



MATERIAL SELECTION CHART

This chart has been compiled from a variety of sources, including Milton Roy Company's extensive experience in flow control technology. It is offered as a general aid in selecting appropriate materials of construction for handling a broad spectrum of aggressive fluids and does not constitute a guarantee.

CODES:

- A. Can be and is being successfully used.
- B. Proceed with caution. Used under limited conditions where slight corrosion is permissible; for temporary installation; where cost of better materials is too high, etc.
- C. Should not be used.
- V. Varies.
- Information lacking.

	Cast Iron	Cast Steel	304 Stainless	316 Stainless	Alloy 20	Alloy B	Alloy C	Alloy D	440 FM	Polyvinyl Chloride	Halar®(ECTFE)	Methyl Methacrylate	Linear Polyethylene		Polypropylene		FKM	EPDM	PEEK
													¶	¶	¶	¶			
Acetaldehyde	A	A	A	A	A	—	A	—	—	C	—	C	B	C	B	B	B	C	—
Acetate Solvents	A	A	A	A	A	—	A	—	B	C	—	—	—	—	A	—	C	V	—
Acetic Acid, Crude (1)	—	C	A	A	A	—	—	—	C	—	A	—	—	—	—	—	C	A	B
Acetic Acid, Pure (1)	C	C	A	A	A	A	A	A	V	C	A	C	—	—	B	B	C	A	B
Acetic Acid 10%	C	C	B	A	A	—	A	—	C	A	A	A	A	A	A	A	C	A	A
Acetic Acid 80%	C	C	B	B	A	A	A	A	C	C	A	—	A	B	A	B	C	A	B
Acetic Anhydride	C	C	B	A	A	A	A	A	C	C	—	C	—	—	—	—	C	C	—
Acetone	A	A	A	A	A	A	A	A	B	C	A	C	B	C	A	A	C	A	A
Acetylene	A	A	A	A	A	A	A	—	A	—	A	—	B	—	A	—	A	A	—
Acrylonitrile	C	C	A	A	A	A	A	—	C	—	—	—	—	—	—	—	C	C	—
Allyl Chloride	C	—	—	—	—	—	—	—	—	C	A	—	C	—	A	B	—	—	—
Aluminum Chloride (2)	C	C	C	B	A	A	B	B	C	A	A	A	A	A	A	A	A	A	—
Aluminum Hydroxide (3)	B	C	B	A	A	B	—	—	A	A	A	—	A	—	A	—	A	—	—
Aluminum Nitrate	C	—	B	A	A	—	—	—	—	A	A	—	A	—	A	—	C	A	—
Aluminum Sulfate	C	C	B	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	—
Alums (1) (General see specific chemical) (23)	C	C	C	B	A	B	A	—	B	A	A	B	A	A	A	A	C	A	—
Amines (4)	A	A	A	A	A	A	A	A	—	A	—	—	—	—	—	—	C	A	—
Amines (filming) (5)	B	B	A	A	A	A	A	—	—	A	—	—	C	—	—	—	—	V	—
Ammonia, Anhydrous (Liq.) (1)	A	A	A	A	A	A	A	B	A	A	A	C	B	C	A	A	C	A	—
Ammonia Solutions	—	A	A	A	A	—	A	—	—	A	A	C	B	C	A	A	C	A	—
Ammonium Carbonate	—	A	A	A	A	A	A	A	A	A	A	—	A	A	A	A	A	A	—
Ammonium Chloride	B	B	A	A	A	A	A	A	V	A	A	A	A	A	A	A	A	A	—
Ammonium Hydroxide	A	A	A	A	A	A	A	—	A	A	A	A	A	A	A	A	A	A	A
Ammonium Mono Phosphate	C	C	A	A	A	A	A	—	A	A	—	A	A	A	A	A	—	A	—
Ammonium Di-Phosphate	B	B	A	A	A	A	A	—	A	A	—	A	A	A	A	A	—	A	—
Ammonium Tri-Phosphate	A	A	A	A	A	A	A	A	A	A	—	A	A	A	A	A	—	A	—
Ammonium Nitrate	C	C	A	A	A	C	A	C	A	A	A	—	A	A	A	A	A	A	—
Ammonium Sulfate	C	C	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Ammonium Sulfide	—	—	B	B	A	—	—	—	—	A	A	—	A	A	A	A	C	A	—
Ammonium Thiocyanate	C	C	A	A	B	A	A	—	—	A	—	—	A	A	A	A	—	—	—
Amyl Acetate	A	A	A	A	A	A	A	—	C	A	C	C	C	B	C	C	C	C	—
Amyl Alcohol	—	B	A	A	A	—	A	—	A	B	—	A	A	A	C	C	A	A	—
Amyl Chloride	A	A	A	A	A	A	A	—	C	A	—	C	C	B	C	C	C	C	—
Aniline	A	A	A	A	A	A	A	—	A	C	C	C	A	C	A	A	A	A	—



CODES:

- A. Can be and is being successfully used.
- B. Proceed with caution. Used under limited conditions where slight corrosion is permissible; for temporary installation; where cost of better materials is too high, etc.
- C. Should not be used.
- V. Varies.
- Information lacking.

	Cast Iron	Cast Steel	304 Stainless	316 Stainless	Alloy 20	Alloy B	Alloy C	Alloy D	440 FM	Polyvinyl Chloride	Halar®(ECTFE)	Methyl Methacrylate	Linear Polyethylene		Polypropylene		FKM	EPDM	PEEK
													F		F				
													68	140	68	140			
Carbon Tetrachloride	A	A	A	A	A	B	A	B	A	C	A	C	C	C	B	C	A	C	A
Cellosolve	A	A	A	A	A	A	A	A	—	A	A	—	A	—	A	—	B	A	—
Chelant (Chelate)	Group of ChemicalsN User should specify materials of construction.																		
Chloral Hydrate	—	—	—	—	A	—	—	A	A	A	—	—	—	C	—	—	—	—	—
Chloroacetic Acid	C	C	C	C	A	B	A	—	C	A	A	C	B	C	B	C	—	A	C
Chlorine (Liq.) (Sodium Hypochlorite)	C	C	C	C	C	—	A	—	C	B	A	C	B	C	C	C	B	—	C
Chlorobenzene (Dry)	B	B	B	A	A	A	A	—	A	C	A	—	C	C	A	B	A	C	—
Chloroform	B	B	A	A	A	A	A	A	A	C	A	C	C	C	C	C	A	C	—
Chlorosulfonic Acid	—	—	—	—	—	—	—	—	C	A	—	C	C	C	C	C	C	C	C
Chromic Acid 10%	C	C	—	—	A	—	—	—	B	A	A	B	A	A	A	A	—	C	A
Chromic Acid 50% Cold	C	C	C	A	A	C	A	—	C	A	A	C	A	A	B	B	A	C	A
Chromic Acid 50% to 140jF	—	—	—	B	—	—	A	—	C	A	A	—	—	B	B	B	C	C	C
Citric Acid	C	C	B	A	A	A	A	—	V	A	A	A	A	A	A	A	A	A	—
Cobalt Acetate	—	—	B	A	—	A	—	—	—	—	—	—	—	—	—	—	—	—	—
Coffee Extracts (Hot)	—	C	A	A	A	A	A	—	A	—	—	—	—	—	—	—	—	A	—
Copper Acetate	—	C	A	A	A	A	A	—	A	—	—	—	—	—	—	—	C	A	—
Copper Chloride (9)	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	—	A	—
Copper Cyanide	—	C	A	A	—	—	—	—	A	A	A	—	A	A	A	A	A	A	—
Copper Nitrate	—	C	A	A	—	—	—	—	A	A	A	—	A	A	A	A	A	A	—
Copper Sulfate	B	B	A	A	A	C	A	A	A	A	A	B	A	A	A	A	A	A	—
Cresote	—	—	A	A	A	—	—	—	A	—	—	—	—	—	—	—	A	C	—
Cresylic Acid (50%)	A	A	A	A	A	A	A	—	—	A	A	C	—	—	—	—	A	C	—
Cyclohexane	B	B	A	A	A	A	A	—	—	C	A	—	C	C	B	C	A	C	—
Detergent	—	—	—	—	—	—	—	—	—	A	A	—	A	A	A	A	A	A	—
Dichloro Ethane	—	—	A	A	A	—	—	A	—	—	—	—	—	—	—	—	—	—	—
Diethylamine	—	A	A	A	A	—	—	—	—	C	C	—	—	—	—	—	C	A	—
Diethylene Glycol	—	—	A	A	A	—	—	—	—	A	—	—	A	A	A	A	A	A	—
Dowtherms	—	—	A	A	A	—	—	—	—	C	—	—	—	—	—	—	A	C	C
Dyes	—	—	—	A	—	—	—	—	—	—	—	—	—	—	—	—	—	V	—
EDTA	—	—	A	A	A	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethers (Ethyl)	A	A	A	A	A	A	A	A	A	C	A	C	B	C	B	C	B	C	—
Ethyl Acetate	A	—	A	A	A	—	A	A	—	C	A	C	B	C	A	B	C	A	A
Ethyl Alcohol	—	—	A	A	A	A	—	B	—	A	—	A	A	A	A	A	A	A	A
Ethyl Butyrate	—	—	A	A	A	—	—	—	—	—	—	—	C	C	C	C	—	—	—
Ethyl Chloride	A	A	A	A	A	A	A	A	A	C	A	—	C	C	C	C	A	A	—
Ethylene Chloride	—	—	A	A	—	—	—	—	—	C	A	—	B	C	B	C	B	C	—
Ethylene Glycol	A	A	A	A	A	A	A	N	A	A	A	C	A	A	A	A	A	A	A
Ethyl Mercaptan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene Oxide	—	A	A	A	A	—	A	—	—	C	A	—	—	—	B	—	C	C	—
Fatty Acids (1)	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	—

Materials

Bulletin 230

Effective 6/15/93



MILTON ROY

CODES:

- A. Can be and is being successfully used.
- B. Proceed with caution. Used under limited conditions where slight corrosion is permissible; for temporary installation; where cost of better materials is too high, etc.
- C. Should not be used.
- V. Varies.
- Information lacking.

	Cast Iron	Cast Steel	304 Stainless	316 Stainless	Alloy 20	Alloy B	Alloy C	Alloy D	440 FM	Polyvinyl Chloride	Halar®(ECTFE)	Methyl Methacrylate	Linear Polyethylene		Polypropylene		FKM	EPDM	PEEK
													F		F				
													68	140	68	140			
Ferric Chloride (1, 11)	C	C	C	C	C	C	B	C	C	A	A	A	A	A	A	A	A	A	—
Ferric Nitrate	—	—	A	A	A	C	B	C	A	A	A	—	A	A	A	A	A	A	—
Ferric Sulfate (1)	C	C	B	A	A	C	A	—	A	A	A	—	A	A	A	A	A	A	—
Ferrous Chloride (1, 11)	C	C	C	C	C	A	A	B	—	A	A	A	A	A	A	A	—	A	—
Ferrous Sulfate (1)	C	B	C	B	A	B	A	B	A	A	A	A	A	A	A	A	A	A	—
Filter Aid (1) (General—see specific chemical) (23)	A	A	A	A	A	A	A	—	C	—	—	—	—	—	—	—	—	A	—
Fluosilicic Acid	C	C	C	B	B	C	B	—	C	A	A	A	A	—	A	A	A	A	—
Formaldehyde	B	B	A	A	A	A	A	A	V	A	A	B	A	A	A	A	—	A	A
Formic Acid	C	C	A	A	A	A	A	—	C	B	A	C	A	A	A	A	C	A	—
Fruit Juices	C	C	B	A	A	A	A	—	A	A	A	—	A	A	A	A	A	A	—
Freon	—	—	—	A	—	—	—	—	A	A	A	—	A	B	A	B	C	V	—
Furfural	A	A	A	A	A	A	A	—	A	C	—	C	B	C	C	C	C	A	—
Gallic Acid (5%)	—	C	A	A	A	—	—	A	A	A	A	—	A	A	A	A	A	B	—
Gasoline	—	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	A	C	A
Glucose	—	—	A	A	A	—	—	—	A	A	A	A	A	A	A	A	A	A	—
Glycerol (Glycerin)	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Heptane, Hexane	—	—	A	A	A	—	—	—	—	A	A	—	A	B	A	A	A	C	B
Hydrazine (12)	C	C	A	A	—	—	—	—	—	—	—	—	—	—	—	—	C	A	—
Hydrobromic Acid (1)	C	C	C	C	C	A	B	—	C	A	A	—	A	A	A	A	—	A	C
Hydrochloric Acid (1)	C	C	C	C	C	A	B	—	C	A	—	A*	A	A	A	A°	A	A	A
Hydrocyanic Acid	C	C	A	A	A	A	A	—	C	A	A	—	A	A	A	—	—	A	—
Hydrofluoric Acid (13, 22)	C	C	C	C	C	B	B	B	C	A	A	A	A	A	A	A	B	A	C
Hydrogen Peroxide—Consult Application Eng.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	A
Hydrogen Sulfide	C	C	A	A	A	—	A	—	A	A	A	A	A	A	A	A	A	A	—
Hydrofluosilicic Acid (22)	C	C	C	B	B	C	B	—	C	A	A	A	—	—	A	A	A	A	C
Inks	—	C	A	A	—	—	—	—	—	A	—	—	A	A	A	A	A	V	—
Iodine Solutions	—	—	C	C	C	C	—	C	C	C	A	—	B	C	B	C	—	B	—
Kerosene	—	A	A	A	A	A	A	A	A	A	A	A	B	C	A	B	A	C	A
Lactic Acid (to 60% to 100jF)	C	C	B	A	A	A	A	A	C	A	—	—	A	A	A	A	A	B	—
Lactic Acid (over 60% to 100jF)	C	C	B	B	B	B	B	B	C	C	—	—	A	A	A	B	—	B	—
Lead Acetate	—	C	A	A	—	—	—	—	A	A	A	—	A	A	A	A	A	A	—
Lime Slurries (7, 23)	A	A	—	—	—	—	—	—	—	—	—	—	—	—	—	—	B	B	—
Linseed Oil	—	A	A	A	—	—	—	—	A	A	A	—	C	C	A	A	A	—	—
Magnesium Carbonate	—	—	A	A	—	—	—	—	—	A	A	—	A	A	A	A	A	A	—
Magnesium Chloride	C	C	C	C	A	A	A	A	C	A	A	A	A	A	A	A	A	A	—
Magnesium Hydroxide	—	A	A	A	A	A	A	A	—	A	A	A	A	A	A	A	A	A	—
Magnesium Nitrate	—	—	A	A	A	—	A	—	A	A	A	A	A	A	A	A	A	A	—
Magnesium Sulfate	—	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Maleic Acid	C	C	A	A	A	A	A	—	—	A	A	—	—	—	A	A	A	C	—
Malic Acid	C	C	A	A	A	A	A	—	B	A	A	—	A	B	A	B	A	—	—

* Up to 28% concentration.

° Up to 38% concentration.



CODES:

- A. Can be and is being successfully used.
- B. Proceed with caution. Used under limited conditions where slight corrosion is permissible; for temporary installation; where cost of better materials is too high, etc.
- C. Should not be used.

	Cast Iron	Cast Steel	304 Stainless	316 Stainless	Alloy 20	Alloy B	Alloy C	Alloy D	440 FM	Polyvinyl Chloride	Halar®(ECTFE)	Methyl Methacrylate	Linear Polyethylene		Polypropylene		FKM	EPDM	PEEK
													F		F				
													68	140	68	140			
Melamine Resins	C	C	A	A	A	A	A	—	—	A	—	A	—	—	—	—	—	—	—
Mercuric Chloride (1)	C	C	C	C	A	C	A	C	C	A	A	A	A	A	A	A	—	A	—
Mercuric Cyanide	—	C	A	A	—	—	—	—	—	A	A	—	A	A	A	A	A	—	—
Mercury (14)	A	A	A	A	A	A	A	A	A	A	A	—	A	A	A	A	—	A	—
Methyl Acetate	—	—	A	A	—	—	—	—	—	—	—	—	—	—	—	—	C	A	—
Methyl Acetone	—	A	A	A	A	—	—	—	—	C	—	—	—	—	—	—	C	—	—
Methyl Alcohol	A	A	A	A	A	A	A	—	A	A	—	C	A	A	A	A	A	A	A
Methylamine	—	A	A	A	A	—	—	—	—	—	C	—	—	—	—	—	C	—	—
Methyl Bromide	—	—	—	A	A	A	A	—	—	C	A	—	B	C	B	C	A	C	—
Methyl Cellosolve	—	A	A	A	A	—	—	—	—	—	A	—	—	—	—	—	C	A	—
Methyl Chloride (Liq.)	A	B	A	A	A	A	A	—	—	C	A	—	B	C	B	C	C	—	—
Methyl Ethyl Ketone (MEK)	A	A	A	A	A	—	—	—	A	C	A	C	C	C	A	B	C	A	A
Methylene Chloride	—	A	A	A	—	—	—	—	—	C	C	—	B	C	B	C	B	B	—
Molasses	A	A	A	A	A	—	—	—	A	A	A	A	A	A	A	A	A	A	—
Mono Chloroacetic Acid	C	C	C	C	B	A	A	—	—	A	—	—	—	—	A	B	—	—	—
Morpholine	A	A	A	A	A	A	A	—	—	A	—	—	—	—	—	—	C	—	—
Naphtha	—	A	A	A	A	A	A	A	B	A	A	A	B	C	A	B	A	C	—
Naphthalene	A	A	A	A	A	Ñ	A	—	—	C	A	A	A	A	A	A	A	C	—
Nickel Chloride	C	C	C	A	A	A	A	C	C	A	A	A	A	A	A	A	A	A	—
Nickel Nitrate	—	C	A	A	—	—	—	—	A	A	A	—	A	A	A	A	A	A	—
Nickel Sulfate	C	C	A	A	A	C	A	C	B	A	A	A	A	A	A	A	A	A	—
Nicotinic Acid	C	A	A	A	A	—	—	—	—	A	A	—	A	A	A	A	A	—	—
Nitric Acid 10%	C	C	B	A	B	C	B	C	A	A	A	B	A	B	A	B	A	C	A
Nitric Acid 70% to 100jF	C	C	A	B	B	C	B	C	V	A	A	C	A	B	C	C	A	C	C
Nitrobenzene	A	A	A	A	A	—	A	—	—	C	A	—	C	C	B	B	C	C	B
Oils, Animal	—	—	A	A	—	—	—	—	—	A	—	—	B	C	A	B	A	C	—
Oil, Cottonseed	A	A	A	A	A	A	A	—	—	A	—	—	B	C	A	B	A	C	—
Oils, Fuel	—	A	A	A	A	—	—	—	—	A	—	—	—	—	B	C	—	C	—
Oleic Acid	—	—	—	A	A	A	A	A	B	A	A	—	B	C	A	B	C	C	—
Oleum (15)	C	A	B	A	A	C	A	C	Ñ	C	C	—	C	C	C	C	C	C	C
Oxalic Acid	C	C	B	B	A	A	A	B	B	A	V	B	A	A	A	B	A	A	—
Palmitic Acid (Under 200jF)	—	—	A	A	—	—	—	—	A	A	A	Ñ	A	B	A	A	A	B	—
Perchloroethylene (Dry)	—	—	A	A	A	—	—	—	—	C	—	—	C	—	C	—	A	C	—
Perchloric Acid (10%)	C	C	C	C	C	—	—	—	—	B	A	—	A	A	A	A	—	B	—
Phenol (Carbolic Acid)	C	C	A	A	A	A	A	B	A	A	A	C	C	C	A	A	A	C	—
Phosphoric Acid (1)	C	C	B	A	A	A	A	—	—	A	A	C	A	A	A*	A*	A*	C	C
Phosphorus Trichloride	—	—	—	—	A	C	A	—	—	C	A	—	—	—	—	—	A	A	—
Pioric Acid	C	C	A	A	A	A	A	—	A	C	—	—	A	B	A	—	A	—	—
Potassium Bicarbonate	—	—	A	A	—	—	—	—	—	A	—	—	A	A	A	A	—	—	—
Potassium Bromate	—	—	—	—	—	—	—	—	—	A	—	—	A	A	A	A	—	—	—

* Up to 80% concentration.

Materials

Bulletin 230

Effective 6/15/93



MILTON ROY

CODES:

- A. Can be and is being successfully used.
- B. Proceed with caution. Used under limited conditions where slight corrosion is permissible; for temporary installation; where cost of better materials is too high, etc.
- C. Should not be used.
- V. Varies.

	Cast Iron	Cast Steel	304 Stainless	316 Stainless	Alloy 20	Alloy B	Alloy C	Alloy D	440 FM	Polyvinyl Chloride	Halar®(ECTFE)	Methyl Methacrylate	Linear Polyethylene		Polypropylene		FKM	EPDM	PEEK
													°F		°F				
													68	140	68	140			
Potassium Bromide	C	C	A	A	A	A	A	—	—	A	A	—	A	A	A	A	A	—	—
Potassium Carbonate	B	A	A	A	A	A	A	—	A	A	A	—	A	A	A	A	A	A	—
Potassium Chlorate	—	A	A	A	—	—	—	—	A	A	A	—	A	A	A	A	—	A	—
Potassium Chloride	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Potassium Chromate	B	A	A	A	A	A	A	—	A	A	A	—	A	A	A	A	A	A	—
Potassium Cyanide	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Potassium Flouride	—	A	A	A	A	—	—	—	—	B	—	—	A	A	A	A	—	—	—
Potassium Hydroxide	B	B	B	A	A	A	A	B	V	A	A	—	A	A	A	A	C	A	—
Potassium Nitrate	—	A	A	A	A	C	A	C	A	A	A	—	A	A	A	A	A	A	—
Potassium Permanganate	A	A	A	A	A	C	A	C	A	A	A	—	A	A	B	B	A	A	—
Potassium Mono Phosphate	C	C	A	A	A	A	A	—	—	A	—	—	—	—	—	—	A	—	—
Potassium Di-Phosphate	A	A	A	A	A	A	A	—	—	A	—	—	—	—	—	—	A	—	—
Potassium Sulfate	A	A	A	A	A	A	A	B	A	A	A	—	A	A	A	A	A	A	—
Potassium Sulfide	—	—	A	A	A	—	—	—	—	A	—	—	A	A	A	A	A	—	—
Potassium Sulfite	—	—	A	A	A	—	—	—	—	A	—	—	A	A	A	A	A	A	—
Potassium Tetra Borate	—	—	—	—	—	—	—	—	—	A	—	—	A	A	A	A	—	—	—
Propane (Liquid)	—	—	A	A	A	—	—	—	A	A	A	—	—	—	—	—	—	C	—
Propyl Alcohol	B	—	A	A	A	—	—	—	A	B	—	C	A	A	A	A	A	A	—
Propylene Glycol	A	A	A	A	A	—	—	—	—	C	—	—	A	A	A	A	A	A	—
Resins & Rosins	—	C	A	A	—	A	A	—	A	—	—	—	—	—	—	—	A	V	—
Sea Water	C	C	C	B	A	—	C	—	C	A	A	—	A	A	A	A	A	A	—
Silver Nitrate	C	C	A	A	A	—	—	—	A	A	A	—	A	A	A	A	A	A	—
Soap Solutions (Stearates)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Sodium Acetate	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Sodium Aluminate (9)	B	B	A	A	A	A	A	—	A	B	—	A	—	—	—	—	A	A	—
Sodium Bicarbonate	A	A	A	A	A	A	A	—	A	A	A	—	—	—	—	—	A	—	—
Sodium Bisulfate (to 100°F)	C	C	B	A	A	A	A	—	C	A	A	A	A	A	A	A	A	A	—
Sodium Bisulfite (to 100°F)	C	C	A	A	A	A	A	—	—	A	A	A	A	A	A	A	A	A	—
Sodium Borate	—	C	A	A	—	—	—	—	A	A	—	—	A	A	A	A	A	A	—
Sodium Carbonate (Soda Ash)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Sodium Chlorate	—	—	A	A	—	C	A	C	A	A	A	A	A	A	A	A	A	A	—
Sodium Chloride (1)	C	C	B	B	A	A	A	B	—	A	A	A	A	A	A	A	A	A	—
Sodium Chlorite (to 20%)	C	C	C	C	C	—	A	—	—	C	—	—	C	—	A	B	—	—	—
Sodium Chromate	A	A	A	A	A	A	A	—	—	A	—	—	A	A	A	A	A	—	—
Sodium Cyanide	A	A	A	A	A	A	A	—	A	A	A	A	A	A	A	A	A	A	—
Sodium Floride	B	B	B	B	A	B	B	—	C	A	A	—	A	A	A	A	A	—	—
Sodium Hydroxide 20%, to 75°F	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	—
Sodium Hydroxide 20%, 75 to 210°F	B	B	A	A	A	A	A	A	A	A	—	—	C	—	A	—	C	A	—
Sodium Hydroxide 50%, to 75°F	B	A	A	A	B	A	A	A	C	A	A	—	A	A	A	B	C	A	B
Sodium Hydroxide 50%, 75 to 175°F	B	B	B	A	B	—	—	A	C	A	—	C	—	—	A	—	C	A	B



NOTES:

1. Use ceramic plunger in packed plunger pump.
2. As slurry, use for mother liquor.
3. At pH 8.5 or over.
4. Includes primary, secondary and tertiary. Also aliphatic and aromatic. Tertiary amines over 120°F require 316SS construction.
5. Cast iron is satisfactory for neutralized filming amines up to 120°F.
6. For approximate neutral solutions. Where pH is adjusted, recommendations will be affected accordingly.
7. Solution of lime slurry concentrations to 21% solids with slaked lime and to 50% solids with hydrated lime.
8. Solution with concentrations to 15% and temp. of 105°F.
9. Use continuous flushing connections.
10. Carbonated beverages, water solutions of carbon dioxide.
11. Solutions in concentrations to 45% and temp. to 120°F.
12. Satisfactory for concentrations less than 35%. Above 35% concentration no alloys containing molybdenum should be used. Use 304SS.
13. Cast iron satisfactory at temperatures below 75°F and concentrations above 80%.
14. Inverted valves and special construction to obtain seating of valves required.
15. Use Alloy C valve seats and ball valves.
16. Use 440SS ball valves.
17. Use internal flushing.
18. Includes many water treating chemicals such as meta phosphates and other phosphates higher than tripolyphosphate such as Hagan Phosphate, Calgon, Buromin and Micromat.
19. Cold and un aerated.
20. Absorption of moisture from the air dilutes exposed acid and increases corrosion.
21. If titanium dioxide must remain white, use 316SS.
22. Use high alumina ceramic ball valves.
23. Use hard balls and seats if pressure is over 200 psig.

PACKING SELECTIONS

Standard

Style	Description	Max. Press./Temp.	Remarks
Garlock 5022 AFP or equal (CO6)	PTFE, Impregnated Copper, Wire Braided Ring (2x through 2" Plungers)	5000 PSI/550°F	Good for most liquids except Bromine, Chlorine and oxygen compounds.
Garlock 8922 or equal (CO6)	PTFE, Impregnated, Braided Ring, (2x through 4" Plungers)	500 PSI/550°F	

Optional

Style	Description	Max. Press./Temp.	Remarks
G8048, G432 or equal	Nitrile/Fabric, V Ring (Neo Duck)	2000 PSI/200°F	Aqueous solutions except aromatics or aqueous solutions of acids or bases.
Crane CVH or equal (8764)	PTFE, V Ring with PTFE Adaptors	5000 PSI/500°F	All liquids except flourine and its components.
Crane 829 or equal	Nitrile/Fabric with Brass Adaptors (other adaptor material available)	7500 PSI/250°F	Mineral oils, petroleum products, water emulsion solutions.

Special

Style	Description	Max. Press./Temp.	Remarks
Crane C1055 or equal	PTFE Yarn, Braided Ring	2000 PSI/500°F	Food products
Grafoil 235A or equal	Graphite, Comp-Split Ring	4000 PSI/1500°F	Strong corrosives, heat transfer liquids.

NOTES:

1. Pressures over 2000 psig require hardened plungers and close clearance rings. V-Ring type packing requires metal adapters.
2. When flushing is required, use a V-ring type packing.
3. Use Neo Duck packing for lima and diatomaceous earth slurries with ceramic plungers and flush connections.
4. Milroyal D 1/8" & 1/4" plungers are only available with 25% carbon filled PTFE packing.

All information contained herein subject to change without notice.