A	A	A	A
Waxes	Hydrocarbons	C	A	X			A		A	A		
Weed Killers		C	B			A		B	X	A		
Whiskey	Ethanol, esters, acids	A	B	A	B	A	A	A	A	A	A	A
White Oil (Mineral, petroleum)	Mix of liquid hydrocarbons	C	A	X		A	A	C		A		
White Sulfate Liquor		A	B	A		B	A		B	A	A	A
Wines		A	A	A	A	B	A	A	C	A	A	A
Wort, Distillery	Sugar solution from malt	A				A	A		A	A		
Xylene (Xylol)	C6H4(CH3)2	X	X	X	C	A	A	C	A	B	X	A
Xylidines (Xylidin)	(CH3)2C6H3NH2	X		X		X	A	C	B			
Zeolite (Hydrated alkali aluminum silicates)		C	C	A		A	A	A		A		
Zinc Acetate	Zn(C2H3O2)2	B	C	A		X	A	A	C		A	A
Zinc Carbonate	ZnCO3		A			A	A		B	B		
Zinc Chloride	ZnCl2	B	B	A	A	A	A	A	A 10%	A 10%	A	A
Zinc Hydrosulfite	ZnHSO3	A	A			A	A	A	X	A		
Zinc Sulfate	ZnSO4	A	A	A	X	B	A	A	B 20%	B	A	A

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