



Chemical Guide

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Chemical Guide

This resource is intended as a guideline to be used with all available information to determine suitability of material selection. We suggest thorough research which should include known applications when determining material. The information contained herein is provided only as a guide for the use of Hills-McCanna products. The information is based on technical data and testing that Hills-McCanna believes to be reliable. It is intended for use by persons having technical skill, at their own discretion and risk. Hills-McCanna makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information.

Diaphragm Codes

38 = McCannaplast Black	O4 = PTFE / McCannaplast
74 = McCannaplast White (EDPM)	R5 = Natural Rubber
N1 = Neoprene Black	V1 = Viton
N7 = Neoprene White	Y2 = Hypalon

Body Material Codes

01 = Cast Iron	57 = 316L Stainless
06 = Ductile Iron	61 = Cast Iron - Tefzel Lined
08 = Stainless Steel	72 = Polypropylene Lined / Ductile Iron
09 = Alloy 20	85 = Glass Lined / Ductile Iron
10 = Solid PVC	91 = ETFE Lined / Ductile Iron
20 = Solid Polypropylene	94 = Soft Rubber Lined (RC) / Ductile Iron
21 = Carbon Steel	95 = Hard Rubber Lined (RB) / Ductile Iron
54 = Solid PVDF	96 = Neoprene Lined (NA) / Ductile Iron
55 = PVDF Lined / Ductile Iron	

Valve Suitability Codes

A - Indicates that the Hills-McCanna diaphragm valve will be exceptionally satisfactory for this service.

B - Indicates that the valve will be satisfactory in all respects.

C - indicates that the media is aggressive, hazardous, or toxic. Frequent diaphragm replacement may be necessary. A sealed bonnet (model 97) may be required with these services to ensure personnel safety. The diaphragm valve in C rated services is considered to be the "lesser evil" and should be used on a trial basis at first.



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Abbreviations

Any/Aqu.	Any concentration in Aqueous solution	Phos,	Phosphate
Atmos.	Atmosphere	Photog.	Photography
Aqu.	Aqueous	P & P	Pulp & Paper Processing
As Prep.	As Prepared	P.P.M.	Parts Per Million
Alc.	Alcohol	Prep.	Preparation
Alk.	Alkaline	Press.	Pressure
B/A	Bonnet Assembly	Prop.	Proprietary
Be'	Baume (Degree)	Reg.	Regulations (Association Practice)
Brix	Degree Brix (Sugar Content)	Resist.	Resistant
Conc.	Concentration	Sat.	Saturated
Circum.	Circumstances	Susp.	Suspension
CP	Chemically Pure	Steril.	Sterilization
Cryst.	Crystals or Crystalline Slurry	Sanit.	Sanitary
Car.	Carbon	Sol.	Solution
Emul.	Emulsion	SPCL	Special
Evap.	Evaporated	Syn.	Synthetic
Flamm	Flammable	SS	Stainless Steel (300 Series)
Food	Food Processing	Tech.	Technical
L.P.G.	Liquefied Petroleum Gas	Turp.	Turpentine
Max.	Maximum	Temp.	Temperature
Med.	Medium	T.O.	Taste and Odor Test
Min.	Minimum	U.L.	Underwriters' Laboratory Approval
Mo.	Months	Vel.	Velocity
N.R.C	Nuclear Regulatory Commission	Pharm.	Pharmaceutical



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES	
Abrasive Coolant	Water Sol.	38,N-1,Y-2	01,06	A		
Abrasives-Alkaline	Various Hydroxides	38,N-1,R-5	01,06,08,57,94	B	Over 50% Caustic , use N-1 to 180° F	
Abrasives-in acid	Hydrochloric, Sulfuric	38,R-5	85,94	B	Avoid high pressure drop	
Abrasives-in Solvent - See Recommendation for solvent used					B	
Abrasives-in water	To "plug flow"	38,R-5	01,08,57,85,94	B	Avoid high pressure drop	
Acetaldehyde		N-1,O-4	08,54,55,57,61,85,91	A		
Acetamide	Any	38,N-1,O-4	01,06,08,20,57,72,85	A		
Acetic Acid	To 60%	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	B		
Acetic Acid-Glacial	99%	O-4,Y-2	08,09,20,54,55,57,61,72,85,91	B		
Acetic Anhydride		CF	08,09,20,57,72,85	B	Hazardous - Use 97 B/A	
Acetone		38,O-4	01,06,08,20,57,72	A		
Acetyl Chloride		CF	08,57,61,85,91	B		
Acetyl Salicylic Acid		74,N-7,O-4	08,57,85	B		
Acetylene		38,N-1,Y-2	06,08,21,57	A	Use 97 B/A	
Acid Clay	Slurry	38,R-5	94	A		
Acid Sludge	To 100%	CF	09,61,85,91	B	Use 97 B/A	
Acid Water - See Recommendation for the particular acid dissolved in the water.						
Acrylic Acid	Aqu.	38,O-4	08,09,57,85	B		
Acrylonitrile		O-4	08,20,57,61,72,85,91	B	Hazardous - Use 97 B/A	
Acrylonitrile	Aqu.	38,O-4	09,85	B	W/Hydrotrope (Electrolytic) Latex	
Activated Alumina	Aqu. Susp.	38,R-5	94	A	Avoid high pressure drop	
Activated Carbon	Aqu. Susp.	38,R-5	85,94	B	Extremely Abrasive. Avoid high	
Activated Silica	Aqu. Susp.	38,R-5	01,94	B	Abrasive	
Agitator Service	Sulfuric/Oil Mixt.	O4-V-1	01,06,09,85	B	Oil refining. 63° Be Sulfuric/oil	
Air		38,N-1,Y-2	01,06,21	A		
Air Sterile		38,O-4	08,57	A		
Albone - See Hydrogen Peroxide (Du Pont)						
Albumin		74,N-7,O-4	08,57,85	A	Steam out. Antibiotic Type Valve	
Alcohol-Acid Mixtures - In general, use body-Diaph. Specs. applying to acid in mixture.						
Alcohol-Allyl		38,O-4,	08,20,57,72,85	A		
Alcohol-Amyl		38,N-1,O-4	01,06,08,10,54,55,57,61,91	A		
Alcohol-Benzyl		O-4,V-1	01,08,54,55,57,61,85,91	A		
Alcohol-Butyl		38,N-1,O-4,Y-2	01,06,08,10,54,55,57,61,91	A		
Alcohol-Ethyl		38,74,N-1,N-7,O-4,V-1,Y-2	01,06,08,10,54,55,57,61,91	A	For C.P. Grain 74, N-7. 180 proof plus	
Ethyl-Denatured - Choice determined by denaturant						
Alcohol-Furfuryl		O-4,V-1,Y-2	01,06,08,10,57	B		
Alcohol-Hexyl		O-4,V-1,Y-2	01,06,08,10,57	B		
Alcohol-Isopropyl		38,N-1,O-4,Y-2	01,06,08,10,57	A		
Alcohol - Methyl		38,N-1,O-4,Y-2	01,06,08,10,54,55,57,61,91	A		
Alcohol - Propyl		38,N-1,O-4,Y-2	01,06,08,10,57	A		
Alginate-Colloid	As Prep.	38,N-1,O-4	01,06,08,57	A		
Alkali - Refer to type of Alkali-Sodium Hydroxide, Calcium Hydroxide, etc.					A	
Alodine A.C.P.	As Prep.	38,N-1,O-4	08,57,85	A		
Alum-Ammonium	Any/ Aqu.	38,O-4,Y-2	08,09,10,54,55,57,61,85,91,95	A		
Alum-Chrome	Any/Aqu.	38,O-4,Y-2	08,09,10,54,55,57,61,85,91,95	A		
Alum-Potassium	Any/ Aqu.	38,O-4,Y-2	08,09,10,54,55,57,61,85,91,95	A		
Alum-Sodium	Any/Aqu.	38,O-4,Y-2	08,09,10,57,85,95	A		
Alumina	Susp./ Aqu.	38,R-5,Y-2	01,06,94	B	Avoid high pressure drop	
Aluminum Acetate	Any/Aqu.	38,O-4,Y-2	08,09,10,57,85,95	A		
Aluminum Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A		
Aluminum Fluoride		38,O-4	08,10,20,54,55,57,61,72,91,95	A		
Aluminum Hydroxide	Susp./ Aqu.	38,74,N-7,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	74, N-7 for Pharm.	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Aluminum Nitrate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Aluminum Stearate		38,O-4,Y-2	01,06,08,57,85	A	In oil or gasoline
Aluminum Sulfate	Any/Aqu.	38,O-4,Y-2	08,09,10,54,55,57,61,85,91,95	A	(Alum)
Alundum - See Alumina					
Amatol	Molten	N-1	01,06,85	B-C	Ordinance usage Ordinance Dept. - Risk. Steam Jacket
Amino Acids	Aqu.	38,O-4	08,57,85	A	
Amino Acids	Aq/Alc.	38,74,N-7,O-4	08,57,85	A	Steam Out, Antibiotic Type Valve
Aminoethanol Amine		O-4	01,06,08,57,61,85,91	B	
Ammonia "Absorber"	Aqu.	O-4,Y-2	01,06,08,57	B	Coke Plant Process Aq. Ammonia
Ammonia Anhydrous	Dry	38,N-1,O-4	06,08,10,20,21,54,55,57,61,72,91	B-C	Caution - Use 97 B/A
Ammonia Aqu.	to 26° Be	38,N-1,O-4	01,06,10,54,55,61,91	A	
Ammoniated Brine		38,O-4	06,08,10,21,57,95	B	
Ammonium Acetate	Any/Aqu.	38,O-4	01,06,08,10,20,57,72,85	A	
Ammonium Bicarbonate	Any/Aqu.	38,O-4,R-5	01,06,08,10,57,85	A	
Ammonium Bifluoride	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,91,95,96	B	
Ammonium Bisulfite		38,O-4,Y-2	08,57,85,95	B	
Ammonium Borate	Any/Aqu.	38,O-4	01,06,08,57,85	A	
Ammonium Bromide	Any/Aqu.	38,O-4	08,10,54,55,57,61,85,91	B	
Ammonium Carbonate	Any/Aqu.	38,O-4,R-5	01,06,08,10,20,57,72	B	
Ammonium Chloride	Any/Aqu.	38,O-4	08,20,57,72,85,95	A	
Ammonium Chromate	Any/Aqu.	38,O-4	08,54,55,57,61,57,85,91,95	A	
Ammonium Cupro Formate	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,57,95	B	CO Absorber
Ammonium Fluoride	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,91,95,96	B	
Ammonium Fluosilicate	Any/Aqu.	38,O-4	08,10,54,55,57,61,91,95,96	B	Ammonium Silicofluoride
Ammonium Formate	Any/Aqu.	38,N-1,O-4	01,06,08,10,57,95	B	
Ammonium Hydroxide	to 26° Be	38,O-4,Y-2	01,06,08,10,20, 57,72	A	
Ammonium Hydroxide - Nitrate Solution - See Barrett Sol. Spensol Sol. etc.					
Ammonium Hyposulfite	Any/Aqu.	38,74,O-4	08,10,57,95	B	Use 74 for Photog.
Ammonium Iodide	Any/Aqu.	38,74,N-7,O-4	08,54,55,57,85	A	
Ammonium Molybdate	Any/Aqu.	38,O-4	08,10,57,94	B	
Ammonium Nitrate	to 75%	38,N-1,O-4	01,06,08,10,20,54,55,57,61,72,85,91	B	
Ammonium Oxalate	Any/Aqu.	38,74,O-4,Y-2	08,10,57,85	A	Photog. Process use 74
Ammonium Persulfate	Any/Aqu.	38,74,O-4	08,10,20,54,55,57,61,72,85,91	B	Photog. Process use 74
Ammonium Phosphate	Any/Aqu.	38,O-4	08,09,10,20, 54,55,57,61,72,85,91,95	A	Mono, Di, or Tri Phos.
Ammonium Picrate	Any/Aqu.	38,N-1,O-4	08,10,57,85	B-C	Hazardous High Conc. - Use 97 B/A
Ammonium Sulfate	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,85,91,95	A	
Ammonium Sulfate Scrubber		38,O-4,Y-2	09,54,55,61,85,91	B-C	Absorber Acid Sol. Coke Process Tars, Etc.
Ammonium Sulfide	Any/Aqu.	38,O-4	01,06,08,10,20,54,55,57,61,72,91,95	B	
Ammonium Thiocyanate	Any/Aqu.	38,O-4	08,10,20,57,72,85	B	
Amyl Acetate	Dry or Aqu.	O-4	01,06,08,20,54,55,57,61,72,91	A	
Amyl Amine	Dry	O-4	01,06,08,57,85	B	
Amyl Chloride		O-4	09,54,55,61,85,91	B	
Aniline		O-4	01,06,08,20,54,55,57,61,72,91	A	
Aniline Dyes	Aqu. Sol.	38,N-1,O-4	08,54,55,57,61,85,91	A	
Animal Fat		O-4,Y-2	01,06	B	
Anodizing Bath	Aqu. Sol.	38,O-4	01,06,08,09,10,57	B	Alk. Sol. (if free Chromic or Nitric 08,09,85)
Antibiotic Broth	As Prep.	38,O-4	01,06,08,57	B	Steam out-Sterilization
Antichlor Solution	Any/Aqu.	38,O-4	09,10,54,55,61,91,95	A	
Antimony Acid Salts	Any/Aqu.	38,O-4	08,09,10,54,55,57,61,85,91,95	B	
Antimony Oxide	Aqu/Slurry	38,R-5	94	B	
Antimony Trichloride		38,O-4	08,09,10,20,54,55,57,61,72,85,91	B	



Tables of Valve Diaphragm and Valve Body Selection Data

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Antioxidant Gasoline	In Gasoline	O-4,Y-2	01,06	B	
Apple-Juice-Cider		74,N-7,O-4	08,57,85	A	With Steam Sterilization
Aqua Regia		CF	08,10,57,85	C	Hazardous, Caution - Use 97 B/A
Argon	Dry	38,N-1	08,57	A	
Armeen	Any/Aqu.	O-4,Y-2	08,57,85	A	
Arochlor-Impregnant/ Vacuum		O-4	01,06	B	Hazardous
Aromatic Gasoline		O-4,Y-2	01,06	B	
Aromatic Solvents		O-4	01,06	B	Benzene, Toluene and Mixtures
Arsenic Acid	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,85,91	B	
Asbestos Slurry	Aqu. Sus.	38,R-5	01,94	B	01 lasts about 9 mo.
Ash Slurry	20% Sludge	R-5	94	B	
Asphalt Emulsions	As Prep.	O-4,Y-2	01,06	A	
Asphalt Molten		CF	01,06	C	50 psi Steam Out
Bacterial Media	As Prep.	38,O-4	01,06,08,57,85	B	Steam out
Bagasse Fibers	Aq. Susp.	R-5	01,06	B	
Barium Acetate	Any/Aqu.	38,N-1,O-4,Y-2	08,10,57,85	B	
Barium Carbonate	Aq. Susp.	38,R-5	20,54,55,61,72,85,91,94	B	Abrasive
Barium Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	
Barium Hydroxide	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91	A	
Barium Sulfate	Aq. Susp.	38,R-5	20,72,85,94	B	Abrasive (Barytes)
Barrett Solution No. 2A, 3,4,"B" Liquor "Nitrogen Solution", etc.	Aq. Sol.	38,N-1	01,08,57	A	Various Types
Battery Acid	to 50%	O-4,V-1	08,09,10,57,85	B	
Battery Diffuser Juice		38	01,06,95	B	Liming juice & wash for sugar sol.
Bauxite- See Alumina					
Beef Extract	Aq. Sol.	74,N-7,O-4	08,57,85	B	Steam Out
Beer		74,O-4	08,10,20,57,72	A	
Beet Juice or Pulp		38	01,06	B	
Bentonite	Aq. Slurry	R-5	01,06,94	B	Abrasive-Pottery Clay
Benzaldehyde		O-4	01,06,08,20,57,61,72,91	B	
Benzene		CF	01,06,08,54,55,57,61,91	B	
Benzene Hexachlor		O-4	08,57,61,85,91	B	
Benzene in Hydrochloric		CF	08,57,61,85,91	B	Chlorine Present
Benzoic Acid	Aq./Alc.	38,O-4	08,10,20,54,55,57,61,72,85,91	B	
Benzo Triazole	Alc. Sol.	O-4	08,57,61,85,91	B	
Beryllium Hydroxide	Slurry	38,O-4	08,57,85,94,95	A	Toxic
Beryllium Sulfate	Any/Aqu.	38,O-4	08,09,10,57,85,95	B	Toxic
Bicarbonate Liquor	Any/Aqu.	38,R-5	01,06,95	B	
Bilge Lines		38,O-4	01,06	B	
Black Liquor	Dilute	N-1,Y-2	01,06	B	6-8 Months Life,200°F.
Black Liquor	Med. Conc.	Y-2	01,06	B	Y-2 used where liquor high in tars, resins and terpenes.
Black Liquor	Conc.	Y-2	01,06,54,55,61,91	C	4-6 Months average diaph. life
Bleach Liquor - See sodium or Calcium Hypochlorite					
Bleached Pulps	8%	38,Y-2	08,57,85,95	B	Of any origin-Rag, Kraft, Sulfite, etc.
Blood - Animal		38,O-4	08,57	A	
Blood - Extender		74,N-7,O-4	08,57,85	A	Steam Sterilization, Antibiotic Valve
Blood - Human		74,N-7,O-4	08,57,85	A	Various Fractions
Bonderite	Prop.	38,N-1,O-4	08,10,57,95	B	Mtls. Approved by Parker Rust Proof
Bonderite "K", "100" etc. As above (01 also used) System & Specs, by Parker Rust Proof (Iron Phosphate Types)					
Borax Liquors	Any/Aqu.	38,O-4,R-5	01,06,08,10,20,54,55,57,61,72,91,94	B	Crystal Slurries Use R-5, 03
Bordeaux Mixture	Slurry	38,Y-2	01,06,08,57	B	



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SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Boric Acid	Any/Aqu.	38,O-4,R-5,Y-2	08,10,20,54,55,57,61,72,91,94,95	A	Use R-5 – 03 on Slurries
Brake Fluids		O-4	01,06	A	
Brandy		74	08,57,85	A	Steam out
Bright Nickel - See Nickel Plating					
Brine-Alkaline		38,O-4,Y-2	01,06,08,54,55,57,61,91,95	A	
Brine-Chlorinated		38,O-4,V-1,Y-2	08,10,54,55,57,61,85,91,95	B	Chlorine Mfg. 38 has limited life if valve cycling is frequent
Brine-Cold		38,O-4	08,10,54,55,57,61,91,95	B	
Brine-Pickling		74,N-7,O-4	08,54,55,57,61,85,91,95	B	Food Products
Bromine		V-1	20,54,55,61,72,85,91	B	Hazardous-Caution - Use 97 B/A
Bromine Solution	Aqu.	O-4,V-1	08,10,20,54,55,57,61,72,85,91	B	Use 97 B/A
Brown Liquor	66%	38,Y-2	01,06,08,57	B	Pulp & Paper
Buromin	Any/Aqu.	38,O-4	08,10,57,95	A	Sodium Metaphosphate
Butadiene Gas/Liquid		N-1,O-4,Y-2	06,08,57,85	B	Syn, Rubber Mfg. Raw Latex - Use 97 B/A
Butane		38,N-1,O-4,V-1,Y-2	06,08,21,57	B-C	Use 97 B/A
Buttermilk		74,N-7,O-4	08,57	B	Steam out
Butyl Acetate		O-4	01,06,08,57	B	
Butyl Alcohol - See Alcohol - Butyl					
Butyl Amine		O-4	01,06,08,57,85	B	
Butyl Cellosolve	Any/Aqu.	38,O-4,Y-2	01,06,08,57	B	In mineral oil use Y-2 or O-4
Butyl Chloride		CF	54,55,61,85,91	B	
Butyl Ether-Dry		CF	01,06	B	Use 97 B/A
Butyl Lactate		N-1,O-4	08,57,85	B	
Butylene Gas/Liquid - See Butadiene					
Butyral Resin	Solvent	O-4	08,57,85	B	Laminates-Clarity Req.
Butyraldehyde		N-1,O-4	01,06,08,54,55,57,61,85,91	A	
Butyric Acid	60%	O-4,Y-2	08,09,20,54,55,57,61,72,85,91	B	
By-Product Gas-(Dry)		38,N-1,O-4,Y-2	01,06	B	Y-2 or O-4 on wet raw gas - Use 97 B/A
Cadmium Chloride	Any/Aqu.	38,O-4,Y-2	08,10,57,85,95	B	
Cadmium Plating Bath		38,O-4,Y-2	01,06,10,95	B	Alk. Cyanide
Cadmium Sulfate	Any/Aqu.	38,O-4,Y-2	09,85	A	
Calcium Acetate	Any/Aqu.	38,O-4,Y-2	08,57,85	A	
Calcium Bisulfite	Aqu.	38,O-4,Y-2	08,09,10,20,57,72,85,95	B	P & P "Cooking Liquor"
Calcium Carbonate	Slurry	38,R-5	01,20,72,94	A	
Calcium Chloride Brine		38,O-4	08,10,54,55,57,61,85,91,95	A	
Calcium Citrate	Any/Aqu.	74,N-7,O-4	08,57,85	A	Pharm.
Calcium Ferrocyanide	Aqu. Sol.	38,O-4,Y-2	08,57	A	
Calcium Formate	Slurry	38,O-4,Y-2	08,57,85	A	
Calcium Hydroxide	Slurry	38,Y-2	01,06,10,20,54,55,61,72,91,94	A	In oil use Y-2
Calcium Hypochlorite	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Calcium Lactate	Any/Aqu.	38,O-4,Y-2	08,57,85	A	
Calcium Nitrate	Any/Aqu.	38,O-4	01,06,08,20,54,55,57,61,72,85,91	A	01 or 06 if no free nitric
Calcium Phosphate	Slurry	38,R-5	01,94	B	
Calcium Silicate	Slurry	38,R-5	01,94	B	
Calcium Sulfamate	Any/Aqu.	38,O-4,Y-2	09,85	A	
Calcium Sulfate	Slurry/Aqu.	38,R-5,Y-2	01,20,72,94	B	P & P Coating
Calcium Sulfite	Aqu.	38,O-4	54,55,61,91,95	B	Free Sulfurous Acid O-4, 55
Calgon Solution - See Buromin - Sodium Metaphosphate					
Camphor	in alcohol	74,O-4	08,57,85	B	Pharm.
Cane Sugar Liquors	Any/Aqu.	38,O-4	01,06,08,20,57,72	B	Steam out
Cane Sugar Refined	Any/Aqu.	74,N-7,O-4	08,10,57	A	Steam out
Carbitol	Any/Aqu.	38,O-4,Y-2	01,06,08,57	B	Y-2 or O-4 if in oil
Carbolic Acid - See Phenol					



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Carbon Black	Slurry/Aqu.	38,R-5	08,57,85	B	Many types of blacks. Avoid high pressure drop. Very abrasive
Carbon Dioxide-gas		38,O-4	06,08,20,54,55,57,61,72,91	A	Corrosive if wet. Toxic - Use 97 B/A
Carbon Disulfide	Dry	CF	08,09,20,57,72,85	B	Carbon Bisulfide
Carbon Monoxide gas		38,N-1,O-4	01,06,20,72	B	Very toxic - Caution - Use 97 B/A
Carbon Tetrachloride	Dry/100 psi	V-1	01,06,08,54,55,57,61,91	B	If wet, forms trace HCl
Carbonated Beverage	All types	74,N-7,O-4	08,10,57	A	
Carbonic Acid	Any/Aqu.	38,74,O-4	08,20,57,72,85,95	A	
Carbowax		O-4,Y-2	01,06,08,57	B	
Carboxy Methyl Cellulose Conc.		38,O-4,Y-2	01,06,08,57	A	
Carnauba Wax		O-4,Y-2	01,06	B	180-200° F
Casein	Aqu. Sol.	38,O-4	01,06,08,57	B	Steam out
Casein Water Paint	Aqu. Sol.	38,O-4	01,06,08,10,57,85	A	
Cashew Oil		O-4	01,06	B	
Castor Oil		38,74,O-4	01,06,20,54,55,61,72,91	B	
Catsup	As Prep.	74,N-7,O-4	08,57	B	Steam out
Caustic - See Sodium Hydroxide					
Caustic Potash - See Potassium Hydroxide					
Celite	Slurry Aqu.	38,R-5	01,06,94	B	Abrasive Filter Aid
Cellosolve	Any/Aqu.	38,O-4	01,06,08,57	B	
Cellulose Acetate	in Acetone	38,N-1,O-4	01,06,08,57	B	
Cellulose Pulp	Slurry	38	01,06,95	A	
Cellulose Xanthate	As Prep.	O-4,V-1,Y-2	01,06,08,57,95	B	
Cement Dry/Air Blown		38,R-5	94	B-C	Abrasive
Cement Grout	Slurry	38,R-5	01,06,94	C	Rough usage. Stone mixture, etc.
Cement Slurry	Aqu.	38,R-5	01,06,94	B-C	
Ceramic Enamel	Slurry	38,R-5	08,57,94	B	
Cereal, Cooked	Slurry	74,N-7,O-4	08,57	B	Steam out
Ceric Oxide	Slurry	38,R-5	08,57,85	B	
Chalk	Slurry	38,R-5	01,94	B	P & P
Chemical Pulp	12%	38	95	A	Rayon Cellulose
Chestnut Tanning	Any/Aqu.	38,O-4	08,57,95	B	
China Clay	Slurry	38,R-5	01,94	B	
Chloral Alcoholate	Conc.	O-4	08,10,54,55,57,61,85,91	B	
Chloramine	Any/Aqu.	O-4	08,10,54,55,57,61,85,91,95	A	Ammonia & Chlorine Mixtures
Chlorinated Hydrocarbons	Dry	O-4,V-1	01,06,08,57,85	B-C	
Chlorinated Paper Stock		38,O-4,Y-2	54,55,61,85,91,95	B	
Chlorinated Solvents	As is	O-4,V-1	01,06,08,57	B	
Chlorinated Sulfuric Acid	50-98%	O-4,Y-2	85	B-C	Use 97 B/A
Chlorinated Water	to 15,000 PPM	O-4,V-1,Y-2	08,10,54,55,57,61,91,95	B	
Chlorinated Wax		O-4,V-1,Y-2	01,06	B-C	
Chlorine Dioxide	3%	O-4	08,10,54,55,57,61,85,91,95	B	Hazardous service - Use 97 B/A
Chlorine-Gas, dry	100 psi	CF	10,54,55,61,85,91	B	Use 97 B/A. Lube B/A-3 mo.
Chlorine-Gas, wet		38,O-4,Y-2	54,55,61,91,95	B	38, 6 to 8 months. The more frequent the operation the less the service
Chlorine-Liquid, dry		CF	06,21,54,55,61,85,91	C	Use 97 B/A at 50 psi, Lube B/A-3 mo.
Chlorine-Liquid, wet		CF	54,55,61,91	C	Use 97 B/A - Caution if temperature rise in closed line, Lube B/A-3 mo.
Chloroacetic Acid	Any/Aqu.	CF	08,09,10,20,54,55,57,61,72,91,95	B-C	55 to 212°. 50% solution. Use 97 B/A
Chlorobenzene Dry		CF	01,06	B-C	
Chloroform Dry		CF	01,06,54,55,61,91	B-C	
Chloroformate Methyl		CF	85	B	Use 97 B/A
Chlorophyll	Alcohol/Water	38,O-4	01,06,08,10,57	B	Caution. If Solvent Extract, Advise Solvent



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Chlorosulfonic Acid		CF	54,55,61,85,91	C	Hazardous - Use 97 B/A
Chocolate Milk	As Prep.	74,N-7	08,57	A	Steam out
Chocolate Syrup	As Prep.	74,N-7	08,57	A	Steam out
Chrome Acid Cleaning	As Prep.	O-4,V-1	08,10,57	B	Chromic/Sulfuric Acid
Chrome Liquor	Any/Aqu.	38,O-4,V-1	08,09,10,57,85	B	
Chrome Plating Bath	As Prep.	O-4,V-1	08,10,57,85	B	
Chromic Acid	Any/Aqu.	O-4,V-1	08,09,10,20,54,55,57,61,72,85,91	B-C	55 to 150°, 50% Solution
Chromium Acetate	Any/Aqu.	O-4	08,09,54,55,57,61,85,91	A	
Chromium Chloride	Any/Aqu.	O-4,Y-2	08,10,54,55,57,61,85,91,95	B	
Chromium Sulfate	Conc. Aqu.	O-4,Y-2	08,09,54,55,57,61,85,91	A	
Citric Acid	Any/Aqu.	38,74,N-7,O-4	08,10,20,54,55,57,61,72,85,91	B	Food Service Use 74, N-7
Citrus Concentrate		74,N-7,O-4	08,09,57	B	Steam out 300° F with 74, O-4
Citrus Juices	Single Strength	74,N-7,O-4	08,09,57	B	Steam out
Classifier		38,Y-2	01,08,57,95	A	Paper Pulp Hydroclone Service
Clay	Slurry	38,R-5	01,94	B	
Coal Mine Acid Water		38	08,10,20,57,72,95	A	
Coal Slurry	Slurry	38,R-5	94	B-C	
Coal Tar		O-4	01,06	C	
Coating Colors	As Prep.	38,O-4	08,57,85,95	A	P & P
Cobalt Chloride	Any/Aqu.	38,O-4	85	A	
Coca Cola Syrup	As Prep.	74,N-7,O-4	08,57	A	Use Model 49 B/A
Cocktail Liquors	As Prep.	74,N-7,O-4	08,57	A	Use Model 49 B/A
Coconut Oil		O-4,V-1,Y-2	01,06,08,20,54,55,57,61,72,91	B	
Coffee Concentrate	As Prep.	74,N-7,O-4	08,57	A	
Coke Breeze	Slurry	R-5	01,94	B	
Coke Oven Gas	Dry	38,N-1,O-4,Y-2	01,06,20,72	B	Raw Gas use Y-2 with 97 B/A
Condensate		38,O-4	01,06	B	
Cooking Oil		N-7,O-4	08,10,57,85	B	
Copper Ammonium Formate	As Prep.	N-1,O-4	06,85,95	A	CO Absorber Service
Copper Chloride	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,85,91,95	B	
Copper Chloride-Gasoline	Perco	N-1,O-4,Y-2	08,57,85	B	Perco Process - Use 97 B/A
Copper Cyanide	As Prep.	38,O-4,Y-2	01,06,20,54,55,61,72,91,95	A	
Copper Liquor	Aqu.	38,O-4	08,54,55,57,61,91,95	A	
Copper Naphthanate	In Gasoline	O-4,Y-2	01,06	A	
Copper Plating-Acid Process		38,O-4,Y-2	08,10,57,85,95	A	
Copper Plating-Alk. Process		38,O-4,Y-2	01,06,08,10,57,95	B	
Copper Sulfate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Copperas - See Ferrous Sulfate					
Core Oil		O-4,Y-2	01,06	B	Linseed Base
Corn Kernels	As Canned	74,N-7	08,57,85	B	Steam out
Corn Oil		74,N-7,O-4	08,10,20,54,55,57,61,72,85,91	B	
Corn Steep Liquor		38,O-4	08,54,55,57,61,85,91,95	B	Sulfurous Acid
Corn Syrup		74,N-7,O-4	08,57,85	A	Steam out
Corundum		R-5	94	B	Extremely Abrasive
Cottonseed Oil		O-4,Y-2	01,06,20,72	A	
Creosote-Cresylic Acid		O-4,V-1	01,06,08,10,54,55,57,61,85,91	A	(Cresol)
Cyanide Solution	Any/Aqu.	38,O-4	01,06,08,10,57	A	Leaching Solution - Use 97 B/A
Cyanogen Chloride	Conc.	38,O-4	85	B	Use 97 B/A
Cyanogen Gas		38,N-1,O-4	08,57,85,95	B-C	Hazardous - Use 97 B/A
Cyanuric Chloride	Conc.	38,O-4	85	B	
Cyclohexane		O-4	08,54,55,57,61,91	B-C	Hazardous - Use 97 B/A



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Cylinder Oils		N-1,O-4,Y-2	01,06	B	
DOT Intermediates	As Prep.	O-4	54,55,61,85,91	B	
Deionized Water		38,O-4	08,10,20,54,55,57,61,72,85,91,95	A	
Deionized Water - Low Conductivity		38,74,N-7,O-4	08,10,20,54,55,57,61,72,85,91,95	A	Extreme Purity
Dental Cream	As Prep.	74,N-7	85	A	Steam out and Sterilization
Detergents	Ionic-Nonionic	38,N-1,O-4	01,06,08,20,57,72,85	A	
Developer, Photographic	Aqu.	38,74,N-7,O-4	08,10,54,55,57,61,85,91	A	
Dextrin	Aqu.	74,N-7	08,54,55,57,61,85,91	A	Steam Out
Dextran	As Prep.	74,N-7,O-4	08,57,85	A	Steam Out
Diacetone Alcohol		O-4	01,06,08,20,57,72,85	B	
Diammonium Phosphate	Any/Aqu.	38,O-4	01,06,08,10,57	A	
Diamylamine		O-4	01,06,08,57	B	
Diatomaceous Earth Slurry	Aqu.	38,N-1,R-5,Y-2	01,06,08,57	B	In oil-use Y-2, N-1
Diazo Acetate	Any/Aqu.	O-4	08,54,55,57,61,85,91	B	
Dibutyl Phthalate	As is	O-4	01,06,20,72	A	
Dichloro Ethyl Ether	As Prep.	CF	09,85	B	Hazardous - Use 97 B/A
Dichlorophenol	As Prep.	O-4	08,09,57,61,91	C	
Dicyandiamide	Any/Aqu.	38,O-4	01,06,08,57,95	B	
Dielectric Fluid	As Prep.	O-4	01,06,08,57	B	In vacuum
Diester Lubricants	As Prep.	O-4	01,06,08,57	B	
Diethyl Ether-Dry		CF	06,08,57,85	B-C	Hazardous - Use 97 B/A
Diethyl Sulfate	As Prep.	O-4	09,61,85,91	B	
Diethylamine	As is	O-4,Y-2	01,08,57	A	
Diethylene Glycol	Any/Aqu.	O-4,Y-2	06,08,10,20,57,72	B	
Diglycolic Acid	Any/Aqu.	38,O-4	08,09,10,57,85	A	
Dimethyl Formamide	As Prep.	O-4	08,20,57,72,85	B	
Dimethyl Sulfoxide	As Prep.	CF	08,09,57,61,85,91	B	Use 97 B/A
Dioxane-Dry		O-4	06,85	C	Use 97 B/A
Dioxidene-See Bonderite					
Dipentene-Pinene	As Prep.	CF	08,09,57,61,91	B	
Diphenyl - See Dowtherm					
Distilled Water		38,74,N-7,O-4	08,10,20,57,72	A	
Distillery Mash		38,74	01,06,08,57	B	
Distillery Slops		38,Y-2	01,06,08,57	B	
Dowtherm	50 psi		06,21,61,91	B	Use 97 B/A
Driox - See Oxygen					
Drying Oils	As Prep.	O-4,V-1,Y-2	01,06	A	
Dust-Flue-Dry		R-5	01,06	A	
Dye Liquors -Secure Composition for Recommendation • in General N-1, or O-4 with 08					
Edible Oils		N-7,O-4	08,10,57,85	B	
Emery-Slurry	Aqu.	R-5	94	B	
Emulsified Oils	Aqu./Emul.	O-4	01,06,08,57	B	
Enamel Frit Slip	Slurry	38,R-5	08,57,94	A	
Enzyme Solution	As Prep.	74,N-7,O-4	08,09,57,85	A	
Epichlorhydrin	As Prep.	O-4	08,09,54,55,57,61,85,91	B	
Ergosterol Solution	Aqu. Sol.	O-4	61,85,91	A	
Essential Oils		CF	08,57,61,91	B-C	
Esters General	As Prep.	O-4	01,06,08,57,61,85,91	B	
Ether - See Diethyl Ether					
Ethyl Acetate		O-4	01,06,08,20,57,72	B	
Ethyl Alcohol - See Alcohol				A	
Ethyl Amine	Any/Aqu.	38,O-4	01,06,08,57	B	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Ethyl Bromide	As Prep.	O-4	08,09,54,55,57,61,85,91	B	
Ethyl Cellosolve	As Prep.	O-4,Y-2	01,06,54,55,61,91	A	
Ethyl Cellulose-Slurry	Aqu.	38	08,57,85	B	
Ethyl Chloride Dry		CF	09,85	B-C	Use 97 B/A
Ethyl Formate - See Ethyl Acetate				B	
Ethyl Silicate	Any/Aqu.	38,O-4	01,06,08,57	B	
Ethylene	Dry Gas	O-4,V-1,Y-2	06,08,21,57	B	Use 97 B/A
Ethylene Diamine	As Prep.	O-4	01,06,08,20,57,61,72,91	B	
Ethylene Diamine Tetramine	Aqu.	O-4,Y-2	01,08,57,85	B	Chelating Agent
Ethylene Dibromide	Aqu.	O-4	08,20,54,55,57,61,72,85,91	B-C	
Ethylene Dichloride	Aqu.	O-4	08,20,54,55,57,61,72,85,91	B-C	
Ethylene Glycol	Any/Aqu.	38,O-4,V-1,Y-2	01,06,08,10,20,54,55,57,61,72,91	B	
Ethylene Oxide	As Prep.	O-4	08,09,21,54,55,57,61,91	B	Use 97 B/A
Eugenol	Aqu. Sol. - Alc.	O-4	61,85,91	A	
Face Cream	As Prep.	74,N-7,O-4	85	A	Steam out and Sterilization
Fatty Acids		O-4	08,09,20,54,55,57,61,72,85,91	B	
Fatty Acid Amine		O-4	08,09,10,57,85	B	
Fatty Alcohol		O-4,Y-2	08,09,57,85	B	
Fermentation	Broth Aqu.	38,O-4	08,21,57	A	Antibiotic Type Valve
Ferri-Floc.	As Prep.	38	06,08,57,95	A	
Ferric Chloride		38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Ferric Nitrate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	B	
Ferric Sulfate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	A	
Ferro Silicon	Any/Aqu.	R-5	94	B	
Ferrocene-Oil Sol.	As Prep.	O-4,Y-2	01,06,08,57	B	
Ferrous Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Ferrous Oxalate	Any/Aqu.	38,74,N-7,O-4,Y-2	08,10,57,85	A	74, N-7 for Photo Dev.
Ferrous Sulfate	Any/Aqu.	38,O-4,Y-2	10,20,54,55,61,72,91,95	A	
Fertilizer Solution	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,57	B	Various Ammoniated Solutions
Fish Oil		O-4	01,06,08,57	B	
Fission Wastes	Spcl.	38	08,57	B	Use 97 B/A
Flavor ing Syrups	As Prep.	74,N-7,O-4	08,10,57	A	Use 49 B/A
Flotation Concentrates	Slurry	38,Y-2	01	B	CF - with oil
Flue Gas		O-4,Y-2	01	B	Gas Sampling
Fluoboric Acid		38	08,10,20,57,72	A-B	
Fluoride Salts	Any/Aqu.	38,N-1,O-4	08,10,54,55,57,61,91,95,96	B	
Fluorine - Gaseous or Liquid - Valve not suitable					
Fluorolube	As Prep.	O-4	08,57,85	B	
Fluosilicic Acid	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,91,95,96	B	
Flux Soldering	Any/Aqu.	38,O-4	85,95	B	
Fly-Ash-Dry		R-5	01	B	
Foam Latex Mix	As Prep.	N-1,O-4	10,85	B	
Foamite	As Prep.	38,O-4		B	Bicarbonate-01. Alum/Sulfuric 09,95
Formaldehyde	40%	38,N-1,O-4,V-1,Y-2	08,10,20,57,72,85,95	A	98% "C" Rating
Formic Acid	85%	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	B	
Freon #11 Gas	Dry 100 psi	N-1,O-4	06,08,57	B	
Freon #12 Gas	Dry 100 psi	N-1,O-4,Y-2	06,08,57	B	
Freon #21 Gas	Dry 100 ps	CF	06,08,57	B-C	Note: All Freons Difficult to hold and prevent leaks
Freon #22 Gas	Dry 100 psi	Y-2	06,08,57	B-C	
Fruit Juice-Berry etc.		74,O-4	08,20,57,72,85	A	
Fuel Oil		O-4,Y-2	01,06,20,54,55,61,72,91	B	
Fuming Nitric (Red)		CF	08,57,61,85,91		Trial only. Hazardous-Use 97 B/A



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Fuming Sulfuric Oleum	6% Max.	CF	08,09,57,61,85,91	B	Use 97 B/A
Fuming Sulfuric Oleum	Over 6%		09,61,85,91	C	Hazardous - to 30%. Caution - Use 97 B/A
Furfural		N-1,O-4	01,06,08,57	B	If mixed with oil or solvents secure data
Furnace Gas	As Prep.	O-4,Y-2	01,06	B	Use 97 B/A
Galic Acid	Any/Aqu.	38,O-4	08,10,20,57,72,85,95	B	
Gallium Sulfate	Any/Aqu.	74,N-7,O-4	08,10,57,85,95	A	
Gamma Globulin	As Prep.	74,N-7,O-4	85	A	Antibiotic Type Valve
Gas-Drip Oil		O-4	01,06,54,55,61,91	C	Gas Condensate Oil. Swelling Agent
Gas-Flue	As Prep.	O-4,Y-2	08,09,57	B	
Gas-Mfg.	As Prep.	O-4,Y-2	01,06,20,54,55,61,72,91	B	Use 97 B/A
Gas-Natural	As Prep.	38,O-4,Y-2	01,06,08,20,57,72	B	Use 97 B/A
Gasoline-Acid Wash	w 66° Be Sulfuric	O-4,V-1	09,85	B	
Gasoline-Alk. Wash	Caustic Gasoline	N-1,O-4,Y-2	01,06,08,09,57	B	
Gasoline-Copper Chloride		N-1,O-4,Y-2	08,57,85	B	Perco- Phillips
Gasoline-Ethyl	High Octane	Y-2	01,06,21,54,55,61,91	B	Use 97 B/A
Gasoline-Sour (Mercaptans)	As is	Y-2	01,06,21,54,55,61,91	B	Acidic Use 55 - Use 97 B/A
Gasoline-White	Reg. Octane	N-1,Y-2	01,06,21,54,55,61,91	B	Use 97 B/A
Gelatin-Edible	Any/Aqu.	74,N-7,O-4	08,10,20,57,72	A	Steam out
Gelatin-Emulsion	As Prep.	74,N-7,O-4	08,10,20,57,72,85	A	Steam out
Gluconic Acid	Any/Aqu.	74,N-7,O-4	08,09,10,57,85	B	
Glucose - See Corn Syrup					
Glue-Animal Gelatin		38,O-4	01,06	A	Steam Out
Glue-Plywood - See Phenol-Formaldehyde Resin					
Glutamic Acid	Any/Aqu.	74,O-4	08,10,57,85	B	
Gluten	As Prep.	74,N-7,O-4	01,08,57,85	A	
Glycerine C.P.-USP		38,74,N-7	08,20,54,55,57,61,72,85,91	A	Crude -Use 38
Glycerine-Lye-Brine	"Soap Foots"	38,O-4	08,09,20,54,55,57,61,72,91	B-C	Salting out soap Nigre Sol. N-1 Good
Glycine	Any/Aqu.	74,N-7,O-4	08,09,10,57,85	A	
Glycine Hydrochloride	Any/Aqu.	O-4	10,85,95	B	
Glycol Amine	As Prep.	38,O-4,Y-2	08,09,57,85	A	
Glycolic Acid	Any/Aqu.	38,74,N-7,O-4	08,09,20,57,72,85	B	
Glyoxal	Any/Aqu.	38,N-1,O-4	08,57,85	A	Plating
Gold Chloride	Any/Aqu.	74,N-7,O-4	08,10,57,85	A	Plating
Gold Cyanide	Any/Aqu.	74,N-7,O-4	08,10,54,55,57,61,85,91	A	
Grain Mash - See Distillers Mash					
Granodine	As Prep.	38,N-1,O-4	08,57,85,95	B	Prop. Rust Proof Compound
Grape Juice - See Fruit Juice					
Grapefruit Juice - See Citrus Juices					
Grape Pomace	Slurry	38,74	08,09,57,85	B	
Graphite	Susp. in air	38	01	B	
Graphite	Susp. in oil	Y-2	01	B	
Graphite	Susp. in water	38	01	B	
Grease-Edible	Molten	O-4	01	B	
Grease-Lubricating	Molten	O-4,Y-2	01,06	B	
Green Liquor	As Prep.	38,O-4,Y-2	01,06,21	B	P & P
Green Soap	Liquid	38,O-4	08,57	B	
Grinding Lubricant - See Abrasive-Coolant					
Grit-Steel	Air Blown	R-5	01	B	
Gritty Water		38,R-5	01	B	
Groundwood stock		38	01,06,95	B	
GRS Latex - See Latex Synthetic					



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Gum Paste	Aqu.	38,O-4	01	A	
Gum Turpentine	As Prep.	O-4,Y-2	01	B	
Gypsum	Slurry Aqu.	38,R-5	01,94	B	
Hair Tonics	In Alcohol	74,N-7,O-4	08,10,57	B	
Halane Sol.	Any/Aqu.	38,O-4	10,85,95	A	
Halogen Tin Plating	As Prep.	38,O-4	10,95	A	
Halowax	Molten	O-4,V-1,Y-2	08,57,85	B-C	Chlorinated Wax
Harvel-Transil Oil	As Prep.	O-4	08,57	B	Vacuum
Helium Gas-100 Psi		38,N-1,O-4	01,06,08,57	B-C	Difficult to contain - Use 97 B/A
Heptane - See Butane					
Hexachlorobenzene	As Prep.	O-4	09,85,61,91	B	
Hexadiene	As Prep.	O-4	08,57,85	B	
Hexameta Phosphate - See Sodium Metaphosphate					
Hexamethylene Tetramine	As Prep.	O-4	08,09,57,61,85,91	B	
Hexane-Low Pressure		O-4,V-1,Y-2	06,21,54,55,61,91	B-C	Use 97 B/A
Houghto Clean	Any/Aqu.	38,N-1,O-4	08,57	A	
HTH - See Sodium Hypochlorite					
Hydraulic Fluids-Oils	150 psi max.	O-4,Y-2	01,06	B	Gov. Spec. AN-AVD-366B
Hydrazine	95%	O-4	08,09,57,85	B	Use 97 B/A
Hydtazine Hydrate	64%	O-4	08,09,57,85	B	
Hydriodic Acid	Any/Aqu.	38,O-4	09,20,72,85	B	
Hydrobromic Acid	Any/Aqu.	O-4	08,10,20,54,55,57,61,72,85,91	B	
Hydrochloric Acid	22° Be	38,O-4,V-1	08,10,20,54,55,57,61,72,85,91,95	A-B	C.P. USP. Tech. NO Organics
Hydrochloric Acid	22° Be By-Product	O-4,V-1	08,10,20,54,55,57,61,72,85,91	B-C	Organic contaminated Chloro Hydrocarbons
Hydrochloric Acid	6%	38,O-4,V-1	08,20,54,55,57,61,72,85,91	B	Starch Conversion, Glutamate Conversion
Hydrochloric Acid Fuming	38% plus	O-4	08,54,55,57,61,85,91,95	B	Use 97 B/A
Hydrochloric/Hydrofluoric	50/50	O-4,V-1	08,10,54,55,57,61,91,95	B-C	Use 97 B/A
Hydrocyanic Acid	60%	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	Toxic - Use 97 B/A
Hydrofluoric Acid	48%	N-1,V-1	08,20,54,55,57,61,72,91,95,96	B	Use 04, 42 under 50%; 09, 16 over 50%. Over 50% use 97 B/A.
	to 80%	N-1,O-4,V-1	08,09,20,54,55,57,61,72,91	B	
Hydrofluosilicic Acid - See Fluosilicic Acid					
Hydrogen		38,N-1,O-4	01,06,08,20,57,72	B-C	Use 97 B/A
Hydrogen Bromide	Dry Gas	V-1	08,54,55,57,61,85,91	B-C	Use 97 B/A
Hydrogen Chloride	Dry Gas	O-4	08,20,54,55,57,61,72,85,91,95	B	Use 97 B/A
Hydrogen Cyanide	Dry Gas	38,N-1,O-4	01,06,08,54,55,57,61,91	B	Caution-Hazardous - Use 97 B/A
Hydrogen Fluoride	Dry Gas	CF	08,57,61,91	C	Caution-Hazardous - Use 97 B/A
Hydrogen Peroxide	Dil. to 30%(100vol.)	38,O-4,Y-2	08,10,54,55,57,61,85,91	A-B	
Hydrogen Peroxide	To 90%	V-1	08,57,85	B	Hazardous - Use 97 B/A
Hydrogen Sulfide	Dry Gas	38,N-1,O-4	01,06,08,20,54,55,57,61,72,91	B	Toxic - Use 97 B/A
Hydrogen Sulfide	Wet Gas	38,N-1,O-4	08,20,54,55,57,61,72,85,91,95	B	Toxic - Use 97 B/A
Hydroponic Solution	As Prep.	38,O-4	01,08,57,95	A	
Hydroquinone	Alc/Water	38,74,N-7,O-4	08,20,57,72,85,95	B	
Hydroxy Acetic Acid	As Prep.	O-4	08,54,55,57,61,85,91	B	
Hypo - See Sodium Thiosulfate					
Hypochlorite - See Calcium-Sodium, etc.					
Hypochlorous Acid	3%	38,O-4	08,10,20,54,55,57,61,72,85,91,95	A-B	
Ink	Various types in various vehicles-Secure Details.				Generally use 08 or 11 with O-4
Ink-In Solvent-Printing, etc.		O-4	01,08,57	B	
Ink-Water Soluble		38,O-4	08,10,57	B	
Insecticide	As Prep.	38,O-4,Y-2	01,06	B	Not 38 if oil or kerosene solution



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Insulin Slurry	Aqu. Slurry	74,N-7,O-4	85	A	
Iodine in Alcohol		O-4	08,20,57,72,85	B	
Iodine-Potassium Iodide	Aqu.	38,O-4	08,10,57,85	B	
Iodobenzoic Acid	As Prep.	O-4	09,61,85,91	B	
Iodoform		O-4,V-1	06,08,20,54,55,57,61,72,91	B	
Ion Exchange Service		38	08,10,54,55,57,61,91,95	A-B	
Ion Exclusion Glycol	Any/Aqu.	38,N-1,O-4	01,95	A	
Irish Moss Slurry	Aqu. Slurry	38	01,08,57	B	
Iron Ore-Taconite	20-30%	38,R-5	01,94	B	
Iron Oxide	Slurry	R-5	01,94	B	
Iron Phytate	Any/Aqu.	74,N-7,O-4	85	A	Pharm.
Iron Salts - See Ferric, Ferrous Classification					
Isobutyl Alcohol - See Butyl Alcohol					
Isobutyraldehyde	As Prep.	O-4	08,09,57,85	B	
Isocyanate Resin	Molten	CF	08,57	B	
Isopropyl Acetate	Dry	O-4	06,08,57,85	B	
Isopropyl Alcohol - See Propyl Alcohol					
Isopropyl Ether	Dry	O-4	08,57,85	B	
Itaconic Acid	Any/Aqu.	74,N-7	08,09,57,85	A	
Jams-Jelly	Melted	74,N-7,O-4	08,57	A	Steam out
Jet Fuels	As Prep.	O-4,V-1,Y-2	01,08,57	B	
Jewelers Rouge	Slurry	38,R-5	94	B	
Jig Table Slurry	Slurry	38,R-5	01,94	B	Ore concentrate slurry from jig table
Juice - Fruit or Vegetable	As Prep.	74,N-7,O-4	08,57	A	
Jute Fibers	Slurry Agu.	38,R-5	01,94	A	
Kaolin-China Clay	Slurry Aqu.	38,R-5	01,94	B	
Kelp Slurry		38	01,06	B	
Kerosene		N-1,O-4,V-1,Y-2	01,06,21,20,54,55,61,72,91	B	Use 97 B/A
Kerosene Chlorinated	Dry	O-4,V-1	54,55,61,85,91	C	Powerful Swelling Agent
Ketone - Secure data as to specific type - See Acetone, Methyl Ethyl Ketone, etc.					
Kraut Juice		74,N-7,O-4	85	B	
Lacquer Thinner	Dry	O-4	01,06	B-C	
Lactic Acid	44%	38,74,O-4	08,10,20,57,61,72,85,91,95	B	Steam out
Lactose	Any/Aqu.	74,N-7,O-4	08,57,85	B	
Lapping Compound	In Kerosene	38,N-1,R-5,Y-2	01	B	38, R-5 in H ₂ O
Lard Oil-Lubricant		O-4,Y-2	01,06,20,72	B	
Latex-Natural	As Shipped	38,O-4	01,06,08,54,55,57,61,85,91	A	
Latex-Synthetic	Finished	38,N-1,N-7,O-4	54,55,61,85,91	A	05 best
Latex Synthetic-Raw	From Reactors	N-1,O-4	85	B-C	Unreacted Butadiene, Styrene, Acrylonitrile, etc. will Reduce Dia. Life
Laundry Wash Water		38	01,95	B	
Laundry Bleach (Sodium Hypochlorite)	To 22%	38,O-4,Y-2	08,10,54,55,57,61,91,95	B	
Laundry Blue	Any/Aqu.	38,O-4	08,57	B	
Laundry Soda	Any/Aqu.	38,O-4	01	B	
Lead Arsenate	Slurry	38,R-5,Y-2	08,57,94	B	
Lead Oxide	Slurry	38,R-5,Y-2	01	B	Pigment - in oil, Y-2
Lead Sulfate	Slurry	R-5,Y-2	01,20,72,94	B	
Lead Tetraethyl	Fluid	CF	08,09,57	C	Hazardous-Very Toxic-Use 97 B/A
Lecithin	Any/Aqu.	74,N-7,O-4	08,09,57,85	A	
Lemon Juice		74,N-7,O-4	08,57	B	Steam out
Lignin Extract		38,O-4	01,06,08,57	B	
Lime Bleach - See Calcium Hypochlorite					



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Lime Saccharate	As Prep.	38,R-5	08,57,85	B	
Lime Slaked		38,R-5	01	B	Abrasive
Lime Sulfur Mix	Slurry	38	08,20,57,72	B	
Linseed Oil		O-4,V-1,Y-2	01,06,20,72	B	
Liquid Ion Exchange	Ion	O-4	08,54,55,57,61,85,91	A	
Lithium Bromide		38,N-1,O-4,Y-2	06,08,09,10,57,95	A	
Lithium Chloride	43%	38,N-1,O-4,Y-2	08,09,10,57,95	A	Kathene-Air Cond.
Liver Extract		74,N-7,O-4	08,57	B	
Low Wine-Raw	Low Alc.	74,N-7,O-4	08,10,57,85	B	
Ludox	Slurry	38	08,57,85,94	A	
Lye - See Sodium Hydroxide, Calcium Hydroxide					
Machine Coating Color	As Prep.	38	08,10,57,85	A	
Magnesia Slurry	Slurry	38,R-5,Y-2	01,94	B	
Magnesite Slurry	As Prep.	38,R-5	01	B	
Magnesium Bisulfite	Liquor or Crys. Slurry	38,R-5	08,10,54,55,57,61,85,91,95	B	
Magnesium Carbonate	Slurry	38,R-5	01,20,72,94	B	
Magnesium Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Magnesium Hydroxide	Slurry	38,74,N-7,R-5	01,08,20,54,55,57,61,72,85,91,94	A-B	Pharm. Use 74, N-7 with 08,85
Magnesium Nitrate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91	A	
Magnesium Sulfate	Any/Aqu.	38,O-4,Y-2	01,08,10,20,54,55,57,61,72,85,91	B	
Magnetite	Coal/50% Slurry	R-5	01,94	B-C	Highly Abrasive
Maleic Acid	Any/Aqu.	38,O-4	08,09,20,54,55,57,61,72,85,91,95	B	
Maleic Anhydride	As Prep.	CF	08,09,20,57,72	B	
Malt Slurry		74,N-7	08,57	B	Steam out
Malt Syrup		74,N-7,O-4	08,57	B	Steam out
Maltose		74,N-7,O-4	08,57	B	Steam out
Manganese Chloride	Any/Aqu.	38,O-4,Y-2	08,10,57,85,95	B	
Manganese Sulfate	Any/Aqu.	38,O-4,Y-2	08,09,10,57,85,95	B	
Mannitol Solution	Any/Aqu.	74,N-7,O-4	08,57,85,95	B	
Melamine Resin	Aqu. 15%	38	08,10,57,85,95	B	With Hydrochloric Acid
Menthol	Alc. Sol.	74,N-7,O-4	08,57,85	B	Pharm.
Mercaptans	As is	O-4	08,54,55,57,61,85,91	A	Gas Odorant Methyl, Ethyl - Use 97 B/A
Mercuric Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	A	
Mercuric Nitrate	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,85,91	A	CF - if free Nitric Acid present
Mercurous Nitrate		38,O-4,Y-2	08,09,10,57	A	
Mercury-Dry	Washed Distilled	74,N-7,O-4	08,57,85	A	
Methane - See Butane					
Methyl Acetate		O-4	01,06,08,57	B	
Methyl Amine		N-1,O-4	01,06,08,57	B	
Methyl Bromide		O-4	08,54,55,57,61,85,91	B-C	
Methyl Carbitol		38,N-1,O-4	01,06,08,57	B	
Methyl Cellosolve		N-1,O-4,Y-2	01,06,08,20,57,72	B	Use Y-2 if in oil
Methyl Chloride		O-4	08,57,85	B-C	
Methyl Ethyl Ketone		O-4	08,20,57,72,85	B-C	
Methyl Isobutyl Ketone		O-4	08,20,57,72,85	B-C	
Methyl Lactate		O-4	08,57,85	B	
Methyl Orange	Any/Aqu.	38,O-4	08,57	A	
Methylene Chloride		O-4	08,57,61,85,91	B-C	
Milk	As is	74,N-7	08,20,54,55,57,61,72,91	B	
Milk of Magnesia		74,N-7,O-4	08,57	B	
Mine Water - See Coal Mine Acid Water					
Mineral Oil White	350 SSU	N-7,O-4	08,20,57,72,85	A	Pharm.



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Mineral Spirits		O-4,Y-2	01,06	B	Turp. -Substitute
Mixed Acid-Nitric/Sulfuric		O-4	09,61,85,91	B-C	Caution-Hazardous - Use 97 B/A
Molasses-Crude		38,O-4	01,06	A	Steam Out
Molasses-Edible		74,N-7,O-4	08,20,57,72	A	Steam Out
Mold Broths-Antibiotic		38,74,O-4	01,06,08,57,85	A	Steam Out
Molybdenum Chloride	Any/Aqu.	38,O-4	85,95	B	
Monochlor Acetic Acid	Any/Aqu.	O-4	20,61,72,85,91	B-C	Use 97 B/A
Morpholine		O-4	01,08,20,57,72	B	
Mud		38,R-5	01,94	B	Abrasive
Muriatic Acid - See Hydrochloric Acid					
Mustard Edible		74,N-7,O-4	08,57,85	A	
Nalco Solutions	As Prep.	38,O-4	01,08,57	A	
Naphtha		O-4,Y-2	01,06,20,72	B	
Natural Gas-Dry		N-1,O-4,Y-2	01,06	B	Dripoil-Wetgas requires Y-2 - Use 97 B/A
Naval Stores Solvent	As Prep.	O-4	01,06	A	Spcl. Turp. Fraction
Nematocide	As Prep.	O-4	08,57	B	
Neoprene Emulsion	As Prep.	O-4	54,55,61,85,91	B	
Neoprene Latex	As Prep.	O-4	54,55,61,85,91	B	
Nickel Acetate	Any/Aqu.	38,O-4	08,10,57,85,95	B	
Nickel Ammonium Sulfate	Any/Aqu.	38,O-4,Y-2	54,55,61,91,95	A	
Nickel Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	
Nickel Cyanide	Any/Aqu.	38,O-4,Y-2	08,54,55,57,61,91,95	A	
Nickel Fluoborate		38,O-4,Y-2	08,54,55,57,61,91,95	A	Electroplating
Nickel Ore Fines	As Prep.	38,Y-2	01	0B	With Flotation Reagent
Nickel Plating Bright		38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A-B	
Nickel Sulfate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	
Nicotinic Acid	Any/Aqu.	38,N-7,O-4	08,10,20,57,72,85,95	A	Tobacco Processing
Nitrana Solutions - See Barrett Sol.					
Nitration Acid - See Mixed Acid-Nitric/Sulfuric					
Nitric Acid	43° Be (70%)	O-4	08,09,10,57,61,85,91	B-C	Caution-Hazardous - Use 97 B/A
Nitric Acid-Fuming	86% Plus	CF	08,57,61,85,91	B-C	Trial basis only - Use 97 B/A
Nitric Dilute	to 20%	38,O-4	08,09,10,54,55,57,61,85,91	A-B	
Nitro Aryl Sulfonic Acid	As Prep.	O-4	09,54,55,61,85,91	B	
Nitrobenzene-Dry		O-4	01,06,08,57,85	B-C	
Nitrocellulose	Acetone Sol.	38,N-1	08,09,57,85	B	Hazardous- Use 97 B/A
Nitrofurane	As Prep.	O-4	08,09,57,85	B	
Nitrogen Gas		38,N-1,O-4	01,06,20,72	A	
Nitrogen Solution - #2, #3 - See Barrett Solution					
Nitroglycerine - Use at customer's risk.		N-1,Y-2	08,09,57,85	A-C	Use 97 B/A
Nitroguanidine	Slurry	38,N-1	08,09,57,85	B	Hazardous - Use 97 B/A
Nitroparaffins-Dry		V-1	01,06,08,57,85	B-C	Use 97 B/A
Nitrosyl Chloride	Gas	CF	61,85,91	B-C	Very Hazardous - Use 97 B/A
Norite Carbon	Slurry Aqu.	38,R-5	85	B	
Nuchar	Slurry Aqu.	38,R-5	85	B	
Oakite Compound - Proprietary Compd.-Acid to Alk-Solvent Types - Secure Specific Data					
Oil-Castor - See Castor Oil					
Oil-Coconut - See Coconut Oil					
Oil-Cod, Raw		O-4	01,06,08,57	B	
Oil, Corn - See Corn Oil					
Oil, Creosote - See Creosote					
Oil, Emulsified		38,74,O-4,Y-2	01,06,08,57	B	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Oil, Fish		O-4,Y-2	01,06,08,57	B	
Oil, Fuel - See Fuel Oil					
Oil, Linseed - See Linseed Oil					
Oil, Lubricating		N-1,Y-2	01,06	A	
Oil, Olive, Edible		74,N-7,O-4	08,57	B	
Oil, Peanut, Crude		O-4	01,06	B	
Oil, Soluble	As Prep.	38,O-4	01,06	A	
Oil, Soya Crude		O-4	01,06	B	
Oil, Tall		O-4,Y-2	01,06,08,57	B	
Oil, Tung		O-4,Y-2	01,06	B	
Oil-Vegetable	As Prep.	38,74,O-4	01,06,08,57	A	
Oleic Acid	As Prep.	O-4,Y-2	08,10,20,57,72	B	
Orange Juice - See Citrus Juice					
Ore Fines-Flotation	As Prep.	Y-2	01	B	See Flotation Conc.
Ore Pulp	Slurry	See Jig Table Slurry, Use Y-2 if flotation oil present			
Organic Dyes	As Prep.	O-4	08,54,55,57,61,85,91	A	
Oxalic Acid	Any/Aqu.	38,O-4,Y-2	08,09,20,54,55,57,61,72,85,91,95	B	
Oxygen	Gas up to 70° F	38,O-4,V-1	06,08,20,57,72	A	Specify Valves prepared for oxygen service
Ozone Gas	As Prep.	O-4	08,57,85	A	Use 97 B/A
Paint-Linseed Base		O-4,Y-2	01,08,57,85	B	
Paint-Water Base		N-1,O-4,Y-2	08,10,57,85	B	
Paint Remover -Solvent Type		O-4	01,06	B	
Paint Vehicles		O-4,V-1,Y-2	01,06,85	B	Oils (Linseed) etc. in turpentine, mineral spirits
Palm Oil		O-4,Y-2	01,06,08,57	B	
Palmitic Acid	As Is	O-4,Y-2	08,20,54,55,57,61,72,85,91	A	
Paper Board Mill Waste		38	01	B	pH 8.0 or more
Paper Coating Slurry		38,R-5	08,57,85,94	B	
Paper Pulp	8% Plus	38	01,95	A	Any type or origin or pulp
To minimize plugging-Use undersize (next smallest) if throttling range will permit.					
Paper Pulp with Alum.		38	08,57,85,95	A	Acid
Paper Pulp with dye		38	85,95	A	
Paper Pulp-Bleached		38	08,54,55,57,61,85,91,95	A	
Paper Pulp-Bleached-Washed		38	08,54,55,57,61,85,91,95	A	
Paper Pulp-Chlorinated		38,Y-2	08,54,55,57,61,85,91,95	A	
Paper Pulp Groundwood	to 6%	38	01,95	A	
Paper Pulp Rag	to 6%	38	01,95	A	
Paper Stocks-Fine		38	08,57,95	A	
Paradichlorobenzene		CF	01,06	A	In Solvent
Paraffin Molten		O-4,Y-2	01,06	B	
Paraffin Oils		O-4,Y-2	01,06	B	
Paraformaldehyde	Any/Aqu.	N-1,O-4	08,57,85	B	
Pectin Solution-Acid	Aqu.	74,N-7,O-4	08,10,57,85,95	B	
Penicillin Broth	As Prep.	74,O-4,V-1	08,57,85	A	Antibiotic Valve
Pentachloroethane	As Is	CF	85	B	Powerful Solvent - Use 97 B/A
Pentaerythritol Sol.	Any/Aqu.	38,N-7,O-4	08,54,55,57,61,85,91,95	B	
Perchlorethylene	As Prep.	V-1	01,06,08,54,55,57,61,91	B	
Perchloric Acid		CF	54,55,61,85,91	C	Very hazardous - Trial only with 97 B/A
Perchloromethyl Mercaptan	As Prep.	CF	08,57	B	
Perfume	In Alcohol	74,N-7,O-4	08,10,57,85	B	
Permanganic Acid	Any/Aqu.	O-4,V-1,Y-2	08,10,54,55,57,61,85,91	B	Caution - Highly Oxidizing



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Peroxide Bleach	As Prep.	38,O-4,Y-2	08,10,54,55,57,61,85,91	A	P & P
Persulfuric Acid	30%	O-4	08,09,10,54,55,57,61,85,91	B-C	Caution - Highly Oxidizing
Petroleum Ether		CF	01,06	B-C	Use 97 B/A
Petroleum Jelly	Molten	O-4,N-7	08,57,85	B	Pharm.
Pharmaceutical Prep.		O-4,74	85	A	Various Phys. Preps.
Phenol		O-4,V-1	08,20,54,55,57,61,72,85,91	B	Carbolic Acid
Phenol -Formaldehyde Resins		N-1,O-4	01,06,08,57	A	Plywood Mfg.
Phe.nol-Sulfonic Acid	Aqu.	O-4	54,55,61,85,91	A	
Phenolic Glue	As Prep.	N-1,O-4	01,06,08,57	A	
Phenyl Betanaphthylamine	Any Alc.	O-4	08,09,57,85	B	
Phloroglucinol	Any/Aqu.	74,N-7,O-4	08,09,57,85	A	
Phosphine	Gas	O-4	08,54,55,57,61,91	B-C	Hazardous-Flamm. - Use 97 B/A
Phosphatic Sand	As Prep.	38,N-1,V-1,Y-2	95,96	B-C	With oil use V-1 or Y-2
Phosphocresylic Acid	As Prep.	38,O-4	08,09,57	B	
Phosphoric Acid	85% Plus	38,N-1,O-4	08,10,20,54,55,57,61,72,91,95	A	
Phosphoric Acid USP	85%	74,N-7,O-4	08,54,55,57,61,91	A	Food Grade use 74
Phosphorous Molten	As Prep.	CF	08,09,57	C	Use 97 B/A
Phosphorous Oxychloride		CF	85	B-C	Use 97 B/A
Phosphorous Trichloride		CF	54,55,61,85,91	B-C	Use 97 B/A
Phosphotungstic Acid	Any/Aqu.	38,N-1,O-4	08,54,55,57,61,85,91	B	
Photographic Solutions		74,N-7,O-4	08,10,20,57,72,85	A	
Phthalic Acid	Aqu. or Alc.	O-4,Y-2	08,09,20,57,72,85	B	
Pickle Brine	Aqu.	74,N-7,O-4	08,10,57,85,95	A	
Pickle Solution (For Meat Curing)		74,N-7,O-4	85,95	A	
Pickling Acid-Sulfuric	to 66° Be	O-4	08,09,10,54,55,57,61,85,91	A	Use 97 B/A
Picric Acid		38,N-1,O-4	08,20,54,55,57,61,72,85,91	B	Hazardous, Steam Jacket
Pine Oil Finish		O-4,Y-2	01,06,08,57	B	
Pineapple Juice-Edible		74,N-7,O-4	08,57,85	A	
Plating Solutions as follows					
Brass-Cyanide	As Prep.	38,N-1,O-4,Y-2	01,08,10,20,54,55,57,61,72,91,95	A	Alkaline Bath
Bronze-Cyanide	As Prep.	38,N-1,O-4,Y-2	01,08,10,54,55,57,61,91,95	A	Alkaline Bath
Cadmium Cyanide	As Prep.	38,N-1,O-4,Y-2	01,08,10,20,54,55,57,61,72,91,95	A	Alkaline Bath
Chromium	As Prep.	38,O-4,V-1,Y-2	08,10,20,54,55,57,61,72,85,91	B	38 on Dilute
Cobalt-Acid	As Prep.	38,O-4,Y-2	08,10,54,55,57,61,85,91,95	A	
Copper-Acid	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Copper-Alk.	As Prep.	38,O-4,Y-2	01,08,10,20,54,55,61,72,91,95	B	
Gold-Cyanide	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Iron-Acid	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Lead-Fluoro	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Nickel-Bright	As Prep.	38,N-1,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Platinum	As Prep.	74,N-7,O-4	08,10,54,55,57,61,91,95	A	
Silver-Cyanide	As Prep.	38,74,N-7,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Tin-Acid	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Tin-Alk. Barrel	As Prep.	38,N-1,O-4,Y-2	01,08,10,20,54,55,57,61,72,91,95	B	
Zinc-Acid	As Prep.	38,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Zinc-Alk. Cyanide	As Prep.	38,N-1,O-4,Y-2	08,10,20,54,55,57,61,72,91,95	A	
Polyacrylonitrile Slurry	As is	38,N-1,O-4	85	B	38 or N-1 with finished stock
Polypentek	As Prep.	38,O-4	95	B	
Polyphosphoric Acid	As Prep.	38,O-4	08,54,55,57,61,91,95	B	
Polysulfide Liquor	As Prep.	38,N-1,O-4	01,08,57	B	
Polyvinyl Acetate Slurry	As Prep.	38,N-1,Y-2	08,20,54,55,57,61,72,85,91	B	38 or N-1 with monomer-free stock



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Polyvinyl Chloride	Washed Slurry	38,74,N-1,N-7	08,10,57,85	B	See Vinyl Chloride
Pomace - See Grape Pomace					
Porcelain Frit	Slurry	R-5	08,57,94	B-C	Highly abrasive
Potable Water		38,74,N-7,O-4	08,10,57,85	A	
Potash - See Potassium Carbonate or "Caustic" Potash- Potassium Hydroxide					
Potassium Acetate	Any/Aqu.	38,O-4	08,10,20,57,72,85,95	A	
Potassium Aluminum Sulfate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,57,72,85,95	A	
Potassium Bromide	Any/Aqu.	38,74,N-7,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	For Photog - Use 74, N-7
Potassium Carbonate	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91,95	A	
Potassium Chlorate	Aqu. Sol.	38,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	CF for conc. sol.
Potassium Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Potassium Chromate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	B	Normal Chromate or Bichromate
Potassium Cyanide	Any/Aqu.	38,N-1,O-4,Y-2	01,08,10,20,54,55,57,61,72,85,91	A	
Potassium Dichromate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91	B	
Potassium Ferricyanide	Any/Aqu.	38,74,N-7,O-4,Y-2	08,10,57,85	A	Photog.
Potassium Hydroxide	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91,95	A	Over 30% use N-1
Potassium Iodide	Any/Aqu.	38,74,N-7,O-4	08,09,10,20,57,72,85,95	A	Photog.
Potassium Nitrate	to 50% Aqu.	38,O-4,Y-2	01,08,10,20,54,55,57,61,72,85,91	B	
Potassium Perchlorate	Aqu.	O-4	08,10,20,54,55,57,61,72,85,91	B-C	Conc. acid hazardous - CF - use 97 B/A
Potassium Permanganate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	B	Acidified CF
Potassium Persulfate	Aqu.	O-4	08,10,54,55,57,61,85,91	B-C	Dilute acid hazardous - CF - use 97 B/A
Potassium Phosphate	Any/Aqu.	38,74,N-7,O-4,Y-2	08,09,57,85,95	B	Food Service Use 74, N-7
Potassium Silicate		38,N-1,O-4,Y-2	08,10,57,85	A	
Potassium Sulfate	Any/Aqu.	38,O-4,Y-2	01,08,10,20,54,55,57,61,72,85,91,95	B	
Potassium Xanthate	Aqu. Sol.	O-4,Y-2	01,08,10,57	B	
Press Board Waste		38,R-5	01,95	B	
Producer Gas		N-1,O-4,Y-2	01,06	B	O-4 on Raw Gas
Propane - See Butane - Caution - Normal press. only. Hazardous UL-LPG Regulations					
Propionic Acid	50% Aqu.	38,O-4	08,57,85,95	B	
Propyl Bromide	As Prep.	O-4	09,61,85,91	B	
Propylene Glycol	Any	38,O-4,Y-2	08,20,54,55,57,61,72,85,91	B	
Proteins	Water Sol. or Slurry	38,74,N-7,O-4	01,08,57	B	
Pyranol		CF	08,57	B	
Pyridine		O-4	01,08,20,57,72	B-C	Toxic
Pyrogallic Acid	Any/Aqu.	74,N-7,O-4,Y-2	08,10,57,85	B	Photog.
Pyrole		O-4	08,09,57	B	
Pyromellitic Acid	Any/Aqu. or Alc.	O-4	08,09,10,54,55,57,61,85,91	B	
Quaternary Ammonium Compounds	Aqu.	38,N-1,O-4	08,10,57,85	B	Also in Alcohol Sol.
Quebracho Tannin	Any/Aqu.	38,N-1,O-4	08,10,57	B	
Quilon	Any/Aqu.	38,N-1,O-4	54,55,61,85,91,95	B	
Quinine	Alc.	74,N-7,O-4	08,57,95	A-B	Alkaline Solution
Quixsol-Solvent		N-1,O-4	01,06	B	
Radioactive Salts -Not Disclosed		CF	08,54,55,57,61,85,91	B	N.R.C.
Rag Stock-Bleached	3% - 6%	38	08,57,85,95	B	
Rare Earth Salts	Any/Aqu.	38,O-4	54,55,61,85,91	A	
Rayon Acid Water	Acid Wash.	O-4,Y-2	08,10,57,95	B	Entrained Carbon Disulfide
Rayon Spin Bath	As Prep.	O-4,Y-2	08,57,85,95	B	
Rayon Spin Bath Spent	As Evap.	O-4,R-5,Y-2	08,57,85,95	B	On Crystal Slurry use R5 w/ 94
Rayon Viscose	High Visc.	N-1,O-4,Y-2	08,57,85,95	B	
Relish-Pickle	As Prep.	74,N-7,O-4	85	A	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Resorcinol	Aqu. /Alc.	38,N-1,O-4	08,57,85,95	B	Steam out
Riboflavin	As Prep.	38,O-4	08,57	A	Use Antibiotic Valve
River Water		38,N-1,R-5	01,06,08,10,57,94,95	B	Use R5 with 94 for throttling
Road Oil		N-1,O-4,Y-2	01,06	B	
Roccal Sol.	Any/Aqu.	38,O-4	10,85,95	B	
Rosin-Wood	Molten	O-4	01,06	B	
Rosin-in Alcohol		38,N-1,O-4	01,06,08,57	B	
Rosin Size	As Prep.	38,O-4	01,06,08,57	B	P & P Alk. Soap
Rouge	Susp. Aqu.	38,R-5	94	B	Abrasive
Rubber Latex - See Latex					
Rum		74,N-7,O-4	85	B	
Safrol	As Prep.	O-4	08,09,57,85	B	
Salicylic Acid	Alc.	74,N-7,O-4	08,10,20,54,55,57,61,72,85,91	B	Pharmaceutical
Saline Sol.-Physiological		74,N-7	85	A	Steam Out
Salt Brine	Any	38,O-4	01,06,08,10,57,85,95	A	01,06 Pitting Corrosion
Salt Brine-Alkaline		38,O-4	01,06,08,10,57	A	
Salt Brine-Chlorine Sat.		O-4,Y-2	08,10,54,55,57,61,91,95	B	Use Coated Bonnets if corrosive Atmos.
Salt Brine-Electrolytic		38,O-4	08,10,54,55,57,61,91,95	A	
Salt Brine-Pickle		74,N-7,O-4	08,10,57,85	A	Food Packing
Salt Brine-Refrig.		38	06,10	B	
Salt-Sugar Pickle		74,N-7,O-4	08,57,85	A	Food Packing
Salt Water		38,O-4,Y-2	08,10,57,85,95	A	
Sand-Air Blown or Slurry	Aqu.	38,R-5	94	B-C	Avoid High Pressure Drop
Sand-Phosphatic		38,N-1,V-1,Y-2	01,85,94,95	B-C	
Save-All Service		38,N-1	95	B	Pulp and Paper
Sea Coal	Slurry	38,R-5	94	B	
Sea Water		38,O-4,Y-2	08,10,57,85,95	A	
Selenium Chloride	Any/Aqu.	38,O-4	08,57,85,95	B	Toxic
Sequestrene	Any/Aqu.	38,O-4,Y-2	01,08,10,57	B	
Sewage		N-1,Y-2	01,08,57,95	B	
Shave Lotion	As Prep.	74,N-7,O-4	08,57,85	A	
Shellac	Alc.	38,Y-2	01,06	B	
Shower Water		38,N-1	01,95	A	Pulp & Paper
Silica Gel	Slurry	38	08,57,95	B	
Silica-Ground	Aqu.	R-5	94	B	
Silicon Tetrachloride	Dry	O-4	08,54,55,57,61,85,91	B-C	Hazardous - Use 97 B/A
Silicone Fluids		N-1,O-4,Y-2	01,06,20,72	B	
Silver Cyanide	As Prep.	38,74,N-7,O-4,Y-2	08,20,54,55,57,61,72,85,91,95	A	Sulfur Free
Silver Iodide-Aqu.	Slurry	74,N-7,O-4	08,57,85	B	Photog.
Silver Nitrate	Any/Aqu.	38,74,N-7,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	A	Photog.
Size Emulsion - See Rosin Size					
Skelly Solve E.L	Dry	O-4	01,06	B	
Slate-to 400 mesh	Slurry	R-5	94	B	Very Abrasive
Sloe Gin Concentrate	As Prep.	74,O-4,N-7	85	A	Steam out
Sludge Acid	Conc. Sulfuric	O-4	06,09,21,54,55,61,85,91	B	
Soap Lye - See Sodium Hydroxide					
Soap Solution	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,20,57,72	B	
Soap Stone-Air Blown		R-5	01,94	B	
Soda Pulp	8%	38,O-4	01,06,08,57,95	A	01 may stain
Sodium Acetate	Any/Aqu.	38,O-4	08,10,20,54,55,57,61,72,91,95	A	
Sodium Acid Fluoride	Any/Aqu.	38,O-4,Y-2	08,10,54,55,57,61,91,95	A	
Sodium Aluminate	Any/Aqu.	38,N-1,O-4,Y-2	01,08,10,57	B	High Conc. produces cryst. that may foul valve



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Sodium Arsenate	Any/Aqu.	38,O-4,Y-2	01,10	B	
Sodium Benzene Sulfonate	Any/Aqu.	38,O-4,Y-2	08,54,55,57,61,85,91,95	B	
Sodium Bicarbonate	Any/Aqu.	38,O-4,Y-2	01,08,10,20,57,72,95	A	
Sodium Bichromate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91	B	
Sodium Bisulfite	Any/Aqu.	38,O-4	08,09,10,20,54,55,57,61,72,85,95	B	
Sodium Bromide	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	
Sodium Carbonate	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,57,72	A	
Sodium Chlorate	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91	B	
Sodium Chloride	Any/Aqu.	38,O-4,Y-2	01,08,10,20,54,55,57,61,72,85,91,95	A	01 Pitting corrosion
Sodium Chlorite	Any/Aqu.	O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	
Sodium Chromate	Any/Aqu.	38,O-4,Y-2	08,10,54,55,57,61,85,91	B	Normal Chromate - If free Chromic Acids use O-4
Sodium Cyanide	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91,95	A	
Sodium Ferricyanide	Any/Aqu.	38,74,N-7,O-4,Y-2	01,08,10,20,57,72,95	A	Photog. use 74, N-7
Sodium Fluoride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Sodium Formate	Any/Aqu.	38,O-4	08,57,85	A	
Sodium Glutamate	Any/Aqu.	38,O-4,Y-2	08,57,85	A	
Sodium Hydrogen Sulfate	Any/Aqu.	38,O-4,Y-2	09,10,54,55,61,85,91,95	A	
Sodium Hydrosulfide	Any/Aqu.	38,O-4	08,10,54,55,57,61,91,95	B	
Sodium Hydrosulfite	Any/Aqu.	38,O-4	08,09,10,54,55,57,61,85,91,95	B	
Sodium Hydroxide	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91	A	
Sodium Hypochlorite	22%	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A-B	
Sodium Lignosulfonate	Any/Aqu.	38,O-4	85,95	A	
Sodium Metasilicate	Any/Aqu.	38,N-1,O-4,Y-2	01,08,57	A	
Sodium Molten	Valve Not Usable				
Sodium Nitrate	Any/Aqu.	38,O-4	01,06,08,10,20,54,55,57,61,72,85,91	B	CF with free nitric
Sodium Nitrite-Nitrate	As Prep.	74,N-7,O-4	08,10,20,54,55,57,61,72,85,91	A	Meat Packing
Sodium Perborate	Any/Aqu.	O-4,Y-2	08,10,20,57,72,85	B	
Sodium Perchlorate	Aqu.	O-4,Y-2	08,10,54,55,57,61,85,91,95	B-C	Hazardous in conc. sol.
Sodium Peroxide	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	Unstable Solution
Sodium Persulfate	Any/Aqu.	O-4,Y-2	08,54,55,57,61,85,91	B	
Sodium Phosphate-Di.	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,57,72,85,95	A	
Sodium Phosphate Hexa, Meta	Any/Aqu.	38,O-4,Y-2	08,10,57,85,95	A	Acid solutions
Sodium Phosphate-Mono.	Any/Aqu.	38,O-4,Y-2	08,09,10,57,85,95	A	
Sodium Phosphate-Tri	Any/Aqu.	38,O-4,Y-2	01,06,08,10,54,55,57,61,91,95	A	
Sodium Potassium Chloride	Any/Aqu.	38,O-4,Y-2	08,10,57,85,95	A	
Sodium Salicylate	Any/Aqu.	38,74,N-1,N-7,O-4,Y-2	08,57,85	B	74, N-7 Pharmaceutical
Sodium Sesquicarbonate	Any/Aqu.	38,N-1,O-4,R-5,Y-2	01,06,08,57,95	B	Cryst. Slurry use R-5 with 03
Sodium Silicate	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91	A	
Sodium Silico Fluoride	3%	38,O-4,R-5,Y-2	08,10,57,95	A	
Sodium Stannate	Any/Aqu.	38,N-1,O-4,Y-2	01,06,08,57	B	
Sodium Sulfate	Any/Aqu.	38,O-4,R-5,Y-2	01,06,08,10,20,54,55,57,61,72,85,91,95	A	If free acid Y-2, 95. If Cryst. Slurry R-5, 94
Sodium Sulfide	Any/Aqu.	38,O-4,Y-2	01,06,08,10,20,54,55,57,61,72,91,95	B	
Sodium Sulfite	Any/Aqu.	38,O-4	01,06,08,10,20,54,55,57,61,72,85,91,95	A	
Sodium Sulphydrate	Any/Aqu.	38,O-4	08,10,54,55,57,61,91,95	B	Sodium hydrosulfide
Sodium Thiocyanate	Any/Aqu.	38,O-4	08,10,57,85,95	B	
Sodium Thiosulfate	Any/Aqu.	38,74,N-7,O-4	08,10,20,54,55,57,61,72,85,91,95	A	Use 74, N-7 for Photog.
Sodium Tungstate	Any/Aqu.	38,N-1,O-4,Y-2	08,54,55,57,61,91,95	A	
Sodium Xanthate	As Prep.	O-4,Y-2	01,06,08,54,55,57,61,91	B	
Solox-Denat. Ethyl		38,O-4	01,06,08,57	B	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Soluble Oil	As Used	N-1,O-4,Y-2	01,06,08,57	B	Excess machine oil use Y-2
Solvent Naphthas	Dry	O-4,Y-2	01,06,08,57	A-C	Y-2 good life if mod. temp.
Sorbic Acid	Any/Aqu.	38,74,N-7,O-4	08,09,57,85	B	
Sorbitol	Any/Aqu.	38,74,N-7,O-4	08,57,85,95	B	
Sour Gasoline		O-4,Y-2	01,06	B	
Soybean Oil		O-4,Y-2	01,06,08,57	B	
Soybean Sludge-Acid		38,O-4	08,54,55,57,61,91,95	A-B	
Spensol Solution		38,N-1,O-4	01,06,08,10,57	B	
Spent Cooking Liquor		38,O-4,Y-2	01,06,08,57	B-C	P & P
Stannic Chloride		38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	B	Excess Hydrochloric
Stannous Chloride		38,O-4	08,09,10,20,54,55,57,61,72,91	B	
Starch		38,74,O-4	01,06,08,57	B	200° F
Starch Base		74,N-7,O-4	08,57	B	Food Prep.
Steam-Low Pressure		38,O-4	01,06,08,57	A-C	50 psi max. Caution over 3" size
Stearic Acid	Molten	O-4,Y-2	08,09,20,54,55,57,61,72,85,91	B	
Steel Shot -Air Blown		R-5	01,06,94	A-B	
Steep Water	5%	38,O-4,Y-2	08,10,57,85,95	B	Sulfur dioxide solution
Sterilization-Steam		38,O-4,Y-2	01,06,08,57	A	
Stillage Distillers	As Prep.	38,N-1,O-4	01,06,08,57	B	
Stoddard Solvent - See Solvent Naphthas					
Streptomycin Broth		74,O-4	01,06,08,57,85	B	Steam out. Antibiotic valve
Styrene	Dry	CF	01,06,08,57	B-C	Hazardous - Use 97 B/A
Styrene-Butadiene Latex GRS		N-1,O-4	85	B-C	Raw Latex, High Styrene shortens N-1 life
Sugar-Carbon Slurry		38,R-5	85,94,	A-C	Very Abrasive
Sugar-Corn, Glucose, etc.	Any/Brix.	74,N-7,O-4	08,20,57,72,85	A	Steam out
Sugar-Ion Exchange		38,74,O-4	08,10,57,95	A	
Sugar-Solution	Any/Aqu.	74,N-7,O-4	08,20,57,72,85	A	Steam out
Sulfamic Acid	Any/Aqu.	38,O-4	09,10,20,72,85,95	B	
Sulfan-Sulfuric Anhydride	As Prep.	CF	08,21,57,61,91	B	Use 97 B/A
Sulfathiazole	Any/Aqu.	74,N-7,O-4	08,57,85	B	Steam out
Sultite Liquor	5% Acid	O-4,Y-2	08,09,57,85,95	B-C	
Sulfite Stock	to 8%	38,Y-2	01,08,57,95	B	
Sulfonated Oils	In water	O-4,Y-2	01	B	
Sulfones	As Prep.	O-4	08,09,57,61,85,91	B	Use 97 B/A
Sulfonic Acids	As Prep.	38,O-4	09,54,55,61,85,91	B	in solution
Sulfonyl Chloride		CF	09,61,85,91	B-C	Sulfonyl Chloride, Chlorosulfonic acid - Use 97 B/A
Sulfur Dioxide - Dry		O-4	01,06,08,54,55,57,61,91	B	Use 97 B/A
Sulfur Dioxide-Dry-Liquified		N-1,Y-2	06,21,54,55,61,91	C	Use 97 B/A
Sulfur Dioxide -Solution	5% Aqu.	38,Y-2	08,09,10,54,55,57,61,85,91,95	B	
Sulfur Dioxide-Wet Gas		38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	B	
Sulfur-Slurry	Aqu.	38	01,06,08,20,57,72	B	
Sulfur-Solution-in Carbon Disulfide		CF	08,57,85	B	
Sulfur Trioxide Gas	Dry	CF	01,06,08,57,95	B	Use 97 B/A
Sulfur Trioxide Gas	Wet	38,O-4	08,09,10,54,55,57,61,85,91	B	Use 97 B/A
Sulfuric Acid to 40.5° Be	To 50%	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	A	
Sulfuric Acid to 60° Be	Over 50% to 79%	38,N-1,O-4	08,09,10,20,54,55,57,61,72,85,91	A	
Sulfuric Acid over 60° Be	79% to 98%	O-4,V-1	01,08,09,20,54,55,57,61,72,85,91	A	
Sulfuric Acid "Fuming"	to 6% SO ₃	CF	06,08,09,21,20,57,72,85	B	Use 97 B/A
Sulfuric Acid "Fuming"	to 30% SO ₃	CF	06,09,20,21,61,72,85,91	C	Use 97 B/A



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Sulfuric Acid Vapor		O-4	08,20,54,55,57,61,72,85,91	B	
Sulfurous Acid	to 6% SO ₂	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	B	
Sulfuryl Chloride	As Prep.	CF	09,61,85,91	B	Use 97 B/A
Surfactants		38,O-4	08,10,57,85	B	
Syntan	Any/Aqu.	38,N-1,O-4	09,10,85,95	B	
Synthetic Latex - See "Latex" Synthetic					
Taconite-Fines - See Iron Ore				B	
Talc-Slurry	Aqu.	R-5	94	B	
Tall Oil	As is	O-4,V-1,Y-2	01,06,08,20,54,55,57,61,72,91	B	
Tallow		O-4,V-1	01,06,20,72	B	
Tankage-Slurry	As is	N-1,Y-2	01,06,08,57	B	Meat Scraps
Tannery Wastes		38,O-4,Y-2	85,95	B	
Tannin	Any/Aqu.	38,O-4,Y-2	08,10,54,55,57,61,85,91,95	B	
Tartaric Acid	Any/Aqu.	N-7,O-4	08,09,10,20,54,55,57,61,72,85,91,95	A	
Television Chemicals	As Prep.	74	08,57,85	A	Extreme Purity, Color Tubes
Tergitol	Aqu. Sol.	38,N-1,O-4	08,57,85	B	
Terpineol	As Prep.	CF	08,09,57,61,85,91	B	
Tetraethyl Lead	As Prep.	CF	08,09,20,57,72	B	Caution-Very Toxic - Use 97 B/A
Tetrahydrofurane		CF	01,06,08,57	B-C	Powerful Solvent - Use 97 B/A
Tetranitromethan		CF	08,57,85	C	Hazardous - Use 97 B/A
Textile Dyeing	As Prep.	38,N-1,O-4	08,09,10,57,85	B	
Textile Finish Oil		O-4,Y-2	01,06	B	
Textile Printing Color	As Prep.	38,O-4,Y-2	08,57,85	B	
Thiocyanic Acid	As Prep.	38,O-4	08,09,54,55,57,61,85,91	B	
Thioglycolic Acid	Any/Aqu.	38,O-4	08,09,10,54,55,57,61,85,91	B	
Thionyl Chloride	As Prep.	CF	09,61,91	B	Use 97 B/A
Thiophosphoryl Chloride	As Prep.	CF	09,61,91	B	Use 97 B/A
Thiourea	Any/Aqu.	N-1,O-4	08,09,10,54,55,57,61,85,91	B	
Thorium Nitrate	Any/Aqu.	O-4	08,57,61,85,91	B	Powerful oxidant - Use 97 B/A for conc. sol.
Thymol	Alc. Sol.	O-4	08,57,85	B	
Tin Tetrachloride	Any/Aqu.	O-4,V-1	08,10,54,55,57,61,85,91,95	B	
Tinning Solution-Du Pont		38,O-4	08,54,55,57,61,91,95	B	
Titania Paper Coating	Slurry	38,R-5	85,94	B	
Titanium Oxide-Slurry	Aqu.	38,R-5	85,94	B	
Titanium Oxy Sulfate	Slurry	38,N-1	94	B	
Titanium Sulfate	Any/Aqu.	38,O-4	08,54,55,57,61,85,91,95	B	
Titanium Tetrachloride	Dry	CF	21,85	B	Hazardous - Use Coated 97 B/A
T.N.T. Slurry -Use at customer's risk.	Aqu.	38,N-1	01,06,85	B-C	Steam Jacket
Tobacco Wash Sol.		O-4,Y-2	85	B	
Toluene	Dry	CF	01,06,08,54,55,57,61,91	B	
Toluene Sulfonic Acid	As Prep.	CF	08,09,54,55,57,61,85,91	B	
Tomato Catsup	As Prep.	74,N-7,O-4	08,57,85	B	Steam out
Tomato Juice	As Prep.	74,N-7,O-4	08,57,85	B	Steam out
Tomato Puree	As Prep.	74,N-7,O-4	08,57,85	B	Steam out
Transil Oil		N-1,O-4	01,06	B	
Trichloracetaldehyde	As Prep.	O-4	08,09,54,55,57,61,85,91	B	
Trichloroacetic Acid	Any/Aqu.	O-4	09,20,54,55,61,72,85,91	B-C	Use 97 B/A
Trichlorethane	Dry	CF	01,06,08,57	B-C	
Trichlorethylene	Dry	V-1	01,06,08,57,85	B-C	TFE may stress crack
Tricresyl Phosphate		O-4,V-1	01,06,08,20,57,72	B	
Triethanolamine		38,O-4,V-1	01,06,20,72	B	
Triethylene Glycol		38,O-4,V-1	01,06,08,57	B	



Tables of Valve Diaphragm and Valve Body Selection Data

SERVICE	SPECIAL CONDITIONS	DIAPHRAGM CODE	BODY MATERIAL CODE	VALVE SUIT.	NOTES
Trioxane	As Prep.	O-4	08,09,57,85	B-C	Use 97 B/A
Tung Oil		O-4,Y-2	01,06,08,57	B	
Tungstic Acid	Any/Aqu.	38,O-4,Y-2	10,85,95	B	In Hydrochloric
Turpentine		O-4,Y-2	01,06,08,57	B	
Ucon Lube		N-1,O-4	01,06	B	
Udylite Bath-Nickel	As Prep.	38,N-1,O-4	08,54,55,57,61,85,91,95	B	
Undecylenic Acid	As Prep.	O-4	08,09,57,85	B	
Unichrome Sol. Alk.	As Prep.	38,O-4	08,10,57,95	B	Copper Complex
Uranium Salts		O-4	08,54,55,57,61,91	B	
Uranyl Nitrate	Aqu.	O-4	08,54,55,57,61,85,91	A	Use 97 B/A
Uranyl Sulfate	Aqu.	O-4	08,54,55,57,61,85,91	A	Use 97 B/A
Urea Ammonia Liquor	42% N	38,N-1,O-4,Y-2	01,06,10	A	Grades A,B,C,D
Vacuum up to 25mm Hg — Any diaphragm and body combination. Select for intended service media.					
Vacuum Below 25mm Hg — Material selection as above. Specify "vacuum prep." Specify 97 B/A for valves size 4" and larger.					(Evacuation of B/A advised in valves size 4" and larger)
Vacuum Oil (Diffusion Pump)- High Ester Type		O-4,V-1	01,06,08,57	B-C	
Vanadium Pentoxide Slurry		R-5	85,94	B	
Vanilla Extract	Alc.	74,N-7,O-4	08,57,85	B	
Varnish	As Prep.	O-4	01,06	B	
Varsol-Naphtha Solv.		O-4	01,06,54,55,61,91	B	
Vaseline	Molten	N-7,O-4	08,20,57,72	B	Pharm.
Vegetable Juice		74,N-7,O-4	85	B	Steam out
Vegetable Oils-Edible		N-7,O-4	08,20,57,72	B	
Vegetable Oils-Non Edible		O-4,V-1,Y-2	01,06	B	
Versene	Any/Aqu	38,N-1	08,57,85	B	
Vinegar -40 Grain & over		74,N-7,O-4	08,10,20,57,72,85	A	Steam out
Vinyl Acetate-Dry or Chloride Monomer		O-4,Y-2	08,20,57,72,85	B-C	Use 97 B/A
Vinyl Chloride-Latex Emulsion		O-4,N-7	85	B-C	
Vinyl Resin-Slurry	Aqu.	74,N-1,N-7	85	B	
Vitamins in Oil		O-4,V-1	85	A	
Vortex-Hydroclone - See Classifier Service					
Waste Treatment	Aqu.	38,O-4	08,20,57,72,95	B	Determine Type of Waste
Water-Acid-Below pH 7		38,O-4	08,10,20,57,72,95	A	
Water pH 7 to 8.0		38,O-4	01,08,57,95	A	01 will rust and corrode below pH 8.0
Water-Alkaline-Over pH 8.0		38,O-4	01,08,57	A	
Water-Boiling		38,O-4	01,54,55,61,91	B	
Water-Carbonated - See Carbonic Acid					
Water Chlorinated over 100 PPM Chlorine		38,O-4	08,10,54,55,57,61,85,91,95	A	
Water-Deionized - See Deionized Water					
Water-Desalting		38,O-4	08,10,54,55,57,61,85,91,95	A	
Water-Distilled - See Distilled Water					
Water-Filtered		38,74,N-7,O-4	08,10,20,57,72,85	A	Food Process
Water-Fresh-Drinking		74,N-7,O-4	08,20,57,72	A	
Water Heavy		CF	08,57	A	
Water-Mine Water - See Coal Mine Acid Water					
Water-River		38,N-1	01,06,08,57,95	B	
Water-Salt		38,O-4,Y-2	08,10,20,57,72,85,95	A	
Water Sandy		38,R-5	94	B	
Water-Sea		38,O-4,Y-2	08,10,20,57,72,85,95	A	
Water-Soft		38,O-4	08,57,85,95	A	



Tables of Valve Diaphragm and Valve Body Selection Data

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Water -Sterile		74,N-7,O-4	85	A	Pyrogen Free
Water-"White" Low pH		38	10,54,55,61,85,91,95	B	
Water-"White" High pH		38	01,06,10	B	
Wax	Molten	O-4,V-1,Y-2	01,06	B	
Wax Chlorinated		O-4,V-1,Y-2	08,54,55,57,61,85,91	B	
Wax Emulsions		O-4,Y-2	01,06,54,55,61,91	B	
Weed Killer Dibromide - See Ethylene Dibromide					
WeisbergSulfate Plating	As Prep.	38,O-4	54,55,61,95,91	B	
Wheat Gluten		74,N-7,O-4	85	B	With Hydrochloric
Whey		74,N-7,O-4	08,57	B-C	Steam out
Wine - Finished		74,N-7,O-4	10,20,72,85	B	Steam out
Whiskey		74,N-7,O-4	08,20,57,72,85	B	
Whiskey Slop		38,O-4	08,57	B-C	
Witch Hazel Solution		74,N-7,O-4	08,57,85	B	
White Liquor		38,O-4	01,06,08,10,57	B	
Wood Ground Pulp	6%	38	01,06	B	
Wort Lines	As Prep.	74,N-7	08,57	B	
X-Ray Developing Bath	As Prep.	74,N-7,O-4	08,10,54,55,57,61,85,91	B	
Xylene	Dry	O-4	01,06,54,55,61,91	B	
Yeast - Slurry		74,N-7	08,57	B	Steam out
Zein	Alcohol	38,O-4	08,54,55,57,61,85,91	B	
Zelan	As Prep.	38,O-4	61,95,91	B	
Zeoline Water - See Deionized Water					
Zinc Acetate	Any/Aqu.	38,O-4	08,10,57,85,95	A	
Zinc Bromide	Any/Aqu.	74,N-7,O-4,Y-2	08,10,54,55,57,61,85,91	A	Radioactive Dense Solutions
Zinc Chloride	Any/Aqu.	38,O-4,Y-2	08,10,20,54,55,57,61,72,85,91,95	A	
Zinc Cyanide -Alk.		38,O-4,Y-2	01,06,08,54,55,57,61,91,95	A	
Zinc Fines Slurry		38,R-5	94	B	
Zinc Flux Paste	Slurry	38,O-4,Y-2	85,95	B	Acid Zinc Salt. Flux Mixture
Zinc Galvanizing Sol. - See Plating "Zinc"					
Zinc Hydrosulfite	Any/Aqu.	38,O-4	08,54,55,57,61,85,91,95	B	
Zinc Oxide-in Water	Slurry	38,R-5	08,57,85,94	B	
Zinc Oxide - in oil	Slurry	Y-2	01,06	B	
Zinc Sulfate	Any/Aqu.	38,O-4,Y-2	08,09,10,20,54,55,57,61,72,85,91,95	A	
Zincolate	Solvent	O-4	01,06	A	Zinc Fines Susp. in Paint
Zirconyl Nitrate	Aqu.	74,O-4	08,57,61,85,91	A	Use 97 B/A
Zirconyl Sulfate	Aqu.	74,O-4	08,57,61,85,91	A	Use 97 B/A