macnaught

Max Flow Series
Diaphragm Pumps

CHEMICAL COMPATIBILITY CHART

CHEMICAL COMPATIBILITY

Legend	Diaphragm		Casing			
A : Excellent B : Good C : Poor X : Not Recommended — : No Data % : The ratio of the chemical ° : Liquid Temp	Nitrile Buna-N (NBR)	Teflon (PTFE)	Polypropylene (PP)	Glass-Filled Polypropylene (PPG)	Aluminium (AL)	Stainless Steel (SUS)
A(Aliphatic)	A	A	—	—	A	A
Acetaldehyde	X	A	C	C	A	A
Acetamide	B	A	A	A	A	X
Acetate Solvents	X	A	B	X	A	A
Acetic Acid—20%	C	A	B	C	B	A
Acetic Acid—30%	C	A	B	C	B	A
Acetic Acid—50%	C	A	B	C	B	A
Acetic Andydride	C	A	C	X	B	A
Acetone	X	A	X	X	B	A
Acetone Cyanohydrin	X	A	—	—	A	B
Acetonitrile	C	A	—	B/38°	A	A
Acetophenone	X	A	A	A/20°	B	A
Acetyl Acetone	X	A	—	—	B	B
Acetyl Chloride	X	A	—	X	X	B
Acetyl Salicylic Acid	—	A	—	—	A	B
Acetylene	A	A	B	X	A	A
Acetylene Tetrabromide	X	A	—	—	X	A
Acrolein	B	A	—	—	A	B
Acrylonitrile	X	A	B	B	A	A
Adipic Acid Aqueous	B	A	B	A	B	B
Alcohols	—	—	—	A	—	—
Allyl Alcohol(2—Propen—1—ol)	A	A	—	—	B	A
Allyl Bromide(3—Bromopropene)	X	A	—	—	X	—
Allyl Chloride(3—Chloropropene)	X	A	A	A/70°	X	B
Almond Oil(artificial)	X	A	—	—	—	—
Alum(Aluminum Potassium Sulfate Dodecatydrate)	A	A	—	A	—	B
Aluminum Acetate	C	A	—	A/38°	B	A
Aluminum Bromide	A	A	—	—	—	—
Aluminum Chloride	A	A	A	A	X	B
Aluminum Fluoride	A	A	A	A	A/50%	C
Aluminum Hydroxide	B	A	A	A	B/10%	B
Aluminum Nitrate	A	A	A	A	X	A/10%
Aluminum Phosphate	A	A	—	—	—	—
Aluminum Potassium Sulfate(Potash Alum)	A	A	A	A	A/10%	A
Aluminum sodium Sulfate(Soda Alum)12—water	A	A	—	—	—	—

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Aluminum Sulfate(Cake Alum)	A	A	A	A	B/30%	A75°50%
Alumminum Ammonium Sulfate(Alum)	B	A	—	A	—	—
Amines	X	—	—	B	A	A
Ammonia Anhydrous, Liquid	B	A	A	A	A	A
Ammonia Gas — Cold	A	A	B	—	—	—
Ammonia Gas — Hot	C	A	—	—	—	—
Ammonia Liquors	—	A	A	—	A	A
Ammonium Acetate	—	A	—	—	A	A/50%
Ammonium Bicarbonate	A	A	—	—	B	B/90%
Ammonium Bifluoride — 10%	B	A	A	A	C	B
Ammonium Carbonate	X	A	A	A	B	B100°70%
Ammonium Chloride	A	A	A	A	X	B
Ammonium Dichromate	A	A	—	—	A	A/30%
Ammonium Fluoride	B	A	—	B	B/10%	B
Ammonium Hydroxide	B	A	A	A	A/30%	A/50%
Ammonium Nitrate	A	A	A	A	B	A
Ammonium Oxalate	A	—	—	—	—	A
Ammonium Persulfate	C	A	A	A	C	A
Ammonium Phosphate, Di—Basic	A	A	A	A	B	A
Ammonium Phosphate, Monobasic	A	A	A	A	X	B
Ammonium Phosphate, Tri—Basic	A	A	A	A	X	B
Ammonium Sulfate	A	A	A	A	X	A100°80%
Ammonium Sulfide	A	A	—	—	B	B
Ammonium Sulfite	A	A	—	A	C	B
Ammonium Thiocyanate	A	A	—	—	C	A/50%
Amyl Acetate	X	A	C	B	A	A
Amyl Alcohol	B	A	B	A	A	A
Amyl Borate	A	A	—	—	—	—
Amyl Chloride	X	A	X	X	X	A
Amyl Naphthalene	X	A	—	—	—	—
Amyl Phenol	X	A	—	—	A	A
Amyl(1—Pentanol)	B	A	—	B	B	A
Anilene	X	A	B	A	B	A
Anilene Dyes	C	A	—	—	B	B
Anilene Hydrochloride	C	A	—	X	X	X

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Animal Fats & Oil	A	A	—	—	A	A
Animal Gelatin	A	A	—	—	—	A
Anisole	—	A	—	—	B	B
Ansul Ether	C	A	—	—	—	—
Anthraquinone	—	A	—	—	B	B
Anti—Freeze — Alcohol Base	A	A	A	—	A	A
Anti—Freeze — Glycol Base	A	A	A	—	A	A
Antimony Pentachloride	X	A	—	—	A	A
Antimony Trichloride	B	A	A	A	B	A
Aqua Regia	X	A	B	X	X	X
Aroclor	C	A	—	X	A	A
Aromatic Hydrocarbons	X	A	X	—	A	A
Aromatic Solvents(Benzene, etc)	C	A	—	—	A	A
Arsenic Acid	B	A	A	A	A	B
Arsenic Trichloride	C	A	A	—	B	X
Ascorbic Acid	—	A	—	—	A	A
Askarel	B	A	—	—	—	A
Asphalt	B	A	A	A	A	A
Asphalt Topping	C	A	—	—	—	A
Aviation Gasoline	A	A	—	—	A	A
B(30% Aromatic)	A	A	—	—	A	A
Barbeque Sauce	A	A	—	—	—	A
Barium Carbonate	A	A	A	A	X	B
Barium Chloride Dihydrate	A	A	A	A	B/50%	B/100°
Barium Cyanide	C	—	—	X	—	A
Barium Hydroxide(Barium Hydrate)	A	A	A	A	X	A 50°50%
Barium Nitrate	A	A	—	A	B	A
Barium Sulfate	A	A	A	A	B	B
Barium Sulfide	A	A	A	A	X	B
Beef Extract	A	A	—	—	—	A
Beer	C	A	B	A/25°	A	A
Beet Sugar Liquors	A	A	—	A	A	A
Benzaldehyde	X	A	X	X	A	A
Benzene	X	A	B	X	B	A/75°
Benzene Sulfonic Acid	C	A	—	X	C	A

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Benzoic Acid(Benzene Carboxylic Acid)	X	A	B	X	B	B
Benzol	X	A	X	X	B	A/75°
Benzoyl Chloride	X	A	—	—	X	B
Benzyl	X	A	A	A	B	A
Benzyl Acetate	X	A	—	—	A	A
Benzyl Alcohol	X	A	A	A	A	A
Benzyl Benzoate	X	A	—	—	A	B
Benzyl Chloride	X	A	X	X	X	B
Biphenyl	X	A	—	—	A	—
Bismuth Subcarbonate	A	A	—	—	—	B/10%
Black Sulfate Liquor	B	A	—	—	C	A
Blast Fumace Gasl	C	A	—	—	—	—
Borax	B	A	A	A	B	A
Bordeaux Mixture	A	A	—	—	—	A
Boric Acid	A	A	A	A	A	A/30%
Brake Fluid(non—petroleum base)	X	A	—	X	A	A
Brewery Slop	A	A	—	—	—	A
Bromine Trifluoride	X	—	X	X	A	B
Bromine Water	X	A	X	X	X	X
Bromine—Anhydrous	X	A	X	X	B	X
Bromobenzene	X	A	X	X	X	A
Bromochloromethane	X	A	—	—	X	B
Bromopropene(3—Bromopropene)	X	A	—	—	X	—
Bromotoluene	X	A	A	—	X	A
Bronzing Liquid	X	A	—	—	—	A
Bunker Oil(fuel)#5, #6, & C	A	A	—	—	A	A
Butadiene	X	A	—	X	A	A
Butane(LPG)	A	A	B	X	A	A
Buttemilk	A	—	—	A	A	A
Butter	A	A	—	—	A	A
Butyl	A	A	—	B	B	A
Butyl Acetate	X	A	X	X	A	A
Butyl Acetate(n—Butyl Acetate)	X	A	—	—	A	A
Butyl Acetyl Ricinoleate	C	A	—	—	—	—
Butyl Acrylate	X	A	X	—	—	—

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Butyl Alcohol	A	A	B	A	A	A
Butyl Amine	B	A	—	X	A	A
Butyl Benzoate	—	A	—	—	B	B
Butyl Bromide	X	A	—	—	—	—
Butyl Butyrate	X	A	—	—	A	A
Butyl Carbitol	A	A	—	—	—	—
Butyl Cellosolve	B	A	—	—	—	—
Butyl Chloride	X	A	—	X	X	B
Butyl Ether	A	A	—	X	A	A
Butyl Oleate	—	A	—	—	—	—
Butyl Stearate	A	A	—	—	B	B
Butylene	B	A	X	X	A	A
Butyraldehyde	X	A	X	—	A	A
Butyric Acid	C	A	A	A	A	B
Butyric Anhydride	C	A	—	—	A	A
Butyronitrile	X	A	—	—	—	—
Calcium Acetate Hydrate	B	A	—	—	C	B
Calcium Bisulfite	A	A	—	A	X	A/90%
Calcium Carbonate(Chalk)	A	A	A	A	C	B
Calcium Chlorate	A	A	—	A	B/30%	B/30%
Calcium Chloride	A	A	A	A	A	A
Calcium Hydrosulfide	A	A	—	—	—	—
Calcium Hydroxide	A	A	A	A	X	B/50%
Calcium Hypochlorite 20%	C	A	A	A	X	B
Calcium Nitrate	A	A	A	A	B 100° 40%	B 100° 40%
Calcium Oxide	A	A	—	—	A	A
Calcium Silicate	A	A	—	—	A	A
Calcium Sulfate	A	A	A	A	C	A/10%
Calcium Sulfide	A	A	A	A/50°	A/20%	B
Calcium Sulfite	A	A	A	—	B/10%	A/10%
Calgon	A	—	A	A	—	A
Cane Juice	A	—	B	X	B	A
Cane sugar Liquors	A	A	A	A	A	A
Capryl Alcohol	A	A	—	—	A	A
Caprylic Acid	C	A	—	—	A	A

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Carbamate	C	A	—	—	—	—
Carbitol	B	A	C	C	B	B
Carbolic Acid	X	A	C	C	B	B
Carbon Tetrachloride	C	A	B	X	X	B
Carbon Dioxide	A	A	A	A	A	A
Carbon Disulfide	X	A	B	X	A	A/90%
Carbon Monoxide	C	A	A	A	A	A
Carbonated Beverages	A	A	A	A	C	A
Carbonic Acid(liquid)	B	A	A	A	A	B
Casein	A	A	—	—	B	B
Castor Oil	A	A	—	—	A	A
Cellosolve	C	A	A	A/38°	A	A
Cellulose Acetate	B	A	—	—	B	A
Cellulube Hydraulic Fluids	X	A	—	—	A	A
Chlorinated Lime — 35% bleach	C	A	—	—	—	A
Chlorinated Water	C	A	—	B	C	B
Chlorine — Dry	C	A	X	X	X	—
Chlorine Dioxide	X	A	—	X	B	X
Chlorine Trifluoride	X	A	—	X	A	A
Chlorine—Anhydrous Liquid	X	A	X	X	X	X
Chlorine—Wet	C	A	X	X	B	A
Chloroacetic Acid	X	A	B	A	X	X
Chloroacetone	X	A	X	X	X	B
Chlorobenzene	X	A	X	X	X	B
Chlorobromomethane	X	A	X	X	X	B
Chlorobutadiene	X	A	X	X	X	B
Chloroform	X	A	X	X	X	A
Chlorophenol(o—Chlorophenol)	X	A	—	—	B	B
Chloropropene(3—Chloropropene)	X	A	—	A/70°	X	B
Chlorosulfonic Acid	X	A	X	X	B	B
Chlorothene(Chlorinated Solvents)	X	A	—	—	X	A
Chlorotrifluoroethylene	X	A	—	—	B	B
Chlorox	C	A	B	B	—	A
Chocolate Syrup	A	A	A	A	—	A
Chromic Acid — To 25%	X	A	A	A	B/10%	X

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Chromic Acid— Over 25%	X	A	A	A	X	X
Cider	A	A	—	—	B	A
Cinnamon Oil	—	A	—	—	—	A
Citric Acid	B	A	A	B	B	A/30%
Citric Oils	C	A	A	A	—	A
Citrus Pectin Liquor	A	A	—	—	—	A
Clove Oil	—	A	B	—	—	A
Cobalt Chloride	A	A	A	A	X	—
Coconut Oil(Coconut Butter)	B	A	A	—	B	A
Cod Liver Oil	B	A	A	—	A	A
Coffee	A	A	A	A	A	A
Coke Oven Gas	C	A	—	—	—	—
Com Oil(Maize Oil)	A	A	—	A	B	B
Concentrated	X	A	—	X	A	A
Copper Acetate	B	A	A	—	X	B/10%
Copper Chloride	A	A	A	A	X	X
Copper Cyanide	A	A	A	A	X	A/10%
Copper Fluoroborate	B	—	A	—	X	X
Copper Sulfate	A	A	A	A	X	A/10%
Copper Sulfide	A	A	—	—	—	—
Cotton Seed Oil	A	A	A	A	A	A
Cream	A	A	A	A	—	A
Creosote, Coal—Tar	A	A	—	X	B	B
Creosote, Wood — Tar	A	A	—	X	—	B
Cresylic Acid	C	A	C	X	B	A
Crotonaldehyde	X	A	—	—	A	A
Cumene	X	A	—	—	B	B
Cutting Oil(sulfur base)	A	A	—	—	A	A
Cutting Oil(water soluble)	C	A	—	—	A	A
Cyclohexane	B	A	X	X	B	B
Cyclohexanol	B	A	B	B	C	A
Cyclohexanone	X	A	X	X	B	B
Cyclopentane	B	A	—	—	B	B
Cymene	C	A	—	—	—	—
Decahdronaphthalene	X	A	B	—	—	—

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Decanal	X	A	—	—	—	—
Decane	B	A	A	A/70%	—	—
Decyl Alcohol	A	A	—	—	—	—
Denatured Alcohol	A	A	A	A	B	A
Detergent Solutions	A	A	A	A	B	A
Developing Fluids & Solutions	A	A	—	—	—	A
Dextrose	B	A	—	A	A	A
Diacetone	X	A	X	X	A	A
Diacetone Alcohol	A	A	—	X	A	A
Dibenzyl Ether	X	A	X	—	B	B
Dibenzyl Sebecate	X	A	—	—	—	—
Dibutyl Amine	C	A	X	X	—	A
Dibutyl Phthalate(DBP)	X	A	C	X	A	A
Dibutyl Sebacate(DBS)	X	A	B	C	—	A
Dichloro Isopropyl Ether	X	A	X	X	—	—
Dichloroacetic Acid	X	A	—	—	—	—
Dichlorobenzene(o—Dichlorobenzene)	X	A	B	X	X	A
Dichlorobutane	—	—	—	—	—	B
Dichloroethyl Ether	X	A	—	—	B	—
Diesel Oil(Fuel ASTM #2)	A	A	B	B	A	A
Diester Synthetic Oils	B	A	—	—	A	A
Diethanol Amine	B	A	—	A	—	A
Diethlene Ether	X	A	—	—	A	A
Diethyl Amine	C	A	—	A	B	A
Diethyl Benzene	X	A	—	—	—	—
Diethyl Carbonate	X	A	—	—	—	—
Diethyl Ether	B	A	—	X	B	A
Diethyl Sebecate	X	A	A	A/50°	A	A
Diethylene Glycol(DEG)	A	A	—	A	A	A
Diethylene Triamine	B	A	—	—	A	A
Diisobutyl Ketone	X	A	—	—	A	A
Diisobutylene	B	A	—	A	—	—
Diisodecyl Adicate(DIDA)	X	A	—	—	—	—
Diisodecyl Phthalate(DIDP)	X	A	—	—	—	—
Diisooctyl Adipate(DIOA)	X	A	—	—	A	A

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Diisooctyl Phthalate(DIOP)	X	A	—	—	—	—
Diisooctyl Sebecate(DIOS)	—	A	—	—	—	—
Diisopropyl Amine	B	A	—	—	—	—
Diisopropyl Benzene	X	A	—	—	—	—
Diisopropyl Ketone	X	A	—	—	—	A
Dimethyl Ether	A	A	—	—	B	B
Dimethyl Formamide	C	A	A	A/50°	A	A
Dimethyl Phthalate	X	C	A	—	—	—
Dimethyl Sulfate	X	A	—	—	—	—
Dimethyl Sulfide	X	A	—	—	A	A
Dimethylaniline(N, N—Dimethylaniline)	X	A	A	X	B	—
Dinitrotoluene(DNT)	X	A	—	—	—	A
Dioctyl Phtahalate(DOP)	X	A	—	—	A	A
Dioctyl Sebacate(DOS)	X	A	—	—	A	A
Dioxolanes	X	A	—	—	—	—
Dipentene	C	A	—	—	A	A
Diphenyl Oxides	X	A	—	—	B	A
Dipropyl Ketone	X	A	—	—	—	—
Dipropylamine	B	A	—	—	—	—
Dipropylene Glycol	A	A	—	A	—	—
Divinyl Benzene(DVB)	X	A	—	—	—	—
Dodecyl Benzene	X	A	—	—	A	A
Dow Coming	A	A	—	—	A	—
Dowtherm	X	A	—	—	A	A
Drycleaning Fluids	C	A	X	X	A	A
Dyes	—	—	—	—	B	A
Ehthyl Silicate	A	A	—	—	B	A
Epichlorohydrin	X	A	B	A	A	A
Epsom Salts	A	A	A	A	A	A
Ethane	A	A	—	C	A	A
Ethanol	A	A	—	A/38°	B	A
Ethanolamine	B	A	X	X	B	A
Ethyl Acetate	X	A	B	C	A	A
Ethyl Acetoacetate	X	A	—	—	A	A
Ethyl Acrylate	X	A	X	B	A	A

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Ethyl Aluminum Dichloride	X	A	—	—	—	—
Ethyl Amine	X	A	—	—	B	A
Ethyl Benzene	X	A	X	X	B	B
Ethyl Benzoate	X	A	—	B	A	A
Ethyl Bromide	X	A	—	—	X	A
Ethyl Bromide	X	A	—	—	X	A
Ethyl Butyl Acetate	X	A	—	—	—	—
Ethyl Butyl Alcohol	A	A	—	—	—	—
Ethyl Butyl Ketone	X	A	—	—	—	—
Ethyl Butyraldehyde	X	A	—	—	—	—
Ethyl Butyrate	X	A	—	B	B	A
Ethyl Caprylate	X	A	—	—	—	—
Ethyl Cellosolve	C	A	—	—	—	—
Ethyl Cellulose	B	A	—	C	B	B
Ethyl Chloride	A	A	X	X	X	A
Ethyl Chlorocarbonate	—	A	X	—	—	—
Ethyl Cyanide	X	A	—	—	—	—
Ethyl Formate	X	A	—	—	B	B
Ethyl Isobutyrate	X	A	—	—	—	—
Ethyl Iodide	—	—	—	—	—	—
Ethyl Mercaptan	X	A	—	—	B	B
Ethyl Oxalate	X	A	—	—	—	—
Ethyl Pentachlorobenzene	X	A	X	X	X	—
Ethyl Propionate	X	A	—	—	A	A
Ethyl Sulfate	A	A	—	—	—	X
Ethylene	B	A	—	—	A	A
Ethylene Chlorohydrin	X	A	X	X	—	A
Ethylene Diamine	B	A	A	A	C	A
Ethylene Dibromide	X	A	—	X	X	B
Ethylene Dichloride(Dutch Oil)	X	A	X	X	X	B
Ethylene Glycol Monobutyl Ether	B	A	A	—	A	A
Ethylene Glycol Monombutyl Ether Acetate	C	A	A	—	A	A
Ethylene Glycol Monomethyl Ether	C	A	A	—	B	A
Ethylene Glycol〈Ethylene Alcohol	A	A	A	A/50°	A	A
Ethylene Oxide	X	A	X	C	A	A

CHEMICAL COMPATIBILITY

Legend	Diaphragm		Casing			
A : Excellent B : Good C : Poor X : Not Recommended — : No Data % : The ratio of the chemical ° : Liquid Temp	Nitrile Buna-N (NBR)	Teflon (PTFE)	Polypropylene (PP)	Glass-Filled Polypropylene (PPG)	Aluminium (AL)	Stainless Steel (SUS)
Ethylene Trichloride	X	A	X	X	X	A
Ethylhexyl Acetate	X	A	—	—	—	—
Ethylhexyl Alcohol	A	A	—	—	A	A
Ethylidene Chloride	X	A	—	—	X	A
Fatty Acids	B	A	B	B	A/90%	A
Ferric Chloride	A	A	A	A	X	X
Ferric Hydroxide	B	A	—	—	—	A
Ferric Nitrate	A	A	A	A	X	B
Ferric Sulfate	A	A	A	A	C	B
Ferrous Chloride	A	A	A	A	X	B/20%
Ferrous Sulfate	A	A	A	A	A/10%	B
Fish Oil	A	A	—	—	—	—
Fluoboric Acid	A	A	A	A	X	A/30%
Fluorine(Liquid)	X	A	X	X	X	A
Fluorobenzene	X	A	X	X	—	—
Fluorolube(Fluorocarbon Oils)	C	A	X	X	A	A
Fluosilicic Acid	B	A	A	A	X	A/100°
Formal dehyde	B	A	A	A	A	A/90%
Formamide	A	A	—	—	A	B
Formic Acid	C	A	A	A/70%	X	C
Freon 11(Trichlorofluoromethane)	C	A	X	B	B	A
Freon 113(Trichlorotrifluoroethane)	B	A	X	—	B	A
Freon 114(Dichlorotetrafluoroethane)	A	A	X	—	B	A
Freon 114B2(Dibromotetrafluoroethane)	B	A	—	—	—	—
Freon 115(Chloropentafluoroethane)	A	A	X	—	A	—
Freon 12(Dichlorofluoromethane)	B	A	B	—	A	A
Freon 13(Chlorofluoromethane)	A	A	X	—	A	A
Freon 13B1(Bromotrifloromethane)	A	A	—	—	—	—
Freon 14(Tetrafluoromethane)	X	A	—	—	—	—
Freon 21(Dichlorofluoromethane)	X	A	X	—	A	—
Freon 22(Chlorofluoromethane)	X	A	X	—	A	A
Fruit Juices	A	A	A	A	A/10%	A
Fuel Oils(ASTM #1 thru #9)	A	A	C	C	A	A
Fumaric Acid	C	A	—	—	—	—
Fural	X	A	—	C	—	—

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Furfural(Ant Oil)	X	A	X	X	A	A/20%
Furfuryl Alcohol	X	A	—	—	A	A
Fusel Oil	A	A	—	—	—	—
Gallic Acid	B	A	A	A/20°	A/20%	B
Gasoline	A	A	X	C	A	A
Gelatin	A	A	A	A	A	A
Ginger Oil	—	A	—	—	—	A
Glauber's Salt	A	A	—	—	—	—
Gluconic Acid	C	A	—	—	B	A/50%
Glucose	A	A	A	A	A	A
Glue	A	A	B	A	A	B
Glycerol	A	A	—	A	A	A
Glycolic Acid	A	—	A	A	—	—
Glycols	A	A	A	A	B	B
Grape Juice	C	A	A	A	—	A
Grapefruit Oil	X	A	—	—	—	A
Grease	A	A	—	—	A	A
Heptane	A	A	C	C/60°	A	A
Heptanol	A	—	—	A	A	A
Hexalin	B	A	—	—	—	—
Hexanol	X	A	—	—	A	A
Hexyl(1—Hexanol)	A	A	—	A/20°	A	A
Hexylene Glycol	A	A	—	—	A	A
Honey	—	A	A	A	A	A
Hydrazine	C	A	A	X	A	A
Hydrobromic Acid	X	A	B	B	X	X
Hydrochloric Acid 10%	B	A	A	X	X	X
Hydrochloric Acid 20%	B	A	A	X	X	X
Hydrochloric Acid 30%(Conc.)	C	A	A	X	X	X
Hydrocyanic Acid	B	A	A	A	A/10%	A
Hydrofluoric Acid(Conc.)Cold	—	A	X	X	X	X
Hydrogen Fluoride	X	A	A	C	X	X
Hydrogen Peroxide 10%	B	A	—	X	C	A
Hydrogen Peroxide 3%	B	A	—	X	C	—

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Hydrogen Peroxide 30%	C	A	—	X	C	A
Hydrogen Peroxide 90%	X	A	—	X	C	A
Hydrogen Sulfide(Wet)	X	A	A	A	A/90%	A/75°
Hydroquinone	C	A	A	—	A/90%	A/10%
Hypochlorous Acid	X	A	A	X	X	X
Ink	A	A	—	—	C	A
Iodine	B	A	A	A	A	X
Isoamyl Acetate	X	A	—	—	A	A
Isoamyl Alcohol	A	A	—	—	—	—
Isoamyl Butyrate	X	A	—	—	A	A
Isoamyl Chloride	X	A	—	—	X	—
Isobutanol	B	A	—	A	A	—
Isobutyl Acetate	X	A	—	—	A	A
Isobutyl Alcohol	B	A	—	A	A	—
Isobutyl Amine	X	A	—	—	—	—
Isobutyl Chloride	X	A	—	—	X	B
Isobutyl(2—Methyl—1—Propanol)	C	A	—	—	B	A
Isobutyric Acid	X	A	—	—	A	—
Isododecane	B	A	—	—	B	B
Isooctane	A	A	A	A	A	A
Isophorone	X	A	—	—	A	A
Isoproply(2—Propanol)	C	A	—	A	B	A
Isopropyl Acetate	X	A	—	B	A	A
Isopropyl Alcohol	B	A	—	A	A/90%	A
Isopropyl Amine	X	A	—	—	—	A
Isopropyl Chloride	X	A	X	X	X	A
Isopropyl Ether	C	A	B	X	B	A
Jet Fuels(JP1 to JP6)(ASTM—A,AI&B)	A	A	X	X	A	A
Kerosene	A	A	B	X	A	A
Ketchup	A	A	—	A	B	A
Lactic Acid	B	A	A	A	A	A/70%
Laquers	X	A	—	—	X	A
Lard(Lard Oil)	A	A	A	A	A	B
Latex	A	A	A	A	A	A
Lauryl Alcohol(n—Dodecanol)	A	A	—	—	A	A

CHEMICAL COMPATIBILITY

Legend	Diaphragm		Casing			
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Lead Acetate	B	A	A	A	X	B
Lead Chloride	—	A	A	A	X	B
Lead Nitrate	B	A	A	A	X	B
Lead Sulfamate	B	A	A	A	—	—
Ligroin(Ligroine)(Benzine)	A	A	B	X	—	A
Lime, Soda	B	A	—	—	—	—
Limonene	C	A	—	—	—	—
Linolenic Acid	B	A	A	A	A	A
Litnium Bromide	A	A	—	—	—	—
Magnesium Carbonate	A	A	A	A	A	B
Magnesium Chloride	A	A	A	A	A/20%	B/40%
Magnesium Hydroxide	B	A	A	A	A/10%	A
Magnesium Nitrate	A	A	A	A	B/50%	A
Magnesium Oxide	A	A	—	—	A/10%	A
Magnesium Sulfate	A	A	B	A	A/70%	A/40%
Maleic Acid	X	A	A	A	A/20%	B
Maleic Anhydride	—	A	—	—	A/20%	A
Malic Acid	B	A	B	—	B	A
Maple Sugar Liquors	A	A	—	—	—	A
Mayonnaise	A	A	A	A	X	A
Mercuric Chloride	A	A	A	A	X	X
Mercuric Cyanide	B	A	A	A	X	B
Mercurous Nitrate	B	A	—	A	X	B/100°
Mercury	A	A	A	A	X	A
Methane	A	A	B	B	A	A
Methlacrylic Acid	—	A	—	—	—	—
Methyl	A	A	A	A/50°	B	A
Methyl Acetate	X	A	C	C	A	A
Methyl Acetoacetate	X	A	—	—	—	A
Methyl Acrylate	—	A	—	—	—	A
Methyl Acrylic Acid	—	A	—	—	—	—
Methyl Alcohol(Methanol)	A	A	A	A	B	A
Methyl Amine	B	A	—	X	B	A
Methyl Amyl Alcohol	A	A	—	—	A	A
Methyl Aniline	A	A	—	—	—	—

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Methyl Bromide	C	A	X	X	X	A
Methyl Butyl Ketone(2—hexanone)	X	A	X	X	—	A
Methyl Butyrate	X	A	—	—	A	A
Methyl Cellosolve	X	A	B	A	A	—
Methyl Chloride	X	A	X	X	X	A
Methyl Cyclopentane	B	A	—	—	—	A
Methyl Ethyl Ketone	X	A	C	X	A	A
Methyl Formate	X	A	—	—	A	A
Methyl Isobutyl Ketone(Hexone)	X	A	B	C/20°	A	B
Methyl Isopropyl Ketone	X	A	C	C	—	A
Methyl Methacrylate	X	A	A	—	B	A
Methylamine	B	A	—	A	B	A
Methylene Bromide	X	A	—	—	X	A
Methylene Chloride	X	A	X	X	X	A/90%
Milk	B	A	A	A	A	A
Mixed Acids	X	A	—	X	X	B
Molasses	A	A	A	A	A	A
Monochloroacetone	X	A	—	X	X	B
Monochlorobenzene	X	A	X	X	X	A
Monoethanolamine	B	A	X	X	B	A
Monovinyl Acetylene	A	A	—	—	—	—
Mustard	C	A	A	A	B	A
Naphtha	A	A	C	X	A	A
Naphthalene	X	A	A	A	B	A
Naphthoic Acid	B	A	—	—	B	A
Nickel Acetate	B	A	A	A	B/10%	A
Nickel Chloride	A	A	A	A	X	B
Nickel Nitrate	A	A	A	A	X	A
Nickel Sulfate	A	A	A	A	X	A/40%
Nitric Acid 10%	X	A	A	A	A	A
Nitric Acid 25%	X	A	B	B	X	A/30%
Nitric Acid 35%	X	A	B	C	X	A/40%
Nitric Acid 50%	X	A	B	X	X	A
Nitric Acid 70%	X	A	—	X	—	A
Nitrobenzene	X	A	B	B	A	A

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Nitroethane	X	A	C	C	A	A
Nitromethane	X	A	C	C	A	A
Nitropropane(1—Nitropropane)	X	A	—	—	A	A
n—Hexane	A	A	—	C/60°	A	A
n—Hexane 1	A	A	—	—	—	—
n—Propyl Acetate	X	A	—	C	A	A
Octyl	B	A	—	—	A	A
Oleum(Fuming sulfuric acid)	C	A	X	X	X	A
Olive Oil	A	A	A	A	A	A
o—Dichlorobenzene	X	A	X	B	X	B
Oxalic Acid	C	A	A	A	B	B/90%
Ozone	X	A	X	X	A/10%	A
Paint Thinner, DUCO	A	A	X	X	X	A
Paints & Solvents	X	A	—	—	X	A
Palmitic Acid	B	A	A	A	B	A
Paraffins	A	A	A	A	A	A
Paraformaldehyde	B	A	—	—	A/10%	A
Paraldehyde	C	A	—	—	A	A
Pentane	A	A	—	—	A	B
Perchloric Acid	X	A/70%	A	—	X	B
Perchloroethylene	X	A	B	X	X	A/90%
Phenethyl Alcohol	X	A	—	—	A	A
Phenol	X	A	C	C	B	B
Phenol Sulfonic Acid	X	A	—	—	B	B
Phenyl Ethyl Ether	X	A	—	—	—	—
Phenylbenzene	X	A	—	—	—	—
Pheyl Hyrdazine	X	A	—	X	A	—
Phosphoric Acid 10%	A	A	A	A/50°	X	A
Phosphoric Acid 20%	C	A	A	A/50°	X	A
Phosphoric Acid 50%	X	A	A	A/50°	X	A
Phosphorus Oxychloride	—	A	—	—	B	B
Phosphorus Trichloride	X	A	X	X	C	A
Photographic Developer	A	—	A	A	C	A
Picling Solutions	—	A	—	—	—	—
Picric Acid	B	—	B	B	A	A

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Piperidine	X	A	—	—	—	—
Plating Solutions	—	—	—	—	—	—
Plating Solutions Cadmium	B	A	A	X	—	A
Plating Solutions Chrome	X	A	A	X	—	—
Plating Solutions Lead	B	A	A	A	—	—
Plating Solutions Others	A	A	—	—	—	A
Polyvinyl Acetate Emulsion	—	A	B	—	—	—
Potassium Acetate	B	A	A	A	B/10%	B
Potassium Bicarbonate	A	A	A	A	B	A/30%
Potassium Bisulfate	A	A	—	A	A/10%	A/10%
Potassium Bromide	A	A	A	A	A	B/90% 100°
Potassium Carbonate(Potash)	A	A	A	A	X	B
Potassium Chlorate	A	A	A	A	X	A/60%
Potassium Chloride	A	A	A	A	X	A
Potassium Chromate	A	A/40%	A	A	A	A
Potassium Copper Cyanide	A	A	A	A	—	—
Potassium Cyanide	A	A	A	A	C	B/90% 100°
Potassium Dichromate	A	A	A	A	A	A
Potassium Hydroxide(Lye)	B	A	A	A	X	A
Potassium Iodide	A	A	—	A	B/10%	B
Potassium Nitrate	A	A	A	A	A/80%	B/80% 100°
Potassium Nitrite	A	A	—	—	B	B
Potassium Pemanganate	C	A	B	B	A/10%	B/30% 100°
Potassium Phosphate	A	A	—	—	X	B/30%
Potassium Silicate	A	A	—	—	B	B
Potassium Sulfate	A	A	A	A	B	A
Potassium Sulfite	A	A	—	A	A	B/50%
Propane(LPG)	A	A	B	X	A	A
Propionaldehyde(Propanol)	X	A	—	—	A	A
Propionic Acid	X	A	—	—	A	B
Propyl Alcohol(1—Propanol)	B	A	A	A	A	A
Propylene	X	A	—	—	A	A
Propylene Dichloride	X	A	—	—	X	A
Propylene Glycol	A	A	A	A	A	A
Propylene Oxide	—	A	C	X	B	A

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Proryl	A	A	—	A	A	A
Pyridine	X	A	C	C	A	A
Rosin	A	A	A	A	A	A
Rotenone	A	A	—	—	—	—
Rubber Latex Emulsions	—	A	—	—	A	A
Rubber Solvents(Petroleum Distillate)	X	A	—	—	A	A
Sal Ammoniac	A	A	—	—	X	A
Salad Dressing	A	—	A	A	B	A
Salicylic Acid	B	A	—	A	A	B
Salt Water(Brine)	A	A	A	A	B	A
Sea Water	A	A	A	A	A	A
Sewage	A	A	A	A	B	A
Silver Cyanide	—	A	A	A	X	A
Silver Nitrate	B	A	A	A	X	A/60%
Soap Solutions	A	A	A	A	C	A
Sodium Hexametaphosphate	B	A	—	—	C	B
Sodium Acetate	C	A	A	A	A	A
Sodium Aluminate	A	A	A	A	—	A/40%
Sodium Bicarbonate	A	A	A	A	B	A/20%
Sodium Bisulfite	C	A	A	A	B	A50%
Sodium Bisulfite	A	A	A	A	B/50%	B/50%
Sodium Borate	A	A	A	A/60	B	A
Sodium Bromide	—	A	—	A	C	B/30%
Sodium Chlorate	A	A	A	A	B/70% 100°	B
Sodium Chloride	A	A	A	A	B	A
Sodium Chromate	A	A	A	A	A/80% 100°	A/60%
Sodium Cyanide	A	A	A	A	X	A
Sodium Dichromate	—	A	—	A	—	—
Sodium Fluoride	A	A	—	A	B/30%	B/10%
Sodium Hydroxide (Lye)	B	A	A	X	X	A/50%
Sodium Hydroxide (Lye)	B	A	A	X	X	A/50%
Sodium Hypochlorite	X	A	B	X	X	X
Sodium Metaphosphate	B	A	X	X	X	B
Sodium Metasilicate	A	—	—	A	B	A
Sodium Nitrate	C	A	A	A	A/90%	A/90%

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Sodium Nitrite	A	A	A	A	A	A
Sodium Perborate	C	A	A	A	X	A
Sodium Peroxide	B	A	B	B	B/10%	B/10%
Sodium Phosphate(Tribasic)	B	A	A	A	X	B
Sodium Silicates	A	A	A	A	A	A
Sodium Sulfate(Salt Cake)	A	A	A	A	B/30%	A
Sodium Sulfide	A	A	A	A	A/30% 100°	A/30% 75°
Sodium Sulfite	A	A	—	A	A/30%	A/30%
Sodium Tetraborate	A	A	—	C	—	A
Sodium Thiosulfate	A	A	A	A	A	A/50
Sorghum	A	A	—	—	—	A
Soy Sauce	A	A	—	—	—	A
Stannic Chloride	A	A	A	A	X	A/10%
Stannous Chloride	A	A	—	A	X	A/10%
Starch	A	A	—	A	A	A
Stearic Acid	B	A	B	A	C	A
Styrene	X	A	X	—	A	A
Sulfamic Acid	B	A	—	X	A/10%	X
Sulfite Liquors	A	A	—	—	—	—
Sulfur	X	A	A	A	A	A
Sulfur Chloride	C	A	C	X	B	B
Sulfur Dioxide	X	A	A	A	A	A/10%
Sulfur Hexafluoride	B	A	—	—	—	—
Sulfur Trioxide	C	A	X	X	B	B
Sulfuric Acid 10%	B	A	A	A	X	X
Sulfuric Acid 25%	C	A	A	A	X	X
Sulfuric Acid 50%	C	A	A	A	X	X
Sulfuric Acid 60%	X	A	A	B	X	X
Sulfuric Acid 75%	X	A	A	C	X	X
Sulfuric Acid 98%	X	A	C	X	X	A
Sulfurous Acid	B	A	A	A	B	B
Tall Oil	A	A	—	A	X	B
Tallow	A	A	B	B	A	A
Tannic Acid	C	A	A	A	A	A
Tanning Liquors	A	A	A	A	A	A

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Tartaric Acid	B	A	A	A	A/20%	A
Terpenes	C	A	—	—	A	—
Terpineol	C	A	X	X	A	A
Tertiary Butyl Alcohol	A	A	B	B	—	—
Tertiary Butyl Catechol	X	A	—	—	C	B
Tetra Bromomoethane	X	A	X	X	X	—
Tetrabutyl Titanate	B	A	—	—	—	—
Tetrachlorodifluoroethane	X	A	X	—	—	—
Tetrachloroethene	X	A	X	X	X	C
Tetrachloroethylene	—	—	X	—	—	—
Tetraethyl Lead	B	A	A	A	B	A
Tetraethylene Glycol(TEG)	A	A	—	—	—	—
Tetrahydrofuran(THF)	X	A	C	C/38°	—	—
Tetrahydronaphthalene	X	A	X	C	A	A
Thionyl Chloride	X	A	X	B	C	A
Titanium Tetrachloride	C	A	X	B	X	B
Toluene	C	A	X	X	A	A
Toluene Diisocyanate	—	A	—	—	—	—
Toluidine	X	A	—	—	A	A
Tomato Pulp & Juice	A	A	A	A	B	A
Toothpaste	A	A	—	—	—	A
Transmission Fluid(Type A)	A	A	—	—	A	A
Triacetin	A	A	—	—	B	—
Tributyl Phosphate	X	A	A	C/38°	A	A
Trichloroacetic Acid(TCA)	C	A	B	B	X	X
Trichlorobenzenes	X	A	—	—	X	A
Trichloroethane	X	A	—	X	X	A
Trichloroethylene (Ex—Tri)(Hi—Tri)	X	A	B	X	X	A/90%75°
Trichloropropane	X	A	X	X	X	A
Tricresyl Phosphate (Lindol)	X	A	B	B	—	B
Triethanol Amine(TEA)	X	A	A	A	A	A
Triethyl Aluminum(ATE)	X	A	—	—	—	—
Triethyl Amine	A	A	C	C	—	A
Triethyl Brate	X	A	—	—	—	—
Triethylene Glycol(TEG)	A	A	—	A	—	—

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Legend	Diaphragm		Casing			
A : Excellent B : Good C : Poor X : Not Recommended — : No Data % : The ratio of the chemical ° : Liquid Temp	Nitrile Buna-N (NBR)	Teflon (PTFE)	Polypropylene (PP)	Glass-Filled Polypropylene (PPG)	Aluminium (AL)	Stainless Steel (SUS)
Trimethylene Glycol	A	A	—	—	A	A
Trinitrotoluene(TNT)	X	A	—	—	—	—
Trioctyl Phosphate(TOP)	X	A	—	—	—	—
Tridecyl Alcohol	A	A	—	—	—	—
Turpentine	A	A	B	X	A	A
Unsymmetrical Dimethyl Hydrazine(UDMH)	C	A	—	X	—	—
Urea	B	A	—	A	B	B/50%
Urine	A	A	—	A	A	A
Varnish	B	A	—	—	A	A
Vanilla Extract	A	A	—	—	—	A
Vegetable Juices	A	A	—	—	C	A
Vinegar	C	A	—	A	C	A
Vinyl Acetate	X	A	—	B	B	A
Vinyl Chloride	X	A	—	X	X	A
Water Distilled	A	A	—	A	A	A
Water Fresh	A	A	—	A	A	A
Waxes	A	A	—	—	A	A
Whisky	B	A	—	A	A	A
Wines	A	A	—	A	C	A
Wort,Distillery	—	A	—	—	A	A
Xylene	X	A	—	X	A	B
Xylidines	—	A	—	—	B	—
Zeolite	C	A	—	—	—	A
Zinc Acetate	C	A	A	A	C	—
Zinc Carbonate	A	A	A	—	B	B
Zinc Chloride	B	A	A	A	A/10%	A/10%
Zinc Hydrosulfite	A	A	A	—	X	A
Zinc Sulfate	A	A	A	A	B/20%	B