

Note: This chart is intended as a guide only and is not a guarantee. Values shown are typical of generally available industry data and can be influenced by specific manufacturers' formulations or other factors. Suitability of materials is also influenced by many application specific factors including pressure, temperature, ambient conditions, concentration and anticipated service exposure. For any application, sufficient testing should be conducted and reviewed by the user and manufacturer to assure safe and satisfactory performance.

FLUID	SEALS				METAL		
Codes: E = Excellent G = Good C = Conditional U = Unsatisfactory	Buna-N	Neoprene	EPDM	Viton	Carbon Steel	Brass	316 SS
Acetaldehyde	U	C	G	U	G	E	E
Acetamide	G	G	E	G	-	-	E
Acetate Solvent	C	U	E	U	-	E	E
Acetic Acid, 5%-20%	U	U	E	G	U	U	C
Acetic Acid, Glacial	U	U	C	U	U	U	C
Acetic Anhydride	U	E	G	U	-	U	E
Acetone	U	U	G	U	E	E	E
Acetophenone	U	U	E	U	E	E	E
Acetyl Acetone	U	U	G	U	U	C	C
Acetyl Chloride	U	U	U	E	C	C	C
Acetylene	U	U	G	E	E	E	E
Air, Hot (Up to +160° F.)	E	E	E	E	E	E	E
Air, Hot (161°F –200° F.)	G	G	E	E	E	E	E
Air, Hot (201°F –300° F.)	U	U	G	E	E	E	E
Air Wet	E	E	E	E	U	G	E
Alcohols:							
Amyl Alcohol	G	G	E	G	G	G	E
Benzyl Alcohol	U	G	G	E	E	G	E
Butyl Alcohol	E	E	G	E	G	G	G
Diacetone Alcohol (Acetol)	U	U	E	U	E	E	E
Ethyl Alcohol (Ethanol)	E	E	E	E	E	E	E
Hexyl Alcohol (Hexanol)	E	G	C	C	E	G	E
Isobutyl Alcohol	G	G	E	E	E	G	E
Isopropyl Alcohol	G	G	E	E	E	E	E
Methyl Alcohol (Methanol)	G	G	E	U	G	G	E
Octyl Alcohol	E	E	E	E	E	E	E
Propyl Alcohol	E	E	E	E	E	E	E
Aluminum Chloride	E	E	E	E	U	U	U
Aluminum Fluoride	E	E	E	E	U	U	U
Aluminum Nitrate	E	E	E	E	U	U	C
Aluminum Sulfate	E	E	E	E	U	C	E
Alums	E	E	E	E	U	C	E
Ammonia, Cold	E	E	E	U	E	U	E
Ammonia, Hot	U	G	G	U	E	U	E
Ammonia, Anhydrous	E	E	E	U	E	U	E
Ammonia, Aqueous	E	E	E	U	E	U	E
Ammonium Carbonate	U	E	E	U	C	U	C
Ammonium Chloride	E	E	E	U	U	U	C
Ammonium Hydroxide	C	C	E	C	G	U	C
Ammonium Nitrate	E	G	E	U	G	U	G
Ammonium Phosphate	E	E	E	-	U	C	G
Ammonium Sulfate	E	E	E	U	U	U	G
Ammonium Sulfite (to +72°F)	E	E	E	U	-	-	G
Amyl Acetate	U	U	G	U	E	E	E
Aniline Oil	U	U	G	U	E	U	E

FLUID	SEALS				METAL		
Codes: E = Excellent G = Good C = Conditional U = Unsatisfactory	Buna-N	Neoprene	EPDM	Viton	Carbon Steel	Brass	316 SS
Aniline Dyes	U	G	G	G	U	C	G
Arsenic Acid	E	E	E	E	U	U	G
Asphalt	G	C	U	E	E	G	E
ASTM Oil # 1	E	E	C	E	E	E	E
ASTM Oil # 2	E	G	U	E	E	E	E
ASTM Oil # 3	E	G	U	E	E	E	E
Automatic Trans. Fluid	E	G	U	E	E	E	E
Barium Chloride	E	E	E	E	U	G	G
Barium Hydroxide	E	E	E	E	G	U	G
Barium Sulfide	E	E	E	E	C	U	G
Benzene, Benzol	U	U	U	E	U	U	E
Benzin	E	U	U	E	E	E	E
Benzoic Acid	U	U	U	E	U	G	G
Black Sulfate Liquor	C	C	C	E	E	C	E
Blast Furnace Gas	U	U	U	E	E	C	E
Borax	G	G	E	E	E	E	E
Boric Acid	G	G	G	E	U	G	C
Brine	E	G	E	E	U	G	G
Bromine	U	U	U	E	U	C	U
Butane	E	E	U	E	E	E	E
Butyl Acetate	U	U	G	U	E	E	E
Butyl Cellosolve	U	U	G	U	E	E	E
Butylene	C	U	U	E	E	E	E
Butyl Stearate	G	U	U	E	G	G	G
Butyraldehyde	U	U	G	U	E	E	E
Calcium Acetate	G	G	E	U	G	G	G
Calcium Bisulfate	E	E	U	E	U	C	C
Calcium Chloride	E	E	E	E	G	G	G
Calcium Hydroxide	E	E	E	E	G	G	G
Calcium Hypochlorite	U	U	E	E	U	G	C
Calcium Nitrate	E	E	E	E	G	G	G
Cane Sugar Liquors	E	E	E	E	E	G	E
Carbitol	G	G	G	E	E	E	E
Carbolic Acid	U	U	G	E	U	E	E
Carbonic Acid	G	E	E	E	U	C	E
Carbon Dioxide	G	G	E	E	E	E	E
Carbon Disulfide	U	U	U	E	G	G	G
Carbon Monoxide	G	G	E	E	E	E	E
Carbon Tetrachloride	U	U	U	E	U	G	G
Castor Oil	E	E	G	E	E	E	E
Chlorine	U	U	U	G	C	C	C
Chloroacetic Acid	U	U	G	U	U	U	U
Chloroacetone	U	U	E	U	G	G	G
Chlorobenzene	U	U	U	G	G	G	G
Chloroform	U	U	U	E	G	G	G
Chlorosulfonic Acid	U	U	U	U	-	U	G
Chrome Plating Solution	U	U	G	E	C	U	U
Chromic Acid	U	U	C	E	C	U	U
Citric Acid	E	E	E	E	C	C	C
Coke Oven Gas	U	U	U	E	E	C	E
Copper Chloride	E	E	E	E	U	U	U
Copper Cyanide	E	E	E	E	E	U	G
Copper Sulfate	E	E	E	E	U	C	G
Cotton Seed Oil	E	G	C	E	E	E	E
Creosote (Coal Tar)	G	C	U	E	E	C	E
Crude Oil	E	G	U	E	G	U	G
Cyclohexanol	E	G	U	E	E	E	E
Cyclohexanone	U	U	G	U	E	E	E
Detergent/Water Solution	E	E	E	E	G	E	E
Dibenzyl Ether	U	U	G	U	G	G	G
Diesel Oil	E	C	U	E	E	E	E

Technical Data

Fluid Compatibility

Diethylamine	G	G	G	U	E	U	E
Diethyl Phthalate (DOP)	U	U	G	G	E	E	E
Dowtherm A, Dowtherm E	U	U	U	E	G	U	E
Ethane (to +72°F)	E	G	U	E	-	-	E
Ether (to +72°F)	U	U	C	C	-	G	E
Ethanolamine	G	G	G	U	-	-	E
Ethyl Acetate	U	U	G	U	E	E	E
Ethyl Benzene	U	U	U	E	E	G	G
Ethyl Cellulose	G	G	G	U	E	G	G
Ethyl Chloride	U	U	U	E	E	E	E
Ethylene Dichloride	U	U	U	G	G	C	G
Ethylene Glycol	E	E	E	E	E	G	E
Ferric Chloride	E	G	E	E	U	U	U
Ferric Nitrate	E	E	E	E	U	U	G
Ferric Sulfate	G	G	G	E	U	U	E
Formaldehyde	C	C	G	G	E	E	E
Formic Acid	C	G	E	U	U	C	C
Fuel Oil	E	G	U	E	E	E	E
Furfural	C	C	G	U	G	G	G
Gallic Acid	G	G	G	E	U	-	G
Gasoline	E	C	U	E	E	E	E
Gasohol	G	G	U	E	E	E	E
Glycerine/Glycerol	E	E	E	E	E	G	E
Green Sulfate Liquor	G	G	E	E	U	U	E
Helium	E	E	E	E	E	E	E
Heptane	E	G	U	E	E	E	E
Hexaldehyde	U	G	G	U	G	G	E
Hexane	E	G	U	E	E	E	E
Hydraulic Oils:							
Straight Petroleum Base	E	G	U	E	E	E	E
Water Petroleum Emulsion	E	G	U	E	C	E	E
Water Glycol	E	E	E	E	E	E	E
Straight Phosphate Ester	U	U	G	C	E	E	E
Phos. Ester/Petroleum Blend	U	U	U	C	E	E	E
Ester Blend	E	U	U	E	E	E	E
Silicone Oils	E	E	E	E	E	E	E
Hydrobromic Acid	U	U	E	E	E	U	E
Hydrochloric Acid	U	U	G	E	U	U	U
Hydrocyanic Acid	C	C	E	E	E	E	G
Hydrofluoric Acid	U	U	C	U	U	U	U
Hydrofluorosilic Acid	G	G	E	E	U	U	E
Hydrogen	E	E	E	E	E	E	E
Hydrogen Peroxide	G	G	G	E	U	U	G
Hydrogen Sulfide, Dry	U	G	E	U	E	G	G
Isocyanate	U	U	G	E	G	-	G
Iso Octane	E	G	U	E	E	E	E
Isopropyl Acetate	U	U	G	U	E	-	E
Isopropyl Ether	G	U	U	U	G	G	G
JP-4, JP-5	E	U	U	E	E	E	E
Kerosene	E	U	U	E	E	E	E
Ketones	U	U	E	U	-	-	E
Lacquer/Lacquer Solvents	U	U	U	U	U	E	E
Lime Sulfur	U	E	E	E	G	U	G
Linseed Oil	E	G	U	E	E	E	E
LPG	E	G	U	E	E	E	E
Lubricating Oils: See							
Hydraulic Oils							
Magnesium Chloride	E	E	E	E	E	C	C
Magnesium Hydroxide	G	G	E	E	E	G	E
Magnesium Sulfate	E	E	E	E	E	E	E
Maleic Acid	U	U	U	E	E	G	G
Maleic Anhydride	U	U	U	E	G	U	E
Malic Acid	G	G	U	G	U	-	E
Mercuric Chloride	E	E	E	E	U	U	U
Mercury	E	E	E	E	E	U	E
Methyl Bromide	G	U	U	E	E	E	G
Methyl Chloride	U	U	U	E	E	E	E
Methyl Butyl Ketone	U	U	E	U	E	E	E
Methyl Ethyl Ketone	U	U	E	U	G	G	G

Methylene Chloride	U	U	U	G	G	G	G
Methyl Isobutyl Ketone	U	U	U	U	G	G	G
Methyl Isopropyl Ketone	U	U	U	U	G	G	G
Methyl Salicylate	U	U	C	U	E	G	G
MIL-L-2104	E	G	U	E	E	E	E
MIL-O-5606	E	G	U	E	E	E	E
MIL-H-6083	E	E	U	E	E	E	E
MIL- L-7808	G	U	U	E	G	G	E
MIL-L-23699	G	U	U	E	E	E	E
MIL-H-46170	E	G	U	E	E	E	E
MIL-H-83282	E	E	U	E	E	E	E
Mineral Oils	E	G	U	E	E	E	E
Naphtha	C	U	U	E	-	E	E
Naphthalene	U	U	U	E	E	G	E
Naphthenic Acid	C	U	U	E	-	G	E
Natural Gas	E	E	U	E	G	G	G
Nickel Acetate	C	C	E	G	G	C	E
Nickel Chloride	E	G	E	E	U	U	G
Nickel Sulfate	E	E	E	E	U	G	G
Nitric Acid, to 10%	U	U	U	E	U	U	E
Nitric Acid, over 10%	U	U	U	G	U	U	E
Nitrobenzene	U	U	U	G	E	G	E
Nitrogen	E	E	E	E	E	E	E
Oleic Acid	U	U	C	G	C	E	G
Oleum (Mineral Spirits)	E	G	U	E	E	E	E
Ortho- Dichlorobenzene	U	U	U	E	G	G	G
Oxalic Acid	G	G	E	E	U	C	C
Oxygen	-	-	-	-	G	G	G
Palmitic Acid	E	G	G	E	G	U	E
Para-Dichlorobenzene	U	U	U	E	G	G	G
Pentane	E	E	U	E	G	G	G
Perchloric Acid	E	G	G	E	U	U	U
Perchloroethylene	U	U	U	E	C	G	G
Phenol (Carbolic Acid)	U	U	U	E	U	U	G
Phosphoric Acid	U	U	G	E	U	E	E
Phosphorous Trichloride	U	U	E	E	C	U	C
Potassium Acetate	G	G	E	U	C	G	C
Potassium Chloride	E	E	E	E	E	C	E
Potassium Cyanide	E	E	E	E	C	U	G
Potassium Dichromate	E	E	E	E	C	C	C
Potassium Hydroxide (to 10%)	G	G	E	G	G	G	G
Potassium Hydroxide (over 10%)	C	C	E	U	G	G	G
Potassium Nitrate	E	E	E	E	G	G	E
Potassium Sulfate	E	E	E	E	-	U	E
Propane	E	C	U	E	E	E	E
Propyl Acetate	U	U	G	U	E	-	E
Propylene	U	U	U	E	E	E	E
Refrigerant R-12	G	E	C	E	E	E	E
Refrigerant R-13	G	E	C	E	E	E	E
Refrigerant R-22	U	E	C	U	E	E	E
Sewage	E	E	E	E	G	G	G
Soap (Water Solutions)	E	E	E	E	E	E	E
Sodium Acetate (to +72°F)	G	G	E	U	-	G	G
Sodium Bicarbonate	E	E	E	E	G	G	E
Sodium Borate	E	E	E	E	E	E	E
Sodium Carbonate	E	E	E	E	E	G	E
Sodium Chloride	E	E	E	E	U	C	C
Sodium Cyanide	E	E	E	E	E	-	C
Sodium Hydroxide (to 10%)	U	G	E	E	C	G	C
Sodium Hydroxide (over 10%)	U	U	G	E	C	C	C
Sodium Hypochlorite	C	C	E	C	U	U	U
Sodium Metaphosphate	E	E	E	E	U	G	G
Sodium Nitrate (to +72°F)	G	G	E	G	E	C	G
Sodium Perborate	G	G	E	E	C	U	C
Sodium Peroxide	G	G	E	E	U	U	C
Sodium Phosphates	E	E	E	E	U	E	G
Sodium Silicate	E	E	E	E	E	E	E

Technical Data

Fluid Compatibility

Sodium Sulfate	E	E	E	E	G	G	G
Sodium Sulfide	E	E	E	E	C	U	C
Sodium Thiosulfate	G	E	E	E	U	U	C
Soy Bean Oil	E	G	U	E	E	E	E
Stannic Chloride	E	G	E	E	U	U	U
Stannous Chloride (to 72°F)	E	E	C	E	-	-	E
Steam (up to 388° F)	U	U	C	C	E	E	E
Stearic Acid	G	G	G	E	C	C	E
Stoddard Solvent	E	G	U	E	E	E	E
Styrene	U	U	U	G	E	E	E
Sulfur	U	E	E	E	E	U	G
Sulfur Chloride	U	U	U	E	-	U	U
Sulfur Dioxide	U	U	G	E	E	G	G
Sulfur Trioxide	U	U	G	E	G	C	G
Sulfuric Acid (to 10%)	U	G	U	E	U	G	C
Sulfuric Acid (over 10%)	U	U	U	G	C	C	U
Sulfurous Acid	C	C	U	U	U	C	C
Tannic Acid	E	E	E	E	E	E	E
Tar (Bituminous)	G	U	U	E	E	G	E
Tartaric Acid	E	G	G	E	U	C	C
Tertiary Butyl Alcohol	G	G	G	E	G	G	G
Titanium Tetrachloride	C	U	U	E	E	U	G
Toluene (Toluol))	U	U	U	E	E	E	E

Trichloroethane	U	U	U	E	E	-	E
Trichloroethylene	U	U	U	E	E	G	E
Tricresylphosphate (to 120°F)	U	C	E	G	E	-	G
Triethanolamine	U	G	E	U	E	U	E
Tung Oil	G	G	U	E	E	G	E
Turpentine	G	U	U	E	G	G	G
Varnish	G	U	U	E	E	G	E
Vinyl Chloride	U	U	U	E	E	U	C
Water:							
Water (to +150°F)	E	E	E	E	C	G	E
Water (+151°F to +200°F)	E	E	E	E	C	G	E
Water (+201°F to +350°F)	U	U	U	G	C	G	E
Water, Deionized (to 72°F)	E	E	E	E	U	E	E
Water, Deionized (to 120°F)	-	E	-	-	U	E	E
Water, Distilled	E	E	E	E	C	E	E
Water, Salt	E	E	E	E	U	U	G
Xylene	U	U	U	E	E	E	E
Zinc Chloride	E	E	E	E	E	U	U
Zinc Sulfate	E	E	E	E	U	C	G