AMERICAN-MARSH PUMPS

Chemical Resistance Charts

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Chemical Behavior
A - No effect
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D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

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	Plastics													Elastomers									Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Acetaldehyde	D	A	D	A	-	C	-	A	C^1	A^1	A	A	D	D	D	A	C	A	C	C	A	D	D	A^2	A	A	-	B	-	A	A	C	A^3	A^4	-	A^4	A	A	A	-	-
Acetamide	-	A	-	A	-	A	-	A	D	A^1	A	A	D	C	A	A	B	A	D	B	B	D	B	-	B	A	-	A	-	-	D	D	-	-	-	-	-	-	A	-	-
Acetate Solvent	-	-	C	A	-	A	D	A	-	B^1	A	A	D	A	C	A	C	A^1	C	D	C	D	D	-	A	A	-	A	A	A	C	D	-	-	A	-	A	A	A	-	-
Acetic Acid	D	D	C	C	-	A^2	A	D	B^1	B	A	A	D	C	C	A	C	A	B	C	C	D	B	D	D	B	C^4	B	B	D	C	D	D	A^4	A	A^4	A	A	A	-	-
Acetic Acid 20%	C	C	A	A^1	-	A	A	D	A^1	A	A	A	D	A	B	A	A	A	B	A	B	D	B	-	B	A	-	B	B	D	C	D	-	-	A	-	A	A	A	A	A
Acetic Acid 80%	D	D	C	B^1	-	D	A	D	B^1	A	A	A	C	C	C	A	C	A	C	C	B	D	B	-	D	B	-	B	B	D	C	D	-	-	A	-	A	A	A	A	A
Acetic Acid, Glacial	D	D	B^1	B^1	A^1	D	A	B	B^1	A^1	A	A	D	A^1	C	B	C	A^2	C	D	B	D	D	-	C	A	-	B	B	-	C	D	-	-	A	-	A	A	A	A	A
Acetic Anhydride	C^1	D	D	C	C	D	D	A^1	D	B^1	A	A	D	B^1	D	B	A	A	C	A	C	D	D	D	B	A	A^1	A^1	B	D	C	D	D	A^5	B	A^5	A	A	A	-	-
Acetone	D	A	D	B^1	B	B^1	D	A	D	A	A	A	D	D	D	A	C	A	C	C	D	D	D	A^5	A	A	A^5	A	A	A	A	A	A^5	A^5	A	A^5	A	A	A	-	-
Acetyl Bromide	-	-	-	-	-	D	-	D	-	-	-	A	D	-	-	-	-	-	-	-	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetyl Chloride (dry)	D	D	C	D	-	D	D	B	D	D	A	A	C	A^2	D	D	D	A	D	D	C	C	A	-	A	A	-	D	A	D	-	B	-	-	B	-	A	-	-	-	-
Acetylene	-	A	C	A	A	D	-	A	D	A^1	A	A	A^1	A	B	A	B	A	B	B	B	A^1	A	-	A	A	-	A	D	B	C	A	-	-	A	-	-	-	A	-	-
Acrylonitrile	D	-	A	A	-	A	-	A^1	D	A^1	-	A	B^1	A^1	D	D	C	-	B^1	C	D	-	D	-	A^1	A^1	-	B^1	A	A	-	A^1	-	-	A^1	-	B	-	B	-	-
Adipic Acid	-	-	A^2	A	-	A	-	-	-	B^2	-	A	A^2	A^2	C	A^2	-	-	A^1	C	-	A^2	A^2	-	A^1	A^2	-	A	D	-	-	A	-	-	-	-	-	-	A^2	-	-
Alcohols: Amyl	-	A	A^2	B	-	B^2	C	A^1	B^1	B^1	A	A	A^2	A	B	A	A	A	B	A	D	A^2	B	-	A	A	-	B	A	A	A	B	-	-	A	-	A	B	A	A	-
Benzyl	D	A	A	C	-	D	D	B^1	-	A	A	A	D	A	D	B	C	A	D	C	-	D	A	-	B	B	-	B	B	-	A	B	-	-	A	-	A	A	-	A	-
Butyl	A^1	A	A^2	A	-	A	A	D	A^2	A	A	A	A^2	A	C	B	A	-	A	C	B	A^2	A	-	A	A	-	B	A	A	A	B	-	-	A	-	A	A	A	A	-
Diacetone	-	A	-	A	-	B^1	A	A	-	B^2	-	A	B^1	A^1	D	A	D	B^1	D	D	D	B^1	D	-	A	A	-	A^1	-	A	A	A	-	-	A	-	A	A	A	-	-
Ethyl	B^1	A^1	B^1	A^2	-	B	A^1	A^1	B^2	A	-	A	C	-	C	A	A	A	A	A	B	C	A	-	A	A	-	B	A	A	A	B	-	-	A	-	A	A	A	A	-
Hexyl	-	A	-	A	-	A	A	A	-	-	-	A	A^2	-	A	C	B	-	A	A	B	A^2	C	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	-	-	-
Isobutyl	B	A	-	A	-	A^2	A	A^1	-	A^1	-	A^2	A^1	-	B	A	A	-	A	A	A	A^1	A	-	A	A	-	B	-	-	A	C	-	-	A	-	A	B	A	-	-
Isopropyl	-	A	C	A	-	A^2	A^1	D	A^2	A^2	-	A^2	A^1	-	B	A	A	-	A	B	A	A^1	A	A^4	B	B	A^1	B	B	-	A	A	A^2	A^2	A	A^4	A	B	A	A	A
Methyl	D	A	A	B^1	B	A^1	A	B^1	B^1	A^2	A	A	A^1	A	A	A	A	A^1	A	A	A	A^1	C	-	A	A	-	A^1	B^1	-	A	A	-	-	A	-	A	B	A	A	A
Octyl	A^1	A	B^1	A	-	A	A	A	-	-	-	-	-	-	B	A	B	-	B	B	B	-	B	-	A	A	-	A	A	-	A	A	-	-	A	-	C	A	-	-	-
Propyl	B^1	A	A	A	-	A^2	A^2	D	-	A	A	A	A^1	A^2	A	A	A	-	A	A	A	A^1	A	-	A	A	-	A	A	A	A	A	-	-	A	-	A	A	A	A	-
Aluminum Chloride	A	-	A	A^1	C	B^2	A	B^1	A^1	A	A	A	A^2	A	A	A	B	A	A	A	B	A^2	A	D	B	B	D	D	B	D	D	D	D	D	B^1	A^4	A	B	A	A	-
Aluminum Chloride 20%	-	C	A	B^1	-	B	A^1	D	A^1	A	A	A	A^1	A	A	A	B	A	A	A	B	A^1	A	-	D	C^1	-	D	-	D	D	D	D	-	-	C^1	-	A	B	A	A	B
Aluminum Fluoride	A	C	A	A^1	-	A^2	A^1	A^1	-	A	A	A	A^2	A	A	A	A	-	B	A	B	A^2	A	-	D	D	-	B^1	D	-	-	D	-	-	C	-	B	A	A	-	B
Aluminum Hydroxide	B	A	A	B^1	-	A^2	A	A^1	B^1	A	-	A	A^2	A	A	A	A^2	A^1	D	A	-	A^2	A	-	A^1	C^1	-	B^1	D	B	C	A	-	-	A^1	-	B	B^1	A	-	-
Aluminum Nitrate	-	B^2	A	A^2	-	A^2	-	A^1	A	A^2	-	A	B^2	A^2	A^2	A^2	A^2	A^1	A^1	A^1	B^1	B^2	A^2	A^4	A	A	A^2	D	-	-	-	-	D	A^4	-	-	-	A	A^2	-	-
Aluminum Potassium Sulfate 10%	-	C	B	A^1	-	A^2	A^2	D	A^1	A	-	A	A^2	B	A	A	A	A	A	A	A	A^2	A	-	A	A	-	C	A^2	A	-	D	-	-	A	-	C	A	A	-	-
Aluminum Potassium Sulfate 100%	-	C	B	A^1	-	A^2	A^2	D	A^2	A	-	A	A^2	-	A	A	A	A	A	A	A	A^2	A	-	D	B^2	-	C	B	-	-	D	-	-	B	-	D	A	A	-	-
Aluminum Sulfate	A^2	B^1	A^2	A^2	B^1	A^2	A^2	A^2	A	A	A	A	A^2	A	A	A	A	A	A	A	A	A^2	A	D	B	B^2	D	B^1	A^2	B^1	B	D	D	A^4	B	A^5	B	A	A	-
Alums	-	-	A	A	D	A	-	A	-	A	-	A	-	-	A	A^1	-	-	A	B	A^1	-	A	-	-	A	-	A	C	-	-	D	-	-	A	-	B	A	-	-	-
Amines	-	D	D	A^2	A^1	C^1	D	D	D	B^2	B	A^2	D	-	B	B	D	A	B	B	B	D	D	-	A	A	-	B	-	B^1	D	D	-	-	B	-	B	B	A	-	-
Ammonia 10%	-	D	A	A^2	-	C^1	A^1	A	D	A^2	A^1	A	B^1	A	A	A	D	A	D	A	-	B^1	D	-	A	A	-	A^2	-	-	D	A	-	-	A^1	-	A	C	A	A	-
Ammonia Nitrate	-	C	B	A	-	A	A^1	D	-	A	C	A	B	A	C	A	D	-	-	C	-	B	D	-	A	A	-	C	-	-	D	A	-	-	A	-	-	-	-	-	-
Ammonia, anhydrous	D	D	A^1	A	D	B^2	B^1	A^1	D	A	A^1	A	A^2	A	B	A	D	A	D	A	C	A^2	D	A^5	A	A^2	A^5	A^1	D	D	D	A	A^4	A^5	A	A^5	B	C	A	-	-
Ammonia, liquid	-	D	A	A^1	-	C^1	-	B^1	D	A^2	A^1	A	A^1	A	C	A	D	A	D	A	-	A^2	D	-	B^2	A^2	-	A	-	-	D	A	-	-	-	-	B^2	-	B	C	A	A	-
Ammonium Acetate	-	-	A	-	-	A	-	A	-	A	-	A	A	-	B	A	-	-	-	A	-	A	A	-	B	A	-	A	-	C	D	-	-	-	-	-	-	-	-	-	-
Ammonium Bifluoride	A^2	D	A	A^1	-	A^2	A	-	-	A	-	A	A^2	A	B	A^2	-	-	-	D	-	A^2	A	D	D	B^1	D	B	-	-	D	D	D	A^3	B	-	B	-	A	-	-
Ammonium Carbonate	A^2	D	A	A^2	-	B^2	A^2	A^1	-	A	A	A	A^2	A	B	A	-	-	A	A	C	A^2	A	A^4	B	B	A^2	B	D	D	D	B	A^3	C^4	B	A^4	B	A	A	A	A
Ammonium Caseinate	-	D	-	A	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Chloride	A^2	B	A^2	A^1	A^1	A^2	A	B	A^2	A	A	A	A^2	A	B	A	A	A	A	B	C	A^2	A	D	C	B^2	D	B^1	D	D	D	D	A^1	D	B	-	D	B	A	A	A
Ammonium Hydroxide	B	C	A	A^1	C	A^1	A	A	D	A	A	A	A	A	D	A	A	A	D	A	A	A	B	C^4	A^1	A^1	-	B^2	D	D	D	D	B^4	A^4	A	A^4	B	A	A	A	A
Ammonium Nitrate	-	A^2	A^2	A^2	B^1	A^1	A	A^1	-	A	A	A	A^2	A	A	A	A	A	C	B	C	A^2	A	A^2	A^1	A	A^2	B^1	D	D	D	B	B^4	A^4	A	D	B	A	A	-	-
Ammonium Oxalate	-	B	-	A	-	-	-	-	A^1	A	-	-	A	-	D	A	-	-	-	A	-	A	-	-	A	A	-	-	C	-	D	D	A^1	-	A	-	A	-	-	-	-
Ammonium Persulfate	A^2	D	A	A^1	-	A^2	A^1	D	-	A	-	A^1	A^2	A^1	A	B	A	A	A	A	D	A^2	A	-	A	B	-	D	D	D	D	D	-	-	B	-	B	A	A	A	A
Ammonium Phosphate, Dibasic	A^2	B^2	A	A^1	-	A^2	A	C^1	A^2	A	A	A^2	A^2	A	A	A	A	A	A	A	A	A^2	A	-	B	C	-	B^1	D	B^1	D	D	-	-	A^1	-	B	A	A	-	-
Ammonium Phosphate, Monobasic	-	B	A	A	B^1	A	A	B	-	A	-	A	A	-	A	A	A	-	A	A	A	A	A	-	B	C	-	B	D	-	D	D	-	-	C	-	B	A	-	-	-
Ammonium Phosphate, Tribasic	-	B	A	A	-	C	A	B	-	A	-	A	A	-	A	A	A	-	A	A	A	A	A	-	B	B	-	B	D	-	C	D	-	-	-	-	B	A	-	-	-
Ammonium Sulfate	A^2	B^1	A	A^2	B^1	A^1	A	A^1	A^2	A	A	A	A^2	A	A	A	A	A	A	A	A	A^2	A	D	B	B	C^1	A^1	D	D	D	D	B	C^4	B	C^4	B	A	A	A	A
Ammonium Sulfite	-	D	A	-	B^1	B^2	A^2	A^2	-	A^2	-	A^2	A^2	-	A^1	A^1	A^2	A^2	A^2	A^1	-	A^2	D	D	B	B	-	D	D	-	A	D	D	C^5	A	C^4	-	-	D	-	-
Ammonium Thiosulfate	-	B	-	A	-	A	-	-	-	-	-	-	-	-	A	A^1	-	-	-	A	-	-	-	-	-	A	-	-	D	D	D	D	-	-	-	-	-	A	-	-	-
Amyl Acetate	D	B	D	A^2	C^1	C^1	D	B^2	D	B^1	A	A	D	A^2	D	A	D	A^1	D	D	D	D	D	A^5	A^1	A	A^2	A	A	A	A	C	A^5	A^5	A	A^5	A	A	A	-	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

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Amyl Alcohol	A[1]	A	A	B[2]	A[1]	B[2]	C	A[1]	-	B[1]	A	A	A[2]	A	B	A	A	A	B	B	D	B	D	A[4]	A	A	A[2]	B	A	A[1]	A	B	A[4]	A[2]	A	A[4]	A	B	A	A	-
Amyl Chloride	D	A	C	A[1]	-	D	D	C[1]	-	D	-	A	D	A	D	D	D	A	D	D	D	C	B[1]	D	A[2]	A[2]	A[1]	A[1]	A	-	A	A	A[1]	A[3]	A[2]	A[1]	A[1]	C	A	A	-
Aniline	D	A	B[2]	D	D	C	D	A[2]	D	A[1]	A	A	C[1]	A[1]	D	B	D	A[2]	D	D	B	D	A	-	A	B	-	C	D	D	C	C	-	-	A	-	B	C	A	A	-
Aniline Hydrochloride	D	A[1]	D	D	-	D	-	D	D	D	-	A	B[2]	A[2]	D	B	-	-	A	D	D	D	A	D	D	D	D	B	D	D	D	D	D	B	C[4]	D	A	D	-	-
Antifreeze	B	D	A	A	-	-	A	D	-	D	-	-	A	-	A	A	-	-	A	C	C	B	A	-	-	A	-	A	-	-	A	A	-	-	A	-	-	-	-	-
Antimonry Trichloride	A[2]	-	A[2]	D	-	B[2]	A[2]	D	A[2]	A	-	A	A[2]	A	B	B[1]	-	A	-	-	-	-	A[2]	-	D	D	-	D	-	D	A	-	-	-	B	-	-	B	-	B	-
Aqua Regia(80% HCl, 20% HNO_3)	D	D	C[1]	D	-	B[1]	D	D	D	B[1]	D	A	C[1]	A[2]	D	C	C	A	D	D	D	D	B	-	D	D	-	D	D	D	D	D	-	-	D	-	C	A[1]	D	-	C
Arochlor 1248	-	-	-	A[2]	C[1]	C[1]	-	A[1]	-	D	-	A	-	-	C[1]	B	D	A[1]	D	D	B	-	A	-	B	B	-	A	-	A[1]	A	B	-	-	-	-	A	A[1]	-	-	-
Aromatic Hydrocarbons	-	A	D	A	C[1]	C	D	-	-	D	-	-	D	-	D	D	D	-	D	D	D	-	A	-	-	C	-	A	-	-	C	A	-	-	-	-	-	-	-	-
Arsenic Acid	A[2]	D	A	A[2]	-	B[2]	A[1]	C[1]	A[1]	A	A	A	A[1]	A	A[2]	A[2]	A	-	B	A	A	B	A[2]	-	A[2]	A[2]	-	D	A	D	B	D	-	-	A[1]	-	B	B	A	-	-
Arsenic Salts	-	-	-	-	B[1]	B	-	A	-	-	-	-	A	-	-	-	-	-	-	-	-	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asphalt	-	B[2]	A[2]	A	B[1]	A[1]	-	A	D	B[1]	A	A[1]	A[2]	A	B	D	D	A	D	D	D	-	A	-	B	A	-	A	A	B[1]	A[1]	A	-	-	A	-	-	-	A	-	-
Barium Carbonate	A[2]	A	A[2]	A[2]	-	B[2]	A[2]	A[1]	A[2]	A	A[2]	A	A[2]	A	A[2]	A	-	A	-	-	-	-	A	-	B[1]	B	-	D	A	B[1]	B	A	-	-	B[1]	-	B	A	A	A	A
Barium Chloride	A[2]	A	A[1]	A[2]	B[1]	A[1]	A	A	A	A	A	A	A[1]	A	A	A	A	A	A	A	B	A	-	A[1]	A[1]	-	D	B[1]	B[1]	B[1]	C	A[1]	-	B	C[4]	B	A	A	A	A
Barium Cyanide	-	B	D	A	-	B	-	A[1]	-	D	-	A[1]	D	-	C	A	A	-	-	C	-	-	A	-	A[1]	A[2]	-	C[1]	D	C[1]	C	C[1]	-	-	A[1]	-	A	-	-	-	-
Barium Hydroxide	A[2]	D	A[2]	A[2]	B[1]	B[2]	A[2]	A[1]	D	B	A	A	A[2]	-	A	A	A	A	A	A	A	-	A	-	B[1]	B	-	D	-	D	D	D	-	-	B[1]	-	B	B	A	A	A
Barium Nitrate	-	B[2]	A	A[2]	-	B[2]	A	A[1]	D	A	-	A[1]	A	-	A[2]	A	-	A	-	A	B	-	A	C[3]	B[1]	B	-	B	B	D	D	A	A[1]	C[4]	B	A[5]	-	A	A	-	-
Barium Sulfate	A[2]	B[2]	B[2]	A[2]	D	B[2]	A[1]	A[1]	D	B[1]	A	A	B[1]	A	A	A	A	A	A	A	A	-	A	A[4]	B[1]	B[1]	A[2]	B	B	B	C	B	A[4]	A[4]	B	A[4]	A	B	A	A	A
Barium Sulfide	2	A	A[2]	B[2]	-	B[2]	A[2]	A[1]	-	B	-	A	A[2]	A	A	A	A	-	A	A	A	-	A	-	B[1]	B[2]	-	D	D	D	D	D	-	-	A[1]	-	-	A	A	A	A
Beer	A[2]	A[1]	A[2]	A[2]	A[1]	A[2]	A[1]	A[1]	A[2]	A[1]	A[2]	A	A[2]	A	A	A	A	A	A	A	C	A	A	-	A	A	-	A	B	B	A[1]	D	-	-	A	-	A[1]	B	A	-	A
Beet Sugar Liquides	B	B	A[2]	A[1]	-	A[1]	A	A	-	A[1]	-	A[1]	A[2]	A	A	A	A	A	A	A	A	-	A	-	A	A	-	A	A	-	C	A	-	-	A	-	-	A	A	-	-
Benzaldehyde	B	A	D	D	B	A[1]	B	A[1]	D	D	A	A[1]	D	A[2]	D	A	D	A	D	D	D	D	D	A[4]	B	B	A[4]	B	B	-	A	A	A[4]	A[5]	A	A[4]	A	A	A	A	A	A
Benzene	D	A[1]	D	C	C	C[1]	D	A[1]	D	D	A	A	C[1]	A[2]	D	D	D	B	D	D	D	C	A	A[4]	B	B	A[4]	B	B	-	A	A	A[4]	A[4]	A	A[4]	B	A	A	A	A	A
Benzene Sulfonic Acid	-	-	D	B	B	A[1]	A	D	D	D	A	A	A	-	D	D	-	-	A	A	D	B	A	-	B	B	-	D	-	-	-	-	-	-	A	-	B	B	A	A	-
Benzoic Acid	-	B	A[1]	A[1]	D	A[1]	B	D	B[1]	B[1]	A[1]	A[2]	A	A	D	D	D	A	D	B	B	A	A	A[4]	B	B	A[4]	B	-	-	B	D	D	A[4]	B	C[4]	B[1]	A	A	A	A	A
Benzol	D	A	-	A[1]	C	C[1]	B	D	D	B	A	A	-	A	D	D	D	A	D	D	D	C[1]	A	-	A[1]	A[1]	-	B[1]	B	-	A	A	-	-	A	-	B	A	A	A	-	-
Benzonitrile	-	-	-	-	-	-	-	-	A[1]	-	-	A[2]	-	-	-	-	-	A[2]	-	-	A[1]	-	-	-	D	D	-	-	-	-	-	-	-	-	-	-	C	-	A	-	-
Benzyl Chloride	D	A	-	-	-	-	D	A[2]	-	C[1]	-	-	-	-	D	D	D	-	D	D	D	-	A[2]	-	C[1]	B[1]	-	D	D	-	D	-	-	-	-	-	C	-	A[1]	-	-
Black Liquor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A[3]	-	-	-	-	-	D	D	A[4]	A[4]	-	-	-	-	-	-
Bleaching Liquors	-	-	-	D	-	A[1]	-	C	-	A[1]	-	A	A[1]	-	D	A	A	-	D	D	B	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-
Borax (Sodium Borate)	-	B	A	A[1]	A[1]	A[2]	A[1]	A	-	B	A	A	A[1]	A	B	A	A	A	A	A	B	-	A	-	A	A	-	B[1]	B	B	B	A	-	-	A	-	B	B	A	-	A
Boric Acid	-	A	A	A[1]	A[1]	A[2]	A[1]	B	-	A	A	A	A[2]	A	A	A	A	A	A	D	A	A	A	A[2]	B[2]	A[1]	A[2]	D	B	-	B	D	D	C[5]	B[2]	A[5]	A	A	A	A	A
Brewery Slop	-	B	-	A	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	A	A	-	-	A	-	-	-	-	-	-
Bromine	D	D	D	D	D	D	A[1]	D	C[1]	D	D	A	C[1]	A	D	D	D	A	D	D	D	B	A	D	D	D	D	D	-	-	-	-	-	D	A[1]	D	A[5]	A	D	D	A	A
Butadiene	-	A	A[1]	A[1]	-	D	D	C[1]	D	C	A[1]	A[2]	C[1]	A	D	C	B	A	D	B	D	-	B	-	A	A[1]	-	A	C	-	C	-	-	-	A	-	C	-	A	-	-
Butane	B	A	C[1]	A[1]	-	C[1]	D	A[2]	D	A[1]	A	A	C[1]	A	A	D	B	A	D	A	D	C	A	A[4]	A[2]	A[2]	A[4]	A	C	-	C	-	A[4]	A[4]	A	A[4]	A	A	A	-	-
Butanol (Butyl Alcohol)	-	A	A	D	B[1]	B[2]	A	B[1]	B[1]	A[1]	A	A[2]	C[1]	A	A	A	A	A[1]	A	A	B	B	A	-	A	A[1]	-	B	B	-	A	-	-	-	A	-	B	B	A	-	-
Butter	B	A	-	A	-	-	B	-	-	-	-	A	-	-	A	A	B	-	D	B	B	B	A	-	C	A	-	A	-	-	D	D	-	-	-	-	-	-	-	-	-
Buttermilk	B	A	A[1]	A[1]	-	A[1]	A	B[1]	A[1]	A[1]	-	A	A[1]	-	A	A[1]	-	A	D	D	A	B	A	-	A	A	-	A	-	-	D	D	-	-	-	-	-	-	A	-	-
Butyl Amine	-	C[1]	-	B[2]	-	C[1]	D	A[2]	D	B[1]	D	A[2]	D	A[1]	-	-	-	D	D	D	B[1]	D	D	-	-	A	-	A[2]	-	-	B	-	-	-	-	-	B[2]	B[2]	A[2]	-	-
Butyl Ether	-	D	D	A[1]	-	-	D	A[2]	-	D	A[2]	A[1]	A[2]	A[1]	B[2]	D	-	A[1]	D	D	D	A[2]	D	-	-	A[1]	-	A[1]	-	-	-	-	-	-	-	-	-	-	-	A[1]	-	-
Butyl Phthalate	-	-	D	B[2]	-	C[1]	A[2]	A[2]	D	B[2]	A	A[2]	-	B[1]	D	B[2]	D	A[1]	D	D	A[1]	-	C[1]	-	B[1]	B[2]	-	B[2]	-	-	-	-	-	-	-	-	B[2]	B	A[2]	-	-
Butylacetate	-	A	C[1]	B[1]	B	C[1]	B	A	D	B[1]	A	A	D	B[2]	D	B	D	A[1]	D	D	D	D	D	-	B	A	-	A	A	A	A	A	-	-	B[1]	-	A	A	A	-	A
Butylene	-	A	A	A[1]	-	B[2]	-	B[1]	D	-	A	A	A[1]	A	A	D	D	B[1]	D	D	D	-	A	-	A	A	-	A	D	-	D	-	-	-	A	-	-	-	A	-	-
Butyric Acid	D	A	D	A	B[1]	D	D	C[1]	D	B[1]	A	A[2]	B[1]	A	D	B	D	A	D	D	D	D	B[1]	D	B[2]	B[2]	A[2]	B	C	D	D	D	D	A[4]	B	A[4]	A[1]	A	A	-	A	-
Calcium Bisulfate	-	-	-	A	-	-	-	-	D	-	-	-	-	-	A	A	-	-	A	A	C	-	-	-	-	A	-	-	-	C	C	D	-	-	-	-	-	-	-	-	-
Calcium Bisulfide	-	D	A[1]	A	B[1]	B[1]	A	A	-	A	-	A	A[2]	A	A[1]	C	-	A	D	A	C	-	A	-	B	B	-	C	-	C	C	-	-	-	B	-	A	A	-	-	A
Calcium Bisulfite	-	D	A[1]	A[1]	B	A[1]	A[1]	A[2]	D	A	A	A	B	A	A	D	A	A	D	A	A	-	A	D	B	A	-	D	-	-	-	-	D	A[5]	B[1]	A[1]	B	A	A	-	A
Calcium Carbonate	-	A	A	A[1]	-	B[1]	A[2]	A	C[2]	A	-	A	A[2]	A	A	A	A	-	A	A	A	-	A	A[1]	A[1]	B	A[2]	D	-	A	A	-	A[1]	A[4]	B[1]	A[4]	B	B	A	A	-
Calcium Chlorate	-	A	A[1]	-	-	-	-	-	-	-	-	A	B[2]	A	A	A	B	-	A	-	-	-	A	-	-	-	-	-	A	-	-	-	A[1]	-	-	-	-	-	-	A	-
Calcium Chloride	B	D	A[2]	A[1]	A[1]	B[2]	A	A[1]	-	A[2]	A	A	C	A	A	A	A	A	A	A	A	-	A	D	C[2]	B[2]	D	D	B	-	A	C	D	A[2]	B	A[5]	A	A	A	A	A	A
Calcium Hydroxide	-	D	A[2]	A[1]	B[1]	A[2]	A[2]	A[2]	D	A[2]	A	A	B	A[2]	A	A	A	A	A	A	A	B[2]	A	-	B[1]	B	-	C[1]	-	-	D	A	A[2]	A[4]	B	A[4]	A	A	A	A	A	A
Calcium Hypochlorite	-	D	B[1]	A[1]	C[1]	A[1]	A	D	D	A[1]	A	A	B[1]	A	C[1]	B[1]	A	B[1]	D	D	B	A	A	D	C[1]	B[1]	D	D	-	-	D	D	D	D	C	D	B	A[2]	A	A	A
Calcium Nitrate	A	D	A[1]	A[2]	-	A[1]	A[2]	A[1]	A[2]	A[2]	A	A[2]	A[2]	A[2]	A[2]	A[2]	A[1]	A[1]	A[1]	A[2]	B[1]	A[2]	A[2]	-	C[1]	B[2]	D	B[1]	-	-	B[2]	B	C[2]	-	-	-	B[2]	B[2]	A[2]	A	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

AMERICAN-MARSH PUMPS

Chemical Resistance Charts

Ratings -
Chemical Behavior
A - No effect
B - Minor effect
C - Moderate effect
D - Severe effect; not recommended
- No data available

D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

The information in this chart has been supplier to American-Marsh Pumps by other reputable sources and is to be used **ONLY** as a guide in selection equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.

Ratings of chemical behavior listed in this chart apply to a 48-hour exposure period; American-Marsh Pumps has no knowledge of possible effects beyond this period. American-Marsh Pumps does not warrant (neither express nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

	Plastics													Elastomers								Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Calcium Oxide	D	A	A	A	A	B[1]	A	B	-	A	A	A	B	A	A	A	A	-	B	A	A	C	B	-	A	A	-	C	-	-	D	-	-	-	A	-	A	A	-	-	-
Calcium Sulfate	C	D	A[2]	A[2]	-	B[1]	A	D	D	A[2]	A	A	A	B[2]	A	A[2]	A	A	A	B	B	-	-	A	A[4]	B	B	A[2]	C	-	-	A	A	-	A[4]	B[1]	-	B	A	A	A	A
Calgon	-	D	-	A	-	-	A	A	-	A	-	-	-	-	A	A	A	-	A	A	A	-	A	-	A	A	-	-	-	-	C	D	-	-	-	-	-	-	-	-	-
Cane Juice	-	D	A[2]	A	-	-	-	A	-	C[1]	-	A	A[1]	A[1]	A	A	A	-	A	A	A	A	A	-	A	A	-	B	-	-	A	A	-	-	A	-	-	-	-	-	-
Carbolic Acid (Phenol)	D	D	B[1]	C	D	D	D	D	D	B	A	A	D	A[1]	D	B	D	B	D	D	D	B	A	-	B	B	-	A	D	D	B	D	-	-	C	-	A	A	A	A	-
Carbon Bisulfide	-	A	D	A	C[1]	-	-	A	-	D	-	-	D	-	C	D	D	-	D	D	-	D	A	-	A	B	-	B	-	-	B	-	-	-	B	-	-	-	-	-	-
Carbon Dioxide (dry)	B	A	A	A[1]	A[1]	A[1]	A[1]	A[1]	-	A[2]	A	A	A	A[2]	A	B	B	A	B	B	B	-	B	-	A	A[1]	-	B[1]	-	B	A	D	-	-	A	-	A	A	A	A	-
Carbon Dioxide (wet)	B	A	A	A[1]	-	A[1]	A[1]	A[1]	-	A[2]	A	A	A	A[1]	A	B	B	A	B	B	B	-	B	-	A	A[1]	-	A[1]	-	-	A	D	-	-	A	-	A	A	A	A	-
Carbon Disulfide	-	A[1]	D	C[1]	-	C[1]	D	B[1]	D	D	A	A	D	B[2]	D	D	D	A	D	D	-	-	A[1]	-	A[1]	B	-	A	-	-	D	A	D	-	B	-	B	B	A	-	-
Carbon Monoxide	-	A	A[2]	A[1]	A	A[2]	A[2]	A[1]	-	A	-	A	A[2]	B	A	A	C	A[1]	D	B	A[2]	-	A	-	A	A	-	A	A	-	A	A	-	-	B	-	B	-	A	-	-
Carbon Tetrachloride	D	B[1]	D	A[1]	D	D	D	D	D	D	A	A	D	A[2]	D	D	D	A[1]	D	D	D	B	A	-	B	B	-	D	A	-	A[2]	D	-	-	B	-	A[1]	A	A	A	A
Carbon Tetrachloride (dry)	D	-	-	-	D	D	D	-	-	D	A[2]	A	-	A[2]	C[1]	B[1]	D	D	D	D	D	-	A[2]	D	B	B[2]	A[2]	D	-	A[1]	B[2]	-	A[2]	A[4]	B	A[2]	B	A[2]	A[2]	A	A
Carbon Tetrachloride (wet)	D	A[1]	D	-	-	-	D	-	-	D	A[2]	A	-	A[2]	D	D	D	A[1]	D	D	D	-	-	D	A[2]	A[2]	D	D	-	B[2]	A[2]	C	D	D	A	A[1]	B	A[2]	A[2]	-	-
Carbonated Water	-	A	A	A	-	A	A	A	-	B	-	-	A	-	A	-	-	-	-	A	-	-	A	-	A	A	-	A	B	D	A	D	-	-	C	-	-	-	-	-	-
Carbonic Acid	-	B[1]	A	A[2]	D	B[2]	A[1]	A[1]	A[1]	A	A	A	A[2]	A	D	B	C	A	C	D	A	-	A	-	A[1]	A	-	B[1]	-	D	B	D	-	-	A	-	A[2]	B[1]	A	A	-
Catsup	B	B	A	A	-	-	A	A	-	A	-	-	A	-	A	A	-	-	-	A	-	-	A	-	A	A	-	D	D	-	A	D	-	-	C	-	-	-	-	-	-
Chloric Acid	-	D	A	-	-	-	D	D	-	-	-	A	A[2]	-	-	-	-	A	-	-	-	-	-	-	D	C[1]	-	D	D	D	D	D	-	-	A[1]	-	A[2]	-	D	-	-
Chlorinated Glue	-	D	-	A	-	-	-	-	-	-	-	-	-	-	B	B	-	-	-	D	-	-	A	-	-	A	-	-	-	-	A	D	-	-	A	-	-	-	-	-	-
Chlorine Water	-	D	A[2]	A[2]	-	B[1]	C[1]	C[1]	-	D	D	A	A[2]	B	D	C	C	A	C	D	D	-	A	D	C	C	D	D	D	D	B	-	-	-	A[2]	D	A[2]	A	A	A	A
Chlorine, Anhydrous Liquid	-	A[1]	D	C[1]	-	D	B[1]	D	C	D	D	A	D	A[1]	D	B	C	B[2]	C	D	D	B	A		C[1]	C		D	-	D	D	D	-	-	D	-	D	D	A	-	C
Chlorine (dry)	-	D	D	D	D	D	B[1]	D	-	D	D	A	D	A	B	A	D	D	D	C	D	B	A	D	A[1]	B	D	C[1]	A	D	B	D	A[1]	A[5]	A	A[5]	A[2]	D	A	-	-
Chloroacetic Acid	-	D	D	C[1]	D	D	-	D	D	C[1]	A	A	B[1]	A[1]	D	B	-	A[2]	D	D	D	A	D	D	B[1]	A[1]	-	D	D	D	C	D	D	D	B[1]	A[4]	A[1]	A[1]	A	-	-
Chlorobenzene (Mono)	D	D	D	C[1]	D	C[1]	D	D	D	C[1]	A	B	D	A[1]	D	D	D	A[1]	D	D	D	A	A	A[4]	A	B	A[1]	A	B	B	C	B	A[4]	A[4]	A	A[5]	A	B	A	A	A
Clorobromomethane	-	-	-	-	-	A	-	C	-	A	-	A	D	-	D	B	D	-	D	D	D	-	A	-	-	-	-	-	B	-	-	B	-	-	-	-	-	-	A	-
Chloroform	D	A	D	C[1]	D	C[1]	D	A	D	C[1]	A	A[1]	D	A	D	D	D	B[1]	D	D	D	B	A	A[4]	A	A	A[1]	B[1]	A	B[1]	B	B	A[4]	A[2]	A	A[4]	A[1]	A[2]	A	A	A
Chlorosulfonic Acid	-	D	D	C[1]	D	D	D	D	C[1]	D	D	A	D	D	D	D	D	A[2]	D	D	D	C	D	D	D	B[2]	D	C	D	B	D	D	A[4]	A[1]	D	A[5]	A[1]	A	A	A	-
Chocolate Syrup	-	A	-	A	-	-	A	A	A	A[2]	-	A	-	-	A	A	-	-	D	A	-	-	A	-	A	A	-	A	-	-	-	D	-	-	D	-	-	-	-	-	-
Chromic Acid 5%	B	D	A	D	D	D	A[1]	D	B	D	A	A	A[2]	A	D	A	B	A	B	D	C	B	A	D	B	A	D	C	D	D	B[1]	D	D	-	D	D	B	A	A	A	A
Chromic Acid 10%	B	D	A[2]	D	D	D	A[1]	D	B	D	A	A	A[2]	A	D	C	C	A	D	D	C	C	B	D	B	B	D	D	D	D	D	D	D	-	D	D	A	B	A	A	-
Chromic Acid 30%	B	D	A[1]	D	D	D	D	D	C	D	B	A	A[1]	A[2]	D	B	C	A	D	D	C	B	A	D	B[2]	B[2]	D	D	D	D	D	D	D	-	D	D	D	A	A	A	-
Chromic Acid 50%	D	D	D	D	D	D	D	D	D	D	A[1]	A	D	A[2]	D	B	C	A[2]	D	D	C	B	A	D	C	B[2]	D	D	D	D	D	D	D	-	D	D	B	A[2]	A[1]	A	A
Chromium Salts	-	-	-	-	B[1]	B	-	B	-	-	-	-	A	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cider	-	A	-	A	B[1]	B	A	A	A	A	-	-	A	-	A	A	-	-	-	A	B[1]	-	A	-	A	A	-	B	-	-	A	D	-	-	A	-	-	-	-	A	A
Citric Acid	D	B[1]	B[2]	A[1]	A[1]	D	A[1]	A[1]	A[1]	A	A	A	B[2]	A	A	A	C	A[2]	A	A	A	-	A	-	B[1]	A[2]	-	C	D	D	C	D	-	-	B	-	A	A[2]	A	A	A
Citric Oils	-	B	-	A	-	-	A	-	-	A	-	-	-	-	A	B	-	-	-	D	-	-	A	-	A	A	-	C	-	-	A	D	-	-	D	-	-	-	-	-	-
Clorox® (Bleach)	B	D	A	D	-	-	A	A	-	D	D	A	A	A	D	B	B	D	D	B	-	B	A	-	A	A	-	A	-	-	-	D	-	-	D	-	A	-	-	-	-
Coffee	-	A	A	A	-	-	A	A	-	A	-	-	-	-	A	A	A	-	A	A	A	-	A	-	A	A	-	A	-	-	A	-	-	-	D	-	A	A	-	-	-
Copper Chloride	A	A	A	A	A[1]	-	A	D	-	A	A	A	A[1]	A	A	A	C	A	C	A	A[1]	A	A	-	D	D	-	-	-	-	D	-	-	-	D	-	-	D	-	A	A
Copper Cyanide	-	A	A	B[1]	-	B[2]	A[1]	D	D	A	A	A	A[2]	A	A	A	C	-	A	A	A	-	A	-	B	B	-	D	-	D	D	A	-	-	B	-	A[1]	B	A	A	A
Copper Fluoborate	-	B	A[1]	A	-	-	-	-	-	-	-	-	A	-	B	-	-	-	A	A	-	A	A	-	D	D	-	-	-	-	-	D	-	-	D	-	B	-	-	-	-
Copper Nitrate	-	A	A	A[1]	-	B[2]	A[1]	D	D	A	A	A	A[2]	A	A	-	-	A	C	A	-	B	A	A[4]	A	A[2]	-	D	D	D	D	D	D	A[4]	A	D	B[2]	B	A	A	A
Copper Sulfate 5%	-	D	A	A	A[1]	A[2]	A[1]	D	A[1]	A	A	A	A[2]	A	A	A	C	A	C	A	A	-	A	A[1]	B	B	A[2]	D	B	D	B	D	D	A[4]	A	A[4]	A	A	A	A	A
Copper Sulfate >5%	-	D	A	A	A[1]	A[2]	A[1]	D	A[1]	A	A	A	A[2]	A	A	A	C	A	C	A	A	-	A	-	B	B	A[2]	D	-	D	D	D	D	A[4]	B	A[4]	A	A	A	-	A
Cream	-	A	A	A	-	-	A	A	-	A	-	A	-	-	A	-	-	-	-	D	-	-	A	-	A	A	-	A	-	-	A	D	-	-	D	-	-	-	-	-	-
Cresols	D	D	D	A[1]	D	C[1]	D	D	D	D	A	-	D	A[2]	D	D	D	A[1]	D	D	D	D	A	-	A[2]	A	-	A	A	-	A	C	-	-	A[2]	-	B[2]	B	A	-	-
Cresylic Acid	-	D	D	D	-	B[1]	-	D	D	A[1]	-	A	D	B[1]	D	D	D	-	D	D	D	-	A	-	A[1]	A	-	B[2]	B	-	D	A	-	-	A	-	B[1]	A[1]	A	-	-
Cupric Acid	-	-	-	A[2]	-	B[1]	A[2]	D	A[1]	A[2]	A	A	A[2]	-	B[2]	A[2]	-	A[2]	B[2]	A[2]	A[1]	A[2]	A[2]	-	D	B[2]	-	D	-	-	-	-	-	-	-	-	A[1]	A[2]	A[2]	-	-
Cyanic Acid	-	D	-	A[1]	-	-	-	-	-	-	-	A	-	-	C	-	-	-	-	C	A[1]	-	A	-	A	A	-	-	-	-	-	D	-	-	D	-	-	-	A	-	-
Cyclohexane	-	A[1]	D	A[2]	A[1]	B[1]	D	A	B	D	A	A	D	A	B	D	D	D	D	D	D	D	A	A[4]	A	A	A[4]	A	B	A	B	B	A[4]	A[4]	A[2]	A[4]	B	A	A	-	A
Cyclohexanone	D	A	D	C	-	D	D	A	D	D	A	A	D	D	D	B	-	A[1]	D	D	D	D	D	-	A[1]	A[2]	-	A	B	-	B	B	-	-	-	-	A[1]	-	A	A	A
Detergents	B	A[1]	A	A[1]	-	D	A[1]	A[1]	A[1]	A	A	A	A	A	A	A	B	A	B	B	A	A	A	-	A[1]	A[1]	-	B	-	-	B	-	-	-	A[2]	-	B	A[2]	A	A	A
Diacetone Alcohol	-	-	D	A	-	A	-	A[1]	D	A[1]	-	A	D	D	D	A	A	B[1]	-	D	D	-	D	-	B[1]	B	-	A[1]	A	A[1]	B	-	-	-	-	-	-	-	A	-	-
Dichlorobenzene	D	-	D	A	-	-	-	D	D	C[1]	-	A	D	A	D	D	D	-	D	D	D	-	C	-	-	B[1]	-	B[1]	-	-	B[1]	-	-	-	-	-	A[1]	-	A[2]	-	-
Dichloroethane	D	A[1]	D	D	-	C[1]	A[1]	A[1]	D	D	-	A	D	A	D	-	C	A[2]	D	D	-	D	C	-	B	B	-	B[1]	A	B	D	-	-	-	-	-	A	B[1]	A	A	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

AMERICAN-MARSH PUMPS

Chemical Resistance Charts

Ratings -
Chemical Behavior
A - No effect
B - Minor effect
C - Moderate effect
D - Severe effect; not recommended
- No data available

D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

The information in this chart has been supplier to American-Marsh Pumps by other reputable sources and is to be used **ONLY** as a guide in selection equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.

Ratings of chemical behavior listed in this chart apply to a 48-hour exposure period; American-Marsh Pumps has no knowledge of possible effects beyond this period. American-Marsh Pumps does not warrant (neither express nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

	Plastics												Elastomers								Metals													Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Diesel Fuel	-	A	A^1	A	-	C^1	A	A	A^2	A^1	A	A	A^1	A	A	D	B	A^1	D	B	D	-	A	-	A^1	A^1	-	A^1	A	A^1	A	A	-	-	A	-	B	B	A	-	-
Diethyl Ether	D	-	D	D	C	-	-	A^1	D	A^1	A	A	D	A^1	D	D	D	C	D	D	D	-	D	A^4	B^1	B^2	-	B	A	B^1	A^1	-	A^4	A^4	-	A^4	B^1	A^1	A^2	-	-
Diethylamine	D	B	D	A	-	D	-	A	D	A^1	-	D	D	D	C	B	C	A	A	A	B	C	A	-	A	A	-	B	A	A	A	B	-	-	A	-	A	A	A	-	-
Diethylene Glycol	B	A^1	A^1	C	-	B^2	A^1	A^1	B^1	A^2	-	A^2	C^1	A	A^2	A^2	C	-	A^1	A^2	B^1	C^1	A^2	-	A^1	A	-	B^1	-	-	-	A	-	-	A	-	B^1	A^1	A^2	-	-
Dimethyl Aniline	D	D	D	A^1	-	-	D	A	D	D	A	A	D	A^1	D	B^2	-	A^2	D	D	D	D	D	-	B^2	B^2	-	A^2	-	-	-	-	-	-	-	-	B^2	A^2	A^2	-	-
Dimethyl Formamide	D	D	D	D	-	A	D	A	D	A	A	D	D	D	D	B	D	A	C	D	C	D	C	-	A	B	-	A^1	A	-	-	-	-	-	-	-	-	-	-	-	-
Diphenyl	-	-	-	-	-	-	-	-	-	D	-	A	-	-	D	D	B	B	D	B	D	-	A^2	-	B	B	-	B^2	B	B	B	-	-	-	-	-	B	B	-	-	-
Diphenyl Oxide	-	D	-	A	-	-	-	-	-	D	A	A^1	D	B^2	A	D	D	-	D	D	C	D	A	-	B^1	A	-	B^1	A	-	-	A	-	-	A	-	B^1	A^1	-	-	-
Dyes	-	C	-	A	-	-	A	A	-	-	-	-	B	-	-	-	-	-	-	C	-	C	A	-	A	A	-	B	A	A	-	-	-	-	C	-	-	-	-	-	-
Epson Salts (Magnesium Sulfate)	B^2	B	A^1	A	-	A^2	A^1	A^1	A^1	A	A	A	A^1	A	A	A	A	A	B	A	A	B	A	-	A	B	-	B^1	A	A	A	A	-	-	C	-	B	A^1	A	-	-
Ethane	-	A^1	A^1	A^1	-	-	-	D	-	D	-	A	A^1	A	A	D	B	-	D	B	D	A	A	-	A	A^1	-	-	A	-	-	-	-	-	-	A	-	-	-	A	-	-
Ethanol	B^1	A^1	B	A^2	-	B	A^1	A^1	B^2	A	-	A	C	-	C	A	A	A	A	A	B	C	A	-	A	A	-	B	A	A	A	B	-	-	A	-	A	A	A	A	-
Ethanolamine	-	D	-	A^1	-	-	A	A	-	D	A	A^1	D	C^1	B	B	C	D	B	B	B	-	D	-	A	A	-	B	D	-	A	-	-	-	A	-	B	B	A	A	-
Ether	D	A^1	D	A^1	-	D	D	A	-	D	A	A	D	B^1	D	C	D	B^1	C	D	D	C	C	-	A	A	-	B^1	A	B^1	A	C	-	-	A	-	B^1	A^1	A	-	-
Ethyl Acetate	D	A	D	A	B	D	A^1	A^2	D	A^1	A	A	D	D	D	B	D	A^1	D	B	D	D	A^1	B	B	A^1	A^2	A	B	A	A	A^4	A^5	A	A^5	A	A^1	A	A	-
Ethyl Benzoate	D	-	D	-	-	C^2	A^2	-	D	B^1	-	A	D	D	D	-	-	-	D	D	D	D	A^1	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl Chloride	D	A^1	D	D	C	C^1	D	A^1	D	D	A	A	D	A	A	A	D	B	B	C	D	D	A	-	A	A	-	B	B	A	A	C	A^5	-	A	-	B^1	A	A	A	-
Ethyl Ether	D	A^1	D	A^2	-	D	D	A^1	-	D	A	A	D	A^2	D	D	D	A^1	D	D	D	-	D	-	B	B	-	B^1	A	B	A	C	-	-	-	-	B^1	A^1	A^2	-	-
Ethyl Sulfate	-	-	-	A^1	-	-	-	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	A	-	D	D	-	-	B	-	D	-	-	-	A	-	-	-	A	-	-
Ethylene Bromide	D	-	D	-	-	D	-	D	D	D	-	A	D	A	D	C	C	B	C	C	D	D	A	-	A	A	-	B	-	-	B	B	A	-	-	-	-	-	B	B	A	-
Ethylene Chloride	D	A^1	D	D	-	D	D	A	D	C^1	A	A	D	A	D	D	D	A^1	D	D	D	-	B	A^5	B	B	A^4	B	B	-	A	-	A^5	A^5	-	A^1	-	B^1	A	-	A
Ethylene Chlorohydrin	D	D	D	D	-	D	-	D	D	D	-	A	D	A	D	B	C	-	C	A	C	D	A	-	B	B	-	B	B	B	B	-	-	-	-	-	B	B	A	-	-
Ethylene Diamine	D	D	D	A^1	-	A	D	D	A^2	-	A	A	D	B	A	A	B	D	B	B	A	-	B	-	B^1	B	-	B^1	D	D	B	-	-	-	-	-	C	A	-	-	-
Ethylene Dichloride	D	B^1	D	D	C	D	D	A^1	D	D	A	A	D	A	D	C	D	A^1	D	D	D	D	A	A^1	B	B	A^1	A^1	-	B	C	A	A^4	A^4	C	A^4	B	B	A	A	-
Ethylene Glycol	A	B	A	A	A	A^2	A	A	B^1	A	A	A	A	A	A	A	A	A	A	A	A	B	A	A^4	B	B	A^2	A	A	B^1	A	A	A^3	A^4	A	A^4	B^1	A^1	A	A	A
Ethylene Oxide	D	D	C^1	D	A	A	A^1	A^1	C^1	D	D	A	D	A	D	C	D	A	D	D	D	-	D	-	B	B	-	D	D	D	C	D	-	-	A	-	A	-	A	-	-
Fatty Acids	A	A	A	A	-	D	A^1	A^1	B^1	A	-	A	A	A	B	D	B	A	C	C	C	B	A	-	B	A	-	A	D	C	A	C	-	-	C	-	A	B	A	A	-
Ferric Chloride	A	D	A	A	D	A^1	A^2	A	A^2	A	A	A	A	A	A	B	A	A^1	A	B	B	B	A	D	D	D	D	D	D	D	D	D	D	D	D	D	B^2	A	A	-	-
Ferric Nitrate	A^2	D	A	A	-	A^2	A^2	A^1	A^1	A	A	A	A	A	A	A	A	A	A	A	C	-	A	-	B	B	-	D	D	D	C	-	D	A^4	D	D	B^1	A	A	-	-
Ferric Sulfate	A^2	D	A	A	-	A^2	A^2	A^1	A^1	A	A	A	A	A	A	A	A	A	A	A	B	B	A	-	B^1	A	A	A^1	D	D	D	C	D	D	A^4	D	A^3	A^1	A^1	A	A	-
Ferrous Chloride	A^2	D	A	A	-	A^2	A^2	D	D	A	A	A	A	A	A	-	A	B^1	A	A	-	B	A	D	D	D	D	D	B	D	C^1	D	D	D	C	-	B^1	A	A	-	A
Ferrous Sulfate	A^1	D	A	A	-	A^2	A^2	D	A^1	A	A	A	A	A	A^2	A	B	A	B	-	-	B	B	-	B	B	A^1	B^1	B	B^1	B	D	D	A^4	D	$A^{3,}$	B	A^1	A	A	A
Fluoboric Acid	A^2	A^1	A^2	D	-	A^2	A^1	D	-	A	A	A	A	A^1	A	A^2	A	B	A	A	-	B	B	-	B	B	-	D	-	-	B^1	D	-	-	D	-	A^1	D	A	C	A
Fluorine	A^1	D	D	A^1	-	D	-	D	C	D	D	D	D	A^1	D	A^1	-	A	C	-	D	-	C	-	C	A	-	A	C	A	C	D	-	-	D	-	B^1	D	C	-	A
Fluosilicic Acid	A^2	A^1	A	C	-	A^2	A^2	D	A^1	A	A	A	D	A^1	A	A^2	A	C	A	A	-	B	B^1	D	C	B	-	D	D	B^1	B^2	D	D	-	D	A^1	B	D	A	C	A
Formalehyde 40%	A^2	A^2	A^2	A^2	B	D	A	A	A^1	A	A	A	A	A	B	A	B	A	B	B^1	-	-	A	A^4	A^1	A	A^4	B	B^2	A	A	B	D	A^4	A	A^4	B	B	A	-	A
Formalehyde 100%	B	A	A	A	-	B	A	D	A^2	C	B	A	A	A	C	A	C	A	C	C	B	B	D	A^4	C	A	A^4	A	A^2	-	B	C	D	A^4	A	A^4	A	A	-	-	A
Formic Acid	D	A^2	A^2	C^1	B	D	A	D	A^1	A^1	A	A	A^1	A	C	A	A^1	A^1	C	A	B	B	C	D	B^1	A^1	-	A	C	D	C	D	D	A^4	C	A^4	A	C^1	A	-	A
Freon® 11	D	D	A^2	A	A	C	B	D	-	A	A	A	A^2	A	B	D	B	A	D	D	D	B	B	-	A	A	-	D	A	B^1	-	A	-	-	A	-	A	B	-	A	A
Freon® 12	A^1	B	A^2	A^2	A	A^1	D	A^1	-	A^2	A	A	A^2	A	A	B	A	C	C	A	D	D	B	-	B^1	B	-	B^1	A	B^1	B	A	-	-	A	-	A	B	-	-	-
Freon® 22	-	A	B	A	-	-	B	B	-	B	A	A	A	A	D	A	B	A	D	A	D	D	D	-	A	A	-	D	B	A	-	D	-	-	A	-	A	B	-	A	A
Freon® 113	-	A	B	A	A	-	D	-	B^1	D	A	A	B	B	A	D	A	-	D	C	D	D	B	-	-	-	-	-	A	-	-	-	-	-	A	-	A	C	-	-	-
Freon® TF	-	A	B	A	A	-	-	D	-	D	D	A	B	B	A	D	A	-	D	A	D	D	B	-	A	A	-	D	A	-	-	A	-	-	A	-	A	B	-	A	A
Fruit Juice	B	D	A	A	-	A	B	A	-	B	-	A	A	A	A	-	B	A	D	A	-	B	A	-	A	A	-	A	A	D	-	D	-	-	C	-	A	A	-	A	A
Fuel Oils	D	A	-	A^1	-	B	B	A^1	B^1	A	A	B	A^2	B	D	D	C	A	D	B	D	A	A	-	A	A	-	C^1	A	B	A	A	-	-	A	-	A^1	A	A	-	-
Furan Resin	-	D	-	A^1	-	D	-	-	-	D	A	A	A	D	D	C	D	A^1	D	D	D	A	D	-	A^1	A	-	A	A	-	-	-	-	-	A	-	B	-	-	-	-
Furfural	D	A	D	A^1	-	D	D	B	D	D	A	A	D	B^2	D	D	B	D	D	D	D	D	D	D	A	B	A^4	A^1	A	-	B	B	A^3	A^4	A	A^4	B	A	A	-	-
Gallic Acid	-	-	C	-	-	A	A	A	-	A	A	B	B	A^1	B	B	D	A	A	B	D	A	A	-	A	B	-	D	D	-	B	D	-	-	A	-	B^1	B	B	-	-
Gasoline (high-aromatic)	D	B	C^1	A	A	A	B	A	A	A	A	B	A	A	A	D	B	A	D	A	D	A	A	A^4	A	A	A^4	D	-	-	A	A	A^4	A^4	A	A^4	A	B	A	A	A
Gasoline, Leaded, ref.	D	A	-	A^2	A	-	B	A^2	A^2	B	A	A	B	A	A^2	D	B	A^2	D	B	D	C	A^1	A^4	A^1	A^2	A^4	A	B	-	A^2	-	A^4	A^4	-	A^4	A	A	A^2	A	A
Gasoline, unleaded	D	A	C	A^2	-	-	D	A^2	A^2	C^1	A	A	C^2	A	A^1	D	A	A^2	D	B	D	C	A^1	A^4	A^1	A^2	A^4	A^2	B	-	A^2	A	A^4	A^4	A	A^4	A	A	A^2	-	-
Gelatin	-	B	A^2	B	-	A^2	A^2	A^1	-	A	-	A	B	A	A	A	B	-	A	A	A	B	A	-	A^2	A^2	-	A	A	D	A	A	-	-	A	-	A	A	A	-	A
Glucose	B	A	A^2	B	-	A^2	A^2	A	A^1	A	B	A	A^2	A	A	A	B	-	A	A	A	A	A	-	A^1	A	-	-	A	A	-	A	-	-	A	-	A	A	A	-	A

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Glue, P.V.A.	-	A	A	A	A	A[1]	-	A[1]	-	-	-	A	C	-	A	A	A	-	A	A	A	C	B	-	A[1]	A[2]	-	A	B	-	A	A	-	-	A	-	A	A	-	-	A	-	A
Glycerin	C	A	A	A	A	A[1]	A	A[1]	A[2]	A	A	A	A	A	A	A	A	A	A	A	A	A	A	-	A[2]	A	-	A	A	B	A	A	-	-	A	-	A	A	A	A	-
Glycolic Acid	B	A	A	A	-	A[2]	-	-	-	A	A	A	B	B	A	A	A	B	D	A	A	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A	A	A	-	-
Gold Monocyanide	-	A	A	A	-	-	-	-	-	-	-	D	-	A	A	-	-	-	-	A	-	A	A	-	A	-	-	-	-	-	-	D	-	-	A	-	-	-	-	-	-
Grape Juice	B	A	A	A	-	B	-	A	-	-	-	A	A	A	A	A	-	-	D	D	A	B	A	-	A	A	-	-	-	-	A	D	-	-	C	-	-	A	-	-	-
Grease	-	D	-	A	-	-	-	-	-	-	-	A	A	A	A	D	-	-	D	D	D	A	A	-	-	A	-	-	A	A	A	A	-	-	A	-	A	-	-	-	-
Heptane	D	A	A	A	-	B[1]	B	A	B	C[2]	A	A	C[1]	A	A	D	B	A	D	B	D	B	A	A[4]	A	A	A[4]	A	A	A	A	A	A[4]	A[4]	A	A[4]	A	A	A	-	-
Hexane	D	A	B[1]	A	A	D	B	B	D	B[1]	A	A	B[1]	A	A	D	B	A	D	B	D	D	A	-	A	A	-	A	A	A	A	A	-	-	A	-	A	A	A	-	A
Honey	-	A	-	A	-	B	-	A	A[1]	A	-	A	A	A	A	A	-	-	A	-	A	A	A	-	A	A	-	A	-	A	A	A	-	-	A	-	A	-	-	-	-
Hydraulic Oil (Petro)	-	B	-	A	-	C	-	A[1]	-	D	D	A	A	A	A	D	A	-	D	A	B	A	A	-	A	A	-	A	A	A	A	A	-	-	A	-	A	-	B	-	-
Hydraulic Oil (Synthetic)	-	-	-	A	-	A	-	A[1]	-	D	-	A	A	A	D	A	A	-	D	A	B	A	A	-	A	A	-	A	A	A	A	-	-	-	A	-	A	-	B	-	-
Hydrazine	-	B	D	A	C	-	-	-	D	C	-	C	-	A	B	A	B	-	C	B	B	-	A	-	A	A	-	-	A	-	-	D	-	-	D	-	-	-	-	-	-
Hydrobromic Acid 20%	-	C	A	B[1]	-	B[2]	B	D	-	A[2]	-	-	B[2]	A	D	A	A	A	A	D	D	B	A	D	D	D	D	D	D	D	-	D	D	D	C	D	A	A	A	-	A
Hydrobromic Acid 100%	B	D	A[2]	D	-	B[1]	B	D	-	C[1]	A[1]	A	A[1]	A	D	A	A	A	A	D	D	B	A	D	D	D	D	D	D	D	-	D	D	D	D	D	C	A	A	-	A
Hydrochloric Acid 20%	A	C	A[2]	A[1]	B	A[2]	A	D	B[1]	B[2]	A	A	A[2]	A	-	A	A	A	A	C	D	A[1]	A	D	D	D	D	D	D	-	D	D	D	D	D	A[2]	A[1]	D	A	C	A
Hydrochloric Acid 37%	A	C	A[2]	A	C	B[2]	A	D	D	C	A	A	B	A	B	C	B	A	A	B	B	A[1]	A	D	D	D	D	D	D	-	D	D	D	D	D	A[2]	B	D	A	C	A
Hydrochloric Acid 100%	A	C	A	-	-	-	A	D	D	B[1]	A[1]	A	D	A	D	D	D	A	D	D	D	A[1]	A	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	A	C	A
Hydrochloric Acid, Dry Gas	-	-	A	A	-	A[2]	A	A[1]	-	B	A	A	A[2]	A	-	-	-	A	-	-	-	-	-	D	D	D	D	D	D	D	A	-	D	D	D	D	A	C	A	-	A
Hydrocyanic Acid	B	B	A	A	C	A[2]	A[1]	B	-	A	B	A	B	A	B	B	A	-	B	B	C	B	A	-	B[1]	A	-	A	D	D	A	D	-	-	D	-	A	B	A	-	-
Hydrocyanic Acid (Gas 10%)	-	C	A	-	-	-	C	-	B[1]	A	-	A	A	-	B	A	-	-	B	A	D	-	A	-	-	-	-	-	-	-	-	-	-	-	D	-	-	A	-	-	-
Hydrofluoric Acid 20%	C	D	C[1]	A	-	A[2]	C[1]	C[1]	D	A[2]	A	A	B	A	D	D	B	B	B[1]	B	D	C	A	D	D	D	D	D	B	-	B[2]	D	D	D	D	D	B	D	A	-	B
Hydrofluoric Acid 50%	C	D	C[1]	C[2]	D	A[1]	D	D	D	A[2]	A	A	B[1]	A	D	D	B	B	B[1]	D	D	C	B	D	D	D	D	D	B	-	B[2]	D	D	D	D	D	B	D	A	-	B
Hydrofluoric Acid 75%	C	D	C[1]	B[1]	D	C[1]	D	D	D	C[1]	B	A	C	A	D	C	B	B	D	D	D	C	B	D	D	D	D	D	B	-	B[1]	D	D	D	D	D	B	D	A	C	B
Hydrofluoric Acid 100%	D	D	C[1]	-	D	-	D	D	D	C[2]	D	A	C	A	D	D	B	A	D	D	D	D	B	D	B[1]	B[1]	D	D	B	-	B[1]	D	D	D	D	D	B	D	-	-	B
Hydrofluosilicic Acid 20%	-	B	A	C[1]	-	B[2]	B[2]	D	-	A	A	A	A[2]	A	A	A	B	A	A	B	D	A	A	-	C[2]	B[1]	-	D	B	-	B[2]	B	-	-	D	-	B	D	A	-	-
Hydrofluosilicic Acid 100%	-	A	-	C[1]	-	B[1]	B[2]	D	-	A	A[1]	A	B[1]	A[1]	B	A	B	B	A	B	D	D	A	-	D	D	-	D	-	-	B[2]	D	-	-	D	-	B	D	A	-	-
Hydrogen Gas	-	-	A[2]	-	A	A[2]	A[1]	A[2]	A[2]	A	A	A	A[2]	A	A	A	A	B	B	A	C	A	A	-	A	A	-	A	A	-	A	-	-	-	A	-	A	A	A	-	-
Hydrogen Peroxide 10%	A	D	A	C[1]	-	A	A[2]	C[1]	A[2]	A	A	A	A[1]	A	D	A	D	A	B	D	A	B	A	D	B[2]	B	D	A	D	-	B[1]	C	D	A[4]	C	D	A	A	C	-	A
Hydrogen Peroxide 30%	-	D	A	B	-	C[2]	A[2]	D	A[2]	B[1]	A[1]	A	A[1]	A	D	B	D	B	C	D	B	B	A	D	B[2]	B	D	A	D	-	B[1]	B	D	A[4]	B	D	A	B[1]	C	-	A
Hydrogen Peroxide 50%	-	D	A	-	-	C[2]	-	D	A[2]	B[1]	-	A	A[1]	A[1]	D	B	D	A	C	D	B	B	A	D	B[2]	A[2]	A[1]	A	D	-	B[1]	-	D	A[4]	B	D	A	A	C	-	A
Hydrogen Peroxide 100%	A	D	A	A	-	C[2]	A	D	A	B[1]	C	A	A	A[1]	D	D	D	B	C	D	B	B	A	D	B[2]	A[2]	-	A	D	D	B[1]	B	D	-	D	D	A	B	C	A	A
Hydrogen Sulfide (aqua)	B	C	A	A	-	A	A[1]	C[1]	A	A[1]	A	A	B[1]	A	D	B	D	A[1]	C	A	C	A	D	D	C	A	D	B	-	-	A	D	A[1]	A[5]	D	A[3]	A	B	A	A	A
Hydrogen Sulfide (dry)	-	-	A	A	A	A	-	C[1]	-	A[1]	A	A	A[2]	A	D	B	B	B	C	A	C	D	D	D	C[1]	A	D	B	D	D	B	D	A[1]	A[5]	D	A[3]	A	A	A	-	-
Hydroquinone	D	A	A	-	-	A	-	D	-	A	-	A	B	-	D	D	D	-	A	A	-	-	B	-	B	B	-	B	B	-	-	-	-	-	-	-	B	B	A	-	A
Hydroxyacetic Acid 70%	-	A	A	A	-	A	-	-	-	-	-	A	D	A	A	A	-	-	-	A	-	-	A	-	-	-	-	-	-	-	-	B	-	-	D	-	-	A	-	-	-
Ink	A	B	-	A	-	-	-	C	-	-	-	A	C	A	A	-	-	A	-	A	-	C	A	-	C	C	-	-	A	-	-	D	-	-	D	-	-	-	-	A	A
Iodine	D	D	D	C	B	A[1]	C[1]	A	-	C	D	A	A	A[2]	B	B	D	A	D	D	-	A	A	-	D	D	-	A	D	-	A	D	-	-	D	-	A	A	D	-	-
Iodine (in alcohol)	-	D	-	-	-	B	-	C	-	-	-	-	A	A	-	A	-	-	D	-	-	-	-	-	-	-	-	B	-	-	B	-	-	-	-	-	B	B	-	-	-
Iodoform	-	-	-	-	-	-	-	-	-	-	-	C	A	C	D	A	-	-	B	A	-	C	-	-	A	A	-	-	B	-	-	-	-	-	A	-	D	B	-	-	-
Isooctane	-	-	-	A[2]	A	B	D	A[1]	B[1]	A[2]	A	A	A[1]	A[2]	A[2]	D	-	A[1]	A[1]	B[1]	D	A[1]	A[1]	-	A[1]	A[1]	-	A[1]	-	A	A[1]	-	-	-	-	-	-	-	-	A[2]	-	-
Isopropyl Acetate	-	D	-	A	C	B[1]	-	B[1]	D	B[1]	-	A	D	D	D	B	D	-	D	D	D	-	D	-	C	A	-	D	-	-	A[1]	-	-	-	B	-	B	-	A	-	-
Isopropyl Ether	-	D	-	D	-	B	-	A[1]	D	B	-	A[1]	B	D	B	D	C	A	A	D	D	A	D	-	A	A	-	A	B	A	A	-	-	-	A	-	A	-	A	-	-
Isotane	-	-	-	A	-	-	-	D	-	D	-	-	A	A	A	-	-	-	-	D	-	-	A	-	-	-	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-
Jet Fuel (JP3, JP4, JP5)	-	A[1]	-	A	-	D	D	C	A[1]	A[1]	A	A	C	B	A	D	D	A	D	D	D	A	A	-	A	A	-	A	A	-	A	A	-	-	A	-	A	A	A	-	-
Kerosene	D	A[2]	-	A	C	C[1]	D	A	D	B	A	A	A[2]	A	A	D	D	A	D	A	D	A	A	A[1]	A	A	A[1]	A	B	A	A	A	A[4]	A[4]	A	A[4]	B	A	A	A	B
Ketones	A	D	-	C	-	C[1]	D	A[2]	D	C	A	A	D	C[1]	D	A	-	B[1]	A	D	-	D	D	-	A	A	-	B	A	-	A	-	-	-	A	-	A	A	A	-	-
Lacquer Thinners	A	D	-	A	D	A	D	A[1]	B	D	-	A	D	-	D	D	D	-	D	D	D	D	D	-	A[1]	A	-	A	A	A	A	C	-	-	A	-	A	C	A	-	-
Lacquers	A	D	-	A	-	A	D	A[1]	D	D	-	A	D	D	D	D	D	-	D	D	D	A	D	-	A[1]	A	-	A	A	-	A	C	-	-	A	-	A	-	A	-	-
Lactic Acid	D	B	A[1]	B[1]	D	A[1]	A	B	B	B	A	A	B[1]	B[1]	A	A	A	A[1]	A	A	A	A	A	-	B[1]	B[1]	-	B	B	D	B[2]	D	-	-	C	-	B[1]	A	A	A	-
Lard	-	A	-	B	-	A	A	A[1]	A[1]	B[1]	-	A	A[1]	A	A	D	B	-	D[1]	D	B	A	A	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	A	-	-
Latex	B	B	-	A	-	-	-	A[1]	-	A[2]	-	A	-	A	A	A	-	-	-	-	A	A	A	-	A[2]	A[2]	-	A	-	-	A	-	-	-	A	-	A	-	-	-	-
Lead Acetate	B	B	A[2]	A	-	A[2]	A[1]	A	-	A[1]	A	A	B	A	B	A	D	A	A	A	A	B	D	A[4]	B	B[1]	-	D	-	-	B[1]	A	D	A[4]	A	A[4]	B[1]	A[1]	A	A	-
Lead Nitrate	B	-	A[2]	-	-	A[2]	A[1]	-	-	A[2]	A	A[1]	A[2]	A[2]	A[2]	A[2]	-	-	A[1]	A[1]	B[1]	A[2]	A[2]	-	B[1]	B[1]	-	D	-	-	B[2]	-	-	-	-	-	-	-	A[1]	-	-
Lead Sulfamate	-	A	-	A	-	A[1]	-	B[1]	A[1]	A[2]	-	B	B	A	B	A	A	-	B	A	B	-	A	-	C	C	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-
Ligroin	-	B	-	A	-	A	-	D	-	A[2]	-	A	-	A	A	D	C	-	D	B	D	A	A	-	-	A	-	D	-	-	-	-	-	-	A	-	-	-	-	-	-

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	Plastics												Elastomers									Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al_2O_3	Ceramic Magnet
Lime	-	B	-	A	-	A	-	A^1	-	-	-	A^1	B	A	A	D	-	-	-	A	-	A	A	-	A	A	-	A	-	-	-	A	-	-	A	-	-	-	A	-	-
Linoleic Acid	A	B	A^2	-	-	A	-	-	-	B^1	-	A	A^2	A^2	B^1	D	D	-	D	-	B^1	A^2	B^1	-	B	A	-	A^2	D	-	-	-	-	-	-	-	-	-	A^2	-	-
Lithium Chloride	-	A	A^2	-	-	A^2	-	-	B^1	A^2	-	A	D	A^2	A^2	A^1	-	-	B^1	A^1	A^1	A^2	A^1	-	A^1	A^2	-	D	-	-	A^2	A	-	-	A	-	-	-	A^2	-	-
Lithium Hydroxide	-	-	-	-	-	-	-	-	D	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	B	B	-	D	-	-	B	B	-	-	D	-	B	-	B	-	-
Lubricants	-	A	-	A	A	D	C^1	A^1	A^1	A^1	A	A	B^2	A	A	D	A	-	D	D	D	B	A	-	A^2	A^2	-	A^2	A	-	A^2	A	-	-	A	-	A	A	A	-	-
Lye: KOH Potassium Hydroxide	A	A	A	A	D	A	A^1	C	D	A	A	A	B	A	B^1	A^2	A	B	B	B	C	B	B	-	B	A^1	-	D	B	D	D	B^2	-	-	B	-	B	D	C	D	A
Lye: NaOH Sodium Hydroxide	C	C	A	A	C	D	A	A	D	A	A	A	A	D	A^2	B^1	A	B	A^1	B^2	A^1	B	B^1	-	B	B^1	-	D	B	D	D	D	-	-	D	-	C	B	-	A	-
Lye: $Ca(OH)_2$ Calcium Hydroxide	-	D	A^2	A^1	B^1	A^2	A^2	A^2	D	A^2	A	A	B^2	A^2	A	A	A	A^2	B^2	A	A	B^2	B^1	-	B^1	B	-	C^1	-	-	D	A	-	-	B	-	A^1	A	A	A	A
Magnesium Bisulfate	-	-	-	-	-	-	-	A^1	A^1	A^2	-	A	A^2	-	B	-	-	-	B^2	B	-	A^2	-	-	A^1	A^1	-	D	-	-	A^1	-	-	-	-	-	-	-	A^1	-	-
Magnesium Carbonate	B	A	A^2	A	-	B	A^2	-	A^1	A	-	A^1	B	A	A^2	A	A	-	-	A	-	-	A	-	B	B	-	A	A	-	A	-	-	-	A	-	B	A	-	A	A
Magnesium Chloride	B	B^1	A	A	C	A^1	A^1	A^1	A^2	A^2	A^1	A	B	A	A^2	A	A^2	A	A	A	A	A	A^2	-	D	D	D	D	A^2	D	B	D	A	C^1	-	C	A^4	A^2	A^2	A^2	A^2	A
Magnesium Hydroxide	B	A	A	A	C	A^2	A^2	B^1	A^1	A	A	A	A^2	A	A	A	A	A	A	A	A	C	A	-	B	A^1	-	C^1	B	D	B	A	-	-	A	-	A	A	A	A	-
Magnesium Nitrate	B	A	A	A	-	A^2	A^1	A^1	A^1	A	A	A	A^2	A	A	A	A	-	A	A	-	-	A	-	B	B	-	B	B	-	A	D	-	-	D	-	A	A	-	A	A
Magnesium Oxide	-	A	-	A	-	-	-	-	-	-	-	A	-	-	A	-	-	-	-	A	-	-	C	-	A	A	-	B	-	-	-	A	-	-	A	-	-	-	-	-	-
Magnesium Sulfate (Epsom Salts)	B^2	A^1	A	-	-	A^2	A^1	A^1	A^1	A	A	A	A^1	A	A	A	A	A	B	A	A	B	A	A^4	A	B	A^2	B^1	A	A	A	A	C^3	A^5	C	A^2	B	A^1	A	-	-
Maleic Acid	-	A	A	A	-	B^2	A^1	A	-	A	B	A	A^2	A	D	D	D	-	B	D	-	C	A	A^1	A	B	-	B^1	-	-	B	-	D	A^4	A	A^4	B	A	A	-	-
Maleic Anhydride	-	D	-	A	-	D	-	-	-	D	-	A	-	A	D	D	D	-	D	D	-	-	A	-	A	A	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-
Malic Acid	-	A	-	-	-	B^2	-	A	-	A^1	-	A	A^2	A	A	D	D	-	B	D	B	A	A	-	A	A^2	-	B^1	D	B	B^2	-	-	-	A	-	B	A	B	-	-
Manganese Sulfate	B^2	A^1	A	-	-	A^1	A^2	A^2	A^1	-	A^2	A	C	A^2	A^2	A^2	-	A^1	A^2	A^2	A^1	A^1	A^2	-	B	B^2	-	B^1	B	D	A^2	A	-	-	C	-	A^2	A^2	A^2	A	-
Mash	-	A	-	A	-	A	-	A	-	-	-	-	-	-	A	A	-	-	-	A	-	A^1	A	-	A	A	-	A	-	-	-	-	-	-	A	-	-	-	-	-	-
Mayonnaise	-	A	-	A	-	D	-	A	-	-	-	A	D	A	C	-	-	-	D	A	-	D	A	-	C	A	-	A	B	-	-	D	-	-	D	-	A	-	-	-	-
Melamine	-	A	A^2	A	-	-	-	A	-	A	-	A	D	-	C	A	-	-	-	D	C	D	A	-	-	D	-	-	-	-	-	D	-	-	D	-	-	-	D	-	-
Mercuric Chloride (dilute)	B	B	A	A	B	A	A^2	D	A	B	A	A	A	A	A	A^1	A	A	A	A	-	D	A	D	D	D	D	D	D	D	D	D	D	D	D	C	A^1	C	A	-
Mercuric Cyanide	B	-	A	A	-	A	-	A^2	-	B	A	B	A	A	A	A^1	-	D	-	A	A	-	A^1	-	C	C	-	D	D	-	D	C	-	-	-	-	A	A	-	A	-
Mercurous Nitrate	C^2	-	A^2	-	-	A	A^2	-	A^2	A	-	A	A	A	B^1	A^1	-	-	B^1	B^1	-	A^2	A^1	-	A^1	A^1	-	D	-	-	-	-	-	-	-	-	A^1	A^1	C	A	A
Mercury	B	A	A	A	B	A	A^1	A	D	B	-	A	A	A	A	A	A	A	A	A	-	D	A	-	A	A	-	D	D	D	A	A	-	-	D	-	A^2	A	C	A	A
Methane	-	A	-	-	-	-	-	A	-	A	-	A	B	A	A	D	B	-	D	B	D	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	-	B	-	-
Metanol (Methyl Alcohol)	D	A	A	B^1	B	A^1	A	B^1	B^1	A^2	A	A	A^1	A	A	A	A	A^1	A	A	A	A	C	-	A	A	-	A^1	B^1	A	A	A	A^4	-	A	-	A	B	A	A	A
Methyl Acetate	D	B	-	D	-	B^1	-	A^2	D	D	-	A	D	B^1	D	B	D	A	D	B	D	A	D	-	A	B	-	A	B	-	A	A	-	-	A	-	A	-	A	-	-
Methyl Acetone	-	D	-	C	-	-	-	A	-	-	-	A	D	D	D	A^1	-	-	A	D	-	A	D	-	A	A	-	A	-	A	A	A	-	-	B	-	-	-	A	-	-
Methyl Acrylate	-	B	-	A	-	-	-	-	-	D	-	-	-	B^1	D	B	D	-	D	B	D	-	D	-	A	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-
Methyl Alcohol 10%	D	A	A	B^1	-	A^1	A^2	B^1	B^1	A^2	A	A	A^1	A	A	A	A	A^2	A	A	A	A^1	C	A^3	A	A	A^1	A^1	A	A	A	A	A^4	A^4	A	A^4	A	B	A	A	A
Methyl Bromide	D	D	D	B	-	C^1	-	B^1	-	C	-	A	D	A	B^2	D	D	-	D	D	-	-	A	-	A	A	-	D	B	-	-	A	-	-	-	-	-	-	A	-	-
Methyl Butyl Ketone	-	D	-	C	-	-	-	D	D	D	-	-	A	D	D	A^1	D	-	D	D	D	-	D	-	A	A	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-
Methyl Cellosolve	-	D	D	C	-	-	-	C	D	B	-	A	D	A	A^1	B^2	D	-	D	B	D	C	D	-	B	B	-	B	B	A	A	C	-	-	-	-	-	-	A	-	-
Methyl Chloride	D	B	D	A	-	C^1	D	B^1	D	D	B	A	D	A	D	D	D	A^1	D	D	D	D	A^1	-	A	A	-	D	-	A	B^2	D	-	-	C	-	-	-	A	-	-
Methyl Dichloride	-	D	-	A	-	-	-	C	-	D	-	-	A	D	D	D	-	-	-	-	-	-	A^1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	D	C	D	C^1	B	B^2	D	A^1	D	B	A	A	D	D	D	A^2	D	A^1	D	D	D	D	D	A^1	A	A	A^1	B	A	A	A	A	A^4	A^4	A	A^4	A	A	A	A	A	A
Methyl Ethyl Ketone Peroxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	-	D	D	B	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Isobutyl Ketone	D	-	D	C	B	C	D	B^2	D	A	A	A	D	D	D	B^1	D	A	D	D	D	-	D	-	B	B	-	B	B	-	A	C	-	-	C	-	A	A	A	-	-
Methyl Isopropyl Ketone	-	-	-	A	-	D	D	A	D	-	-	A	D	-	D	C^1	D	-	D	D	C	-	D	-	A	A	-	A	A	-	A	C	-	-	-	-	-	-	A	-	-
Methyl Methacrylate	-	D	-	A	-	-	-	-	-	D	-	-	A	B^1	D	D	D	-	D	D	C	-	D	-	B	B	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-
Methylamine	D	D	-	A	-	A^1	-	-	-	A^2	-	A	D	C	B	A^1	-	A	B	-	-	D	D	-	A	A	-	A	-	D	A^2	A	-	-	D	-	-	-	A^2	-	-
Methylene Chloride	D	B	D	A	D	D	D	C^1	D	B^1	A	A	D	B^1	D	C^1	-	A	B	-	-	D	B	-	B	B	-	C	B	A	B	B	-	-	A	-	B	B	A	-	-
Milk	B	A	A	A	-	A	A^2	A	A	B	-	A	A^2	A^2	A^1	A	A	A	A	A	A	B	A	-	A	A	-	A	D	D	A	D	-	-	C	-	A	A	A	A	A
Mineral Spirits	D	A	A	A	-	B	A	A	C	B	A	A	A	-	A	D	C	A	D	C	D	B	A	-	A	A	-	A	-	-	A	B	-	-	C	-	B	B	A	-	-
Molasses	B	A	A	A	-	A	A^2	A^1	-	B	-	A	A	B^1	A	A^1	-	A	A	A	-	B	A	-	A	A	-	A	A	B	A	B	-	-	D	-	A	A	A	A	A
Monochloroacetic acid	-	D	-	-	D	-	-	D	D	-	-	A^2	-	B^1	D	C	A^2	B^2	-	A^1	-	-	C	-	A^1	A^1	-	D	D	B	B^1	D	-	-	-	-	A^2	A^2	B^2	-	-
Monoethanolamine	-	D	-	A	-	C	A	A	-	B	A	A	D	C	B^1	B	D	-	B	D	B	-	D	-	A	A	-	B	D	-	A	A	-	-	-	-	-	B	A	-	-
Morpholine	C	-	-	-	-	-	D	A^2	D	B^2	C	A^2	-	B^1	D	D	-	-	A^1	D	-	-	-	-	-	A^1	-	A^1	-	-	-	-	-	-	-	-	-	-	A^1	-	-
Motor oil	C	B	A	-	B	C^1	A	A^2	A	A^1	A	A	B	B	A	D	-	A^2	-	B^1	-	A^2	-	-	A^1	A^2	-	A^1	-	-	A^1	-	-	-	-	-	-	-	A^1	A^2	A	A
Mustard	B	C	A	A	-	A	A	A	A	A	-	A	B	A	B	A	-	-	B	A	-	B	D	-	A	A	-	B	-	-	A	D	-	-	D	-	A	A	A	-	-
Naphtha	D	D	A	A	B	A^1	D	A	B	B	A	B	A^1	A	A	D	D	A	D	D	D	C	A	-	A	A	-	A	A	A	A	B	-	-	B	-	B	B	A	-	-
Naphthalene	D	D	D	A	B	C	D	A^1	-	B	A	A	D	A^2	D	D	D	A	D	D	D	C	A	-	A	A	-	B^1	-	-	A	A	-	-	C	-	A	A	A	A	-
Natural Gas	B	B	-	-	-	A	-	-	-	A	-	A	A	-	A	D	-	-	-	A	A	A	A	-	A	A	-	A	-	-	A	A	-	-	-	-	-	-	-	-	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

AMERICAN-MARSH PUMPS

Chemical Resistance Charts

Ratings -
Chemical Behavior
A - No effect
B - Minor effect
C - Moderate effect
D - Severe effect; not recommended
- No data available

D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

The information in this chart has been supplier to American-Marsh Pumps by other reputable sources and is to be used **ONLY** as a guide in selection equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.

Ratings of chemical behavior listed in this chart apply to a 48-hour exposure period; American-Marsh Pumps has no knowledge of possible effects beyond this period. American-Marsh Pumps does not warrant (neither express nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

	Plastics													Elastomers									Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Nickel Chloride	A	A	A	A	-	A	A^1	C^1	A^2	A	A	A	A	A	A^1	A^1	A	A	A	B	A	B	A	D	D	C	D	D	-	D	B[1]	D	D	-	D	A^4	B	A	A	A	-
Nickel Nitrate	A	-	A^2	A^1	-	A	A^2	A^1	D	A^2	-	A^2	A	A^2	A^1	A^2	D	A^2	A^1	A^2	-	A^2	A^2	A^2	B	B^2	A^1	D	-	-	A^2	C	D	A^4	-	D	B^2	-	-	A	A
Nickel Sulfate	B	A	A	A	-	A	A^1	A^1	A	A	-	A	A	A	A^1	A^1	A	A	B	A	A	A	A	A^4	B	B^1	-	D	-	D	B	D	D	A^4	C	-	B	B	A	A	-
Nitrating Acid (≤1% Acid)	-	-	-	-	-	-	-	-	-	C	C	A	D	-	-	-	-	-	C	A	-	D	-	-	C	A	-	D	-	-	-	-	-		D	-	A	-	-	-
Nitratin Acid (≤15% H_2SO_4)	-	-	-	-	-	-	-	-	-	C	C	A	D	-	-	-	-	-	C	A	-	D	-	-	C	C	-	D	-	-	-	A	-	-	D	-	A	A	-	-	-
Nitrating Acid (≤15% H_2SO_4)	-	D	-	D	-	-	-	-	-	C	D	A	D	-	D	A^1	-	-	C	A	-	D	-	-	C	C	-	D	-	-	-	C	-	-	D	-	A	C	-	-	-
Nitrating Acid (≤15% HNO_3)	-	-	-	-	-	-	-	-	-	C	C	A	D	-	-	-	-	-	C	A	-	D	-	-	C	D	-	D	-	-	-	C	-	-	D	-	A	C	-	-	-
Nitric Acid (5-10%)	B	D	A	A^1	C	B	A	D	A	A	B^1	A	A^1	A^1	D	A^1	B	A^1	D	B	C	D	A	-	A	A	-	A	C	D	A^1	D	D	-	D	-	A^1	A^1	A	A	-
Nitric Acid (20%)	B	D	A^2	B^1	D	C	B^2	D	B^1	A^2	C	A	A^1	A	D	A^1	D	A^1	D	D	D	D	A	A^2	A	A	A^2	D	D	D	A^1	D	D	A^5	D	D	A^1	A^1	A	A	-
Nitric Acid (50%)	C	D	B^1	D	D	B^1	B^2	D	B	B	C	A	B^1	A^1	D	D	D	A	D	D	D	D	A	A^2	A^2	A^1	-	D	D	D	A^1	D	D	A^5	D	D	A^1	A^1	D	A	C
Nitric Acid (Concentrated)	D	D	D	D	D	C^1	B^1	D	C^1	D	C	A	B^1	A^1	D	D	D	A^1	D	D	D	D	A	D	A^1	A^1	D	D	D	D	A^2	D	D	D	D	D	B^1	A^1	D	A	C
Nitrobenzene	D	C	D	C^1	D	C^1	D	B^1	D	B^1	A^2	A	D	A^1	D	B^1	D	A^1	D	D	D	D	B	A^4	B	B	-	B	B	-	A	C	A^5	A^5	C	D	D	A	B	-	-
Nitrogen Fertilizer	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitromethane	D	A	-	-	C	A	D	B^1	D	B^2	A^2	A	B^2	A^2	D	B^2	-	A	B^1	D	D	B^2	D	-	A	A^1	-	A	A	-	-	-	-	-	-	-	A	A^2	-	-
Nitrous Acid	D	-	A	D	-	-	-	-	-	A	-	A	A	B	-	A	-	B	C	D	-	A	B	-	B	B	-	D	C	D	B	-	-	-	A	-	D	-	-	-
Nitrous Oxide	-	-	-	-	-	C	-	C	-	D	-	A	A	D	-	A	-	-	A	A	-	A	B	-	B	B	-	B	B	B	D	-	-	-	B	-	B	-	C	-	-
Oils:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	D	D	-	A	D	-	D	A	-	A	-	A	D	A	D	B	D	-	D	D	D	D	C	-	A	A	-	D	D	D	A	A	-	-	A	-	B	D	-	-	-
Anise	-	D	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	-	-	-	-	-	A	-	-	-	-	A	A	-	-	A	-	-	-	-	-	-
Bay	-	D	-	A	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	D	-	-	A	-	-	A	-	-	-	-	A	A	-	-	A	-	-	-	-	-	-
Bone	-	D	-	A	-	-	-	-	-	A	-	A	-	A	A	-	-	-	-	D	-	A	A	-	-	A	-	-	-	-	A	A	-	-	A	-	-	-	-	-	-
Castor	A	A	C	A	B^1	-	-	A	-	A	-	A	A	A	B	B	A	-	A	A	A	A	A	-	A	A	-	A	A	A	-	A	-	-	A	-	-	A	-	A	A
Cinnamon	-	D	-	A	-	D	-	-	D	D	-	A	D	-	-	-	-	-	-	C	-	-	A	-	A	A	-	-	-	-	-	-	-	-	A	-	-	-	-	-	-
Citric	D	A	-	A	-	A	A	A	A	A	-	A	B	A	D	B	-	-	-	D	-	D	A	-	A	A	-	A	-	B	-	D	-	-	D	-	A	-	-	-	-
Clove	-	-	-	A	-	-	-	-	-	-	-	A	-	-	A	-	-	-	-	C	-	-	A	-	A	A	-	B	-	-	-	-	-	-	A	-	A	-	-	-	-
Coconut	A	A	A^1	A	-	A	-	-	-	A^1	-	A	A^1	A	A	D	C	-	D	C	A	A	A	-	A	A	-	A	-	-	-	A	-	-	A	-	A	-	-	-	-
Cod Liver	A	B	A^1	A	-	-	-	-	-	A^1	-	A	A^1	A	A	A	B	-	D	B	B	-	A	-	A	A	-	A	-	-	-	-	-	-	A	-	A	-	-	-	-
Corn	B	A	-	A	A	A	A	A	-	A^2	-	A	B	A	D	C	B	-	D	A	A	B	B	A^5	A	A	A^5	A	B	-	-	A	A^5	A^5	C	A^5	A	-	-	-	-
Cottonseed	A	A	A	A^1	A^1	A	A	B	-	A	A	A	B^2	A	A	D	B	A^2	D	C	A	B	A	-	A	A	-	A	A	A	-	A	-	-	A	-	A	A	A	A	-
Creosote	-	D	-	A	D	C	D	D	-	C	-	A	C	-	D	D	D	A	D	C	D	-	A	-	B	B	-	B	-	-	A	-	-	-	C	-	B	A	A	-	-
Diesel Fuel (20,30,40,50)	-	D	-	A^1	A^1	A	D	A	-	A^1	A	A	B	A	A	D	B	A^1	D	B	D	A	A	-	A	A	-	A	-	-	A	A	-	-	A	-	B	B	A	-	-
Fuel (1,2,3,5A, 6)	D	D	-	A^1	A	B	A^1	A	B	B	A	A	A^2	B	B	D	D	A	D	D	C	A	B	-	A	A	-	C^1	A	B	A	A	-	-	A	-	A^1	B	A	-	-
Ginger	-	A	-	A	-	-	-	-	-	-	-	A	-	A	A	A	-	-	-	A	-	-	A	-	D	D	-	-	-	-	D	-	-	-	D	-	-	-	-	-	-
Hydraulic Oil (Petro)	-	B	-	A	-	C	-	A^1	-	D	D	A	A	A	A	D	A	-	D	A	B	A	A	-	A	A	-	A	A	A	A	A	-	-	A	-	A	-	B	-	-
Hydraulic Oil (Synthetic)	-	-	-	A	-	A	-	A^1	-	D	-	A	A	A	D	A	A	-	D	A	B	A	A	-	A	A	-	A	-	A	A	-	-	-	A	-	-	-	B	-	-
Lemon	C	D	-	A	-	-	-	-	-	-	-	A	-	A	-	D	-	-	-	D	-	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	-	-	-	-	-
Linseed	-	A	C	A	B^1	A	A^1	A^1	-	A	B	A	A^2	A	A	D	C	-	D	D	A	A	A	-	A	A	-	B	B	B	A	-	-	-	A	-	B	A	A	A	A
Mineral	A	A	A	A	A	B^1	A^1	A	B	A	A	A	B	A	A	D	B	A	D	B	C	B	A	-	A	A	-	A	B	A	A	-	-	-	A	-	A	A	A	A	A
Olive	A	A	C	A	-	A^1	A^2	A^1	A^2	A	-	A^1	C	-	D	D	B	-	D	B	D	B	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	A	A	A	-
Orange	-	D	-	A	-	C^1	-	-	C^1	A	-	-	C^1	A	A	-	-	-	-	C	D	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	A	-	-	-
Palm	A	A	A	A	-	A	-	-	-	-	-	A	A	A	A	A	-	-	-	D	-	-	A	-	A	A	-	-	A	-	A	A	-	-	A	-	-	A	-	-	-
Peanut	-	A	C	A	-	A	-	-	-	D	-	A	A^1	A	A	D	B	-	D	B	A	A	A	-	A	A	-	A	A	-	A	A	-	-	A	-	-	A	-	-	-
Peppermint	D	D	-	A	-	-	-	-	-	-	-	A	-	A	D	-	-	-	-	D	-	-	A	-	A	A	-	D	-	-	A	-	-	-	A	-	-	-	-	-	-
Pine	D	A	A	A	-	D	-	A	A	B	-	A	D	A	D	D	D	-	D	D	D	D	A	-	A	A	-	A	-	-	A	C	-	-	D	-	-	A	-	-	-
Rapeseed	-	A	A	A	-	D	-	-	-	D	-	A	-	A	D	A	D	-	D	B	D	-	A	-	A	A	-	-	-	-	A	A	-	-	A	-	-	A	-	-	-
Rosin	-	-	-	A	-	B^2	-	A^1	-	A^2	-	A	C^1	A	A	-	-	-	-	-	-	-	A	-	A^1	A^1	-	B^1	B	-	B^1	-	-	-	A	-	A	-	A	-	-
Sesame Seed	A	D	A	A	-	-	-	-	-	A	-	A	A	A	A	-	-	-	-	D	-	A	A	-	A	A	-	-	-	-	A	A	-	-	A	-	-	A	-	-	-
Silicone	A	A	A	A	A	A	A^1	A^1	-	A	A^1	A	A	A	A	A	A	-	D	D	C	A	A	-	A	A	-	A	A	-	A	A	-	-	A	-	A	-	A	-	A
Soybean	A	A	A^2	A	B	A^1	-	A	-	A^1	-	A	A^1	A	A	C	C	-	D	C	A	B	A	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	A	-	-
Sperm (whale)	A	D	A	A	-	-	-	-	-	-	-	A	-	A	A	-	-	-	-	D	-	A	A	-	A	A	-	-	-	-	A	A	-	-	A	-	-	A	-	-	-
Tanning	-	D	-	A	-	-	-	-	-	-	-	-	-	A	A	-	-	-	-	D	-	-	A	-	A	A	-	-	-	-	A	-	-	-	A	-	-	-	-	-	-
Transformer	-	A	A	B	-	C^1	-	A^1	-	B	-	A	B	A	A	D	-	-	D	B	B	-	A	-	A	A	-	A	A	-	-	-	-	-	A	-	-	-	A	-	-
Turbine	-	A	A	A	-	C	-	A	-	B^1	-	A	A^1	A	B	A	D	-	D	D	D	A	A	-	A	A	-	A	A	-	A	A	-	-	A	-	-	A	-	-	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

AMERICAN-MARSH PUMPS

Chemical Resistance Charts

Ratings -
Chemical Behavior
A - No effect
B - Minor effect
C - Moderate effect
D - Severe effect; not recommended
- No data available

D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

The information in this chart has been supplier to American-Marsh Pumps by other reputable sources and is to be used **ONLY** as a guide in selection equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.

Ratings of chemical behavior listed in this chart apply to a 48-hour exposure period; American-Marsh Pumps has no knowledge of possible effects beyond this period. American-Marsh Pumps does not warrant (neither express nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

	Plastics												Elastomers								Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Oleic Acid	D	A	A	A	A	C[2]	A[1]	A	-	B[1]	A	A	C[2]	A	B	B	C	B	D	C	D	C	B	-	A	A	-	A	A	D	B[1]	-	-	-	C	-	A[2]	B	A	A	-
Oleum 25%	-	D	D	D	C	D	-	D	-	D	A[1]	A	D	C[1]	D	D	D	A	D	D	D	-	A	-	B[2]	B	-	B	-	-	B	-	-	-	D	-	A	D	D	-	-
Oleum 100%	D	D	D	D	-	D	A[1]	D	-	D	A[1]	A	D	D	D	D	D	A	D	D	D	C	A	-	A	A	-	B	-	-	D	-	-	-	D	-	D	D	D	-	-
Oxalic Acid (cold)	A	B	A	A	D	A[2]	A[1]	B[2]	-	A[2]	A	A[1]	B	B	D	A	B	D	B	D	B	B	A	D	B	A	-	A	B	D	B[2]	C	D	A[3]	A	A[4]	B	A	A	A	-
Ozone	B	C	A	-	C	C[1]	-	D	A[1]	B	-	A	B	A	D	A	A	A	-	C	A	-	A	-	B	A	-	B	A	-	B	-	-	-	-	-	-	-	-	-	-
Palmitic Acid	A	A	A[1]	A	A	-	-	A	-	B[1]	-	A[2]	B[1]	A[2]	A[2]	B[1]	D	-	B[1]	D	D	B[1]	A[1]	-	B[1]	A[1]	-	B	B	D	A	-	-	-	-	-	B	-	A[2]	-	-
Paraffin	A	A	A	A	-	B	A	A[1]	A[1]	A[1]	-	A	B	A	B	D	-	-	B	B	-	B	B	-	A	A	-	A	B	A	A	-	-	-	A	-	B	A	A	A	-
Pentane	-	B	-	A	-	D	-	A[1]	A	D	-	A	A	A	A	D	B	-	D	B	D	A	A	-	C	C	-	B	-	-	C	-	-	-	C	-	A	-	A	A	-
Perchloric Acid	-	C	A[1]	-	-	B	-	D	-	C	-	A	C	A	D	B	-	B	-	A	D	D	A	-	C	C	-	D	D	-	B	-	-	-	-	-	B	D	A	-	-
Perchloroethylene	D	B	C[1]	D	C	D	D	C[1]	D	D	A	A	C[1]	A	C	D	D	A	D	D	D	C	A	-	B	A[1]	-	C	B	-	B	A	-	-	D	-	B	A	A	A	-
Petrolatum	-	B	-	A	-	B	-	D	-	D	-	C	B	A	A	A	-	-	C	A	D	B	A	-	A	A	-	-	-	-	A	-	-	-	A	-	A	-	A	-	-
Petroleum	B	B	A[2]	A[2]	B	C[1]	D	A[1]	-	B[1]	-	A[2]	-	A	A[2]	D	D	-	D	B[1]	D	-	A[2]	-	A[1]	A[1]	-	D	B	-	A[1]	-	-	-	-	-	-	-	A[1]	A[2]	-	-
Phenol (10%)	D	B	A[1]	C	-	B	D	D	B[1]	B[1]	A	A	C[1]	A	D	B	D	B	A	D	D	C	A	-	B	B	-	A	B	-	B	D	A[2]	A[4]	C	A[5]	B	B	A	A	-
Pehnol (Carbolic Acid)	D	D	B[1]	C	D	D	D	D	D	B	A	A	D	A[1]	D	B	D	B	D	D	D	B	A	-	B	B	-	A	D	D	B	D	-	-	C	-	A	A	A	A	-
Phosphoric Acid (≤40%)	B	D	A	A	-	A	A	B[1]	A	A[2]	A	A	B	B	D	B	B	A	B	B	C	D	A	D	D	C	A[3]	C	D	D	B	D	D	A[4]	D	A[4]	A[2]	C	A	A	-
Phosphoric Acid (>40%)	C	D	A	B	-	B[1]	A	B[1]	A	A[2]	A	A	B	B	D	B	B	A	B	B	D	D	A	-	D	D	-	C	D	D	B	D	D	A[4]	D	A[4]	A[2]	C	B	A	C
Phosphoric Acid (crude)	C	D	-	B	-	B[1]	A	B[1]	A	B[2]	A	A	B[2]	A	D	B	B	A	D	D	D	D	A	-	D	B	-	C	D	-	B	D	D	-	D	-	A[2]	C	A	-	-
Phosphoric Acid (molten)	D	D	-	-	-	-	-	-	-	D	-	-	D	D	-	-	-	-	-	A	-	D	-	-	-	C	-	C	D	-	-	-	D	-	A	-	C	D	-	-	-
Phosphoric Acid Anhydride	-	D	-	-	-	-	-	-	D	A	D	-	-	D	D	-	-	-	-	A	-	-	-	-	-	-	-	-	-	C	-	-	-	-	A	-	-	D	-	-	-
Phosphorus	-	B	B[1]	-	-	B	-	-	-	A	-	A[2]	A[1]	A[1]	-	-	-	-	-	-	-	B[1]	-	-	A[2]	A[2]	-	B	B	-	A[2]	-	-	-	-	-	A[2]	-	D	-	-
Phosphorus Trichloride	D	D	D	A[1]	-	B	-	-	C	-	A	A[2]	D	A[2]	D	A[1]	D	A[2]	D	D	-	-	A[1]	-	A[1]	A[2]	-	D	D	-	-	-	-	-	-	-	A[2]	A	A	-	-
Photographic Developer	B	D	A	A	-	A	A	-	A[2]	A	-	A	A	-	A	B	A	-	A	A	B	-	A	-	A	A	-	-	D	-	A	D	-	-	D	-	B	A	A	A	A
Photographic Solutions	-	D	A	B[2]	B	A	A[1]	A[1]	A[1]	A[2]	A[2]	A[2]	A	B[2]	B	A[1]	A[1]	A[2]	B	B[1]	A	A[2]	B[1]	-	D	-	-	-	D	-	A[2]	-	-	-	-	-	B[2]	A[1]	A[2]	-	-
Phthalic Acid	B	C	B	-	-	B[2]	-	B[1]	-	A	-	A[2]	-	A[2]	D	A[1]	A[2]	-	-	A	B[1]	-	A[1]	A[5]	B[2]	A	A[4]	B[2]	C	-	B[2]	-	A[4]	A[4]	-	A[5]	B[2]	A	A[1]	-	-
Phthalic Anhydride	B	C	D	-	-	-	-	-	A[1]	D	-	A	D	A	D	A	-	-	A	A	-	B	A	-	A	A	-	A	C	-	A	-	-	-	B	-	A	-	A	-	-
Picric Acid	A	A	D	A	-	A	-	C[1]	D	B[1]	A	A	D	A[1]	C	B	B	A	D	A	D	D	A	A[1]	B	B	-	C	D	-	B	A	D	A[1]	D	A[4]	B	A	A	-	-
Plating Solutions:																																									
Antimony Plating 130°F	-	A	A	B	-	-	A	D	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	-	-	-
Arsenic Plating 110°F	-	A	A	B	-	-	-	A	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	-	-	-
Plating, Brass:																																	-	-		-					
Regular Brass Bath 100°F	-	A	A	B	-	B	A	A	-	A	-	A	A	B	A	-	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	A	-	-	A	-	A	A	A	-	-
High-Speed Brass Bath 110°F	-	A	A	B	-	B	A	A	-	A	-	A	A	B	A	-	-	-	-	A	-	-	A	-	-	A	-	A	-	-	A	-	-	-	A	-	A	A	A	-	-
Plating, Bronze:																																									
Cu-Cd Bronze Bath R.T.	-	A	A	B	-	-	A	A	-	A	-	A	A	A	A	A	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	A	-	-	-
Cu-Sn Bronze Bath 160°F	-	B	D	C	-	-	A	A	-	A	-	A	D	A	A	A	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	D	-	-	-
Cu-Zn Bronze Bath 100°F	-	A	A	B	-	-	A	A	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	-	-	-	A	-	A	A	-	-	-
Plating, Cadmium:																																									
Cyanide Bath 90°F	-	A	A	B	-	-	A	A	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	-	A	-	A	-	-	A	-	-	-	A	-	A	A	-	-	-
Fluoborate Bath 100°F	-	C	A	B	-	-	A	D	-	A	-	A	A	A	B	-	-	-	-	C	-	-	A	-	A	A	-	A	-	-	A	-	D	-	A	-	D	D	-	-	-
Plating, Chromium:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barrel Chrome Bath 95°F	-	D	A	C	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	C	-	-	D	-	A	-	-	C	-	-	-	D	-	D	C	-	-	-
Black Chrome Bath 115°F	-	D	A	C	-	-	D	D	-	A	-	A	A	C	C	-	-	-	-	D	-	-	C	-	-	C	-	A	-	-	-	A	-	-	C	-	D	A	-	-	-
Chromic-Sulfuric Bath 130°F	-	D	A	C	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	C	-	-	C	-	A	-	-	-	A	-	-	C	-	D	A	-	-	-
Fluoride Bath 130°F	-	D	A	C	-	-	D	D	-	A	-	A	A	C	D	-	-	-	-	D	-	-	C	-	-	D	-	A	-	-	-	C	-	-	D	-	D	C	-	-	-
Fluosilicate Bath 95°F	-	D	A	C	-	-	D	D	-	D	-	A	A	C	D	-	-	-	-	D	-	-	C	-	-	C	-	A	-	-	-	A	-	-	C	-	D	C	-	-	-
Plating, Copper (Cyanide):																																									
Copper Strike Bath 120°F	-	A	A	B	-	-	A	A	-	A	-	A	A	B	A	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	-	A	-	-	-	-	A	-	-	-	-
High-Speed Bath 180°F	-	B	D	C	-	-	A	A	-	A	-	A	D	A	A	-	-	-	-	B	-	-	A	-	-	A	-	A	-	-	-	A	-	-	-	-	A	D	-	-	-
Rochelle Salt Bath 150°F	-	B	D	C	-	-	A	A	-	A	-	A	D	A	A	-	-	-	-	B	-	-	A	-	-	A	-	A	-	-	-	A	-	-	-	-	A	D	-	-	-
Plating , Copper (Acid):																																									
Copper Fluoborate Bath 120°F	-	C	A	D	-	-	A	D	-	A	-	A	A	A	B	-	-	-	-	C	-	-	A	-	A	D	-	A	-	-	-	D	-	-	D	-	D	D	-	-	-
Copper Sulfate Bath R.T.	-	A	A	D	-	-	A	D	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	-	D	-	A	-	-	-	A	-	-	D	-	D	A	-	-	-
Plating, Copper (Misc):	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Pyrophosphate	-	A	A	B	-	-	A	A	-	A	-	A	A	A	A	-	-	-	-	A	-	-	A	-	-	A	-	A	-	-	-	A	-	-	A	-	A	A	-	-	-
Copper (Electroless)	-	D	A	B	-	-	A	A	-	A	-	A	A	A	D	-	-	-	-	D	-	D	A	-	-	-	-	A	-	-	-	-	-	-	-	-	-	A	-	-	-

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Plating, Gold:																																									
Acid 75°F	-	-	A	A	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Cyanide 150°F	-	-	D	D	-	-	A	A	-	A	-	A	D	-	A	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Neutral 75°F	-	-	A	A	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Ineium Sulfamate Plating R.T.	-	-	A	A	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	A	-
Plating, Iron:																																								
Ferrous Am Sulfate Bath 150°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Ferrous Chloride Bath 190°F	-	-	D	D	-	-	A	D	-	C	-	A	D	-	B	-	-	-	-	D	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	D	A	-	-	-
Ferrous Sulfate Bath 150°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Fluoborate Bath 145°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	B	-	-	-	-	C	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	B	D	-	-	-
Sulfamate 140°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	B	A	-	-	-
Sulfate-Chloride Bath 160°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	B	-	-	-	-	C	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	D	A	-	-	-
Lead Fluoborate Plating	-	-	A	A	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	A	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	A	D	-	A	-
Plating, Nickel:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electroless 200°F	-	-	D	B	-	-	D	D	-	D	-	A	D	-	D	-	-	-	-	D	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	D	-	-	-
Fluoborate 100-170°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
High-Chloride 130-160°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Sulfamate 100-140F	-	-	A	A	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Watts Type 115-160°F	-	-	D	D	-	-	A	A	-	A	-	A	D	-	A	-	-	-	-	A	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Rhodium Plating 120°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	A	A	-	-	-	B	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	D	D	-	A	-
Silver Plating 80-120°F	-	-	A	A	-	-	A	A	-	A	-	A	A	-	A	A	-	-	-	A	-	-	A	-	-	A	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Tin-Fluoborate Plating 100°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	D	-	-	-
Tin-Lead Plating 100°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	D	-	-	-
Plating, Zinc:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Chloride 140°F	-	-	A	A	-	-	A	D	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	D	-	-	-	-	-	-	-	-	-	D	A	-	-	-
Acid Fluoborate Bath R.T.	-	-	A	A	-	-	A	D	-	A	-	A	A	-	B	-	-	-	-	C	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	D	-	-	-
Acid Sulfate Bath 150°F	-	-	D	D	-	-	A	D	-	A	-	A	D	-	A	-	-	-	-	B	-	-	A	-	-	C	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Alkaline Cyanide Bath R.T.	-	-	A	A	-	-	A	A	-	A	-	A	A	-	A	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	-	-	-	-	-	A	A	-	-	-
Potash (Potassium Carbonate)	A	B	A	A	D	A^1	A	A	-	A	-	-	A	A	A	A^1	-	-	A	A	-	B	A	-	B	B	-	D	B	-	B	B^2	C^2	A^5	B	A^4	B^1	D	-
Potassium Bicarbonate	A	C	A	A	-	A	A^1	A^1	-	A	A	A	A	B	A	A	-	A	A	A	A^1	A	A	-	B	B	-	D	B	-	B	A	-	-	B	-	B	A	A	A	A
Potassium Bromide	A^1	A	A	A	-	A	A^1	A^1	A^1	A	A	A	A	A	A	A^1	-	A	A^2	A	A^1	B	A	-	B	B	-	C^1	B	-	B	D	-	-	B	-	B	A	A	C	A
Potassium Chlorate	A	B	A	A	-	A^1	A^1	C^1	A^1	A	A	A	A	A	A^1	A^1	-	A^2	-	A	B	B	A	-	B^1	B	-	B	B^1	-	B^1	C	-	-	B	-	B	A	A^2	B	-
Potassium Chloride	A	A	A	A	B	A^1	A^1	A^1	A	A	A	A	A	A	A^1	A^1	A	A	A	A	A	A	A	-	B^1	A^1	-	D	B	D	B	A	D	-	A	-	A	A	A	-	-
Potassium Chromate	-	C	A	C	-	A	A^2	B	-	A	-	A^1	A	B	A^1	A^2	-	-	B	A	-	B	A	-	B^1	B^1	-	B^1	-	-	B^1	A	-	-	B	-	A	-	A	B	-
Potassium Cyanide Solutions	A	C	A	A	B	A	A^1	A^1	-	A	A	A	A	A	A^1	A^1	A	A	A	B	A	A	A	-	B^1	B^1	-	D	D	D	D	B	-	-	B	-	B	A	A	D	A
Potassium Dichromate	B^1	A	A	C	C	A	A^1	B^1	A^1	A	A	A	A	A	A^1	A^1	A	A	B	A	A	C	A	-	B	B^1	-	B	B	-	B^1	A	-	-	B	-	B	A	A	B	A
Potassium Ferricyanide	B	B^1	A	A^1	-	A^2	A^2	B^1	-	A^2	-	A^2	A	A^2	D	A	A^1	A^1	B	A^1	-	B	A	-	B^1	B^1	-	B^2	B	-	B^2	C	-	-	B	-	B^2	A^2	A^2	B	A
Potassium Ferrocyanide	-	-	B	A	-	A^1	A	B^1	-	A	-	A	A	A	C	A	-	A	A	A	-	B	A	-	B	B	-	B^1	B	-	B^1	C	-	-	B	-	B	A	A	B	A
Potassium Hydroxide (Caustic Potash)	A	A	A	A	D	A	A^1	C^1	D	A	A	A	A^1	A	B^1	A^2	A	B	B	B	C	B	B	-	B	A^1	-	D	B	D	D	B^2	C^2	A^5	B	A^4	B^1	D	C	D	A
Potassium Hypochlorite	-	-	-	-	-	C^1	-	B^1	-	-	A	A^2	B^1	A^1	A^1	A^1	A^1	-	C^1	B^2	-	B^1	-	-	C^1	B	-	D	D	-	D	A	-	-	B	-	B^2	A^1	-	D	-
Potassium Iodide	B	-	A	-	-	B^1	-	A^1	-	A^2	A^2	A^2	A^2	A^2	A^1	A	A^2	-	B	A	-	B	A	-	A^1	A^1	-	B^1	A^2	-	A^1	A	-	-	A	-	A^2	A^1	A^1	B	-
Potassium Nitrate	B	A	A	A	B	A	A^1	B^1	A^1	A	A	A	A	A	A^2	A	A	-	A	A	A	A	A	A^4	B	B	A^4	B	A	B	B^1	A	A^4	A^4	B	D	B^1	A	A	B	-
Potassium Oxalate	-	-	-	-	-	-	-	-	-	-	-	A^2	-	-	-	-	-	-	-	-	-	-	-	-	B	B^1	-	B^1	B	-	A^1	A	-	-	B	-	A^1	A^1	A^1	A	-
Potassium Permanganate	B^1	A	A^1	A	D	A	A	D	A^2	A^1	A	A	A^1	A	C	A	-	-	A^1	A	-	B	A	-	B^1	B	-	B^1	A	-	A^1	A	-	-	B	-	A^1	A	B^1	A	-
Potassium Sulfate	B	B	A	A	B	A^2	A	A^1	A^1	A	A	A	A^2	A	A^2	A^1	A	A^1	A	A	A	A	A	A^2	-	B^1	A	-	C	B	D	A^1	A	C^3	A^4	A	A^4	B^1	A	A	A	A
Potassium Sulfide	B	-	A^2	-	-	A^2	A	A	-	A	A	A	A^2	A	A	A	B	A	B	A	A	-	A	-	B	B	-	D	D	-	D	B	-	-	A	-	-	A	A	-	-
Propane (liquified)	-	A	A^1	A	A	C^1	A^1	A^1	C^1	A	-	A	A^1	A	A	D	-	A	B	C	D	-	A	A^4	A	A	A^2	A	A	A	A^2	A	A^4	A^4	A	A^4	A	-	A	-	-
Propylene	B	-	-	-	-	-	-	-	-	-	-	A^2	B^1	-	D	D	D	-	D	D	D	B^1	A^1	-	B	A^1	-	A	A	-	-	A	-	-	A	-	-	-	A^2	-	-
Porpylene Glycol	B	B	C^1	B	-	B^2	-	A	B^1	A^2	-	A	C^1	-	A	A	A	-	A	C	A	-	A	-	B	B	-	B	A	-	A	A	-	-	A	-	B	A	-	A	A
Pyridine	-	B	D	A	C	B^1	B	C^1	D	A^2	A	A	D	D	D	B	D	A^1	D	D	D	D	D	-	A	A	-	B	B	B	B	A	-	-	A	-	B	B	A	A	-
Pyrogallic Acid	-	D	A	A	-	-	-	-	-	A	-	A	A	A	-	B	-	A	-	A	-	-	A	-	B^2	B	-	B	B	-	A	D	-	-	B	-	B	A	A	-	-
Resorcinal	A	-	-	-	D	B^2	-	D	B^1	A^2	-	A^2	C	-	-	B^1	-	-	-	D	-	C	A^1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A^2	-	-
Rosins	-	B	C^1	A	-	B^1	-	A^1	-	A^2	-	A	C^1	-	A^2	-	B	A	-	A	A	-	A	-	A^1	A^1	-	B^1	B	-	B	D	-	-	B	-	-	-	A	-	-

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Rum	-	A	A	A	-	-	A	A	-	A	-	-	A	-	A	A	A	-	A	A	-	A	-	A	A	-	-	-	-	A	-	-	-	-	-	-	-	-	-
Rust Inhibitors	-	A	-	A	-	-	-	-	-	A	-	-	-	-	A	-	-	-	C	-	-	A	-	A	A	-	-	-	-	A	C	-	-	B	-	-	-	-	-
Salad Dressings	-	A	-	A	-	-	A	A	-	A	-	-	-	-	A	-	-	-	-	-	-	A	-	A	A	-	B	-	-	-	C	-	-	B	-	-	-	-	-
Salicylic Acid	A	D	-	-	-	B^2	-	A^1	A^1	A^1	-	A^2	B^1	A	B	A	A	A^1	A	-	-	B^1	A^1	-	B^2	B^2	-	B^2	A	-	A	A	-	-	B	-	A^2	A^1	A^2	-	-
Salt Brine (NaCl saturated)	-	-	A^2	A	A^1	A	A	A	A	A	A	A^2	A	A	A	A	A^2	-	A	A^2	A^1	-	A^2	-	B^1	A^2	-	B^1	B	-	B^2	D	-	-	B	-	A^2	A^2	A^2	-	-
Sea Water	-	A	A	A	A	A^2	A^1	A^2	A^2	A	A	A	A^2	A	A^2	A^2	A	A	A^1	B^2	A^1	-	A	-	C	C	-	B	B	D	A	D	-	-	A	-	A	A	A	-	-
Shellac (Bleached)	-	A	-	A	-	A^1	-	A^1	-	A	-	A	-	-	A^2	A^2	A	-	A^1	B^2	-	-	A	-	A	A	-	A	A	B	A	A	-	-	A	-	-	-	A	-	-
Shellac (Orange)	-	A	-	A	-	A^1	-	A^1	-	A	-	A	-	-	A	A	-	-	D	D	-	-	A	-	A	A	-	A	A	B	A	A	-	-	A	-	-	-	A	-	-
Silicone	D	A	A	A	A	-	A^1	A^1	A^2	A	A^1	A	A	A	A	A	A	-	C	A	C	-	A	-	A	A	-	A	A	-	-	A	-	-	A	-	-	-	A	-	-
Silver Bromide	-	C	-	A	-	A	A	-	-	-	-	A	-	-	-	-	-	A	-	-	-	-	-	-	D	D	-	D	-	-	D	D	-	-	A	-	A	-	-	-	-
Silver Nitrate	B	A	A^1	A	-	A	A	A^1	A^2	A^1	A	A	A^1	A	B	A	A	A	A	A	A	B	A	A^4	B	B	-	D	-	-	B	C	D	B^4	C	C^4	A	A	A	-	-
Soap Solutions	A	A	A	A	A	D	A^1	A^1	A^1	A	A	A	A	A^1	A	A	A	-	B	B	A	B	A	-	A	A^1	-	C	A	B	B	A	-	-	A	-	A	A	A	A	A
Soda Ash (see Sodium Carbonate)	B	A	A	C	B	B	A	B	A	A	A	A	A	A	A^1	A^2	A	-	A	A^1	A	-	A	-	A	A	-	D	-	-	B	B	-	-	A	-	-	-	-	-	-
Sodium Acetate	B	B	A	A	-	A	A^1	B^1	A^1	A	A	A	B^1	A	B	A	-	A	A	A^4	B	B^1	A^4	B	A	A	B	B	B	B	B	A^4	A^4	A	A^4	A	A	A	A	-	-
Sodium Aluminate	-	B	-	A	-	-	A	A^1	-	-	A	A	-	-	A	A	A	-	B	A	-	-	A	-	A	A	-	-	-	-	A	A	C^4	-	B	-	B	A	A	-	-
Sodium Benzoate	A	-	A^2	A^2	-	A^2	-	B^1	A^2	A^2	-	A^2	B^2	A^2	B	A	B	-	A	A^1	-	B^1	A^1	-	-	-	-	A^1	-	-	A	-	-	-	-	-	A^1	A^1	A^2	-	-
Sodium Bicarbonate	A	A	A^2	A	-	A^2	A	A	A^2	A	A	A	A^2	A	A^1	A^2	A	A	A	A	A	B	A	-	A	A^1	-	D	B	D	A	C	C^4	A^4	A	-	B^1	A^2	A	A	A
Sodium Bisulfate	A	B	A^2	A	C	A^2	A^1	A^1	A^1	A	A	A	A^2	A	B^2	A^2	A	A^2	A	A	A	B	A	A^3	D	C	D	D	B	D	A^2	D	D	A^4	C	A^4	B^2	A	A	A	-
Sodium Bisulfite	A	C	A^2	A	B	A^2	A^2	C^1	A^1	A	A	A	A^2	A	A^2	A^2	A	-	A	A	A	B	A	D	B^1	B^1	D	D	B	-	B^1	D	D	A^4	B	-	B	A	A	A	-
Sodium Borate (Borax)	A	-	A^2	A	B	A^2	A^1	A^1	A^1	A^2	A	A	A^2	A	A^1	A	A	-	A	A	A	-	A	-	B^2	B	-	C	B	-	A	-	A	-	A	-	A	B	A	A	A
Sodium Bromide	B	A	A^2	A	-	A^2	A^2	B^1	-	-	-	A^2	B^2	A^2	-	A	B	A^1	A^1	A^1	-	B^2	A^1	D	C	C	D	D	D	-	A	C	D	-	B	-	-	A^1	A^2	-	-
Sodium Carbonate	B	A^1	A^2	C^1	-	B^2	A	B^1	A^2	A	A	A	A^2	A	A	A^2	A	A	A	A	A	B	A	-	A	A	-	D	A	B	A^2	B	C^4	-	B	-	A	A^1	A	A	A
Sodium Chlorate	A	A	A^1	A	-	B^2	A^1	D	A^1	A	A	A	A^1	A	B	A	A	-	A	A	C	B	A	-	A	B^1	-	C^1	B	-	B^1	-	D	-	B	-	B^1	A	C	A	-
Sodium Chloride	A	A^1	A^2	A	A	A^2	-	A^1	A^2	A	A	A	A^2	A	A	A	A	A	A	A	A	B	A	-	B	B	-	C	B	D	B	D	B^2	A^4	B	-	A	A	A	A	A
Sodium Chromate	-	D	-	C	-	-	A	C	A^2	-	A	A	-	A	A	-	C	A	B	A	-	-	A	-	B^1	B	-	B	B	-	B	A	-	-	B	-	A	-	A	-	-
Sodium Cyanide	A	A	A^2	A	B	A^2	A^1	A^1	-	A	A	A	A^2	A	A	A^2	A	A	A	A^1	A	-	A^2	-	A^1	B^1	A^1	D	D	D	D	A	A^4	A^4	A	A^2	A	A	A	A	A
Sodium Ferrocyanide	-	A	A	A	-	A	A	-	-	A	-	A	A	A	A	B	-	B	A	-	A	A	A	-	B	B	-	A	D	-	-	-	-	-	-	A	-	A	A	-
Sodium Fluoride	A	-	A^2	A	-	A^2	A^2	B	-	A	-	A^1	A^2	A	A^1	A	B	-	-	A	-	D	A	D	D	D	B	D	-	A	C	D	-	C	A^4	A	A	A	A	-
Sodium Hydrosulfite	-	-	C	-	-	-	-	A	-	-	-	A	C	-	C	B	B	-	C	B	C	A	A	-	-	-	-	A	-	-	-	-	-	C	-	A	-	-	-	-
Sodium Hydroxide (20%)	B	A	A	A^2	B	D	A	A	A^2	A	A	A	A	A	A	B	A	A	A^1	B^2	A^2	A^1	B^1	A^4	B	B^2	A^2	D	A^2	B	B	A^2	-	A^5	A^2	A^4	B	A^1	A^2	A	-
Sodium Hydroxide (50%)	A	A	A	A	C	D	A	A	D	A	A	A	A	D	A^1	B^1	A	B	A^1	B^2	A^1	A^1	B^1	-	B	B^1	A^2	D	B	D	C	D	A^2	A^5	B^2	A^4	C	B	-	A	-
Sodium Hydroxide (80%)	A	D	A	A^1	-	D	A	C	D	A	A	A^1	A	D	D	B^1	A^2	A	A^1	B^1	A^1	A^1	B^1	-	C	B^1	-	D	D	D	C	D	-	A^5	D	A^4	A^1	D	A^2	A	C
Sodium Hypochlorite (100%)	-	D	C^2	D	D	B^2	A	D	-	B	A	A	B	A	D	B^1	B	A	C	C	B	-	A^1	D	D	D	D	D	-	D	C	D	D	D	D	D	B	C	C	A	A
Sodium Hypochlorite (<20%)	B	D	A	C	A	A	A	D	C	A	A	A	A	A	B	B	A	A	C	C	B	C	A^1	D	C	C	D	D	-	D	C	D	D	D	D	D	D	C	B	A	A
Sodium Hyposulfate	-	-	-	C	-	-	-	-	-	-	-	A	-	-	-	-	-	-	C	C	-	-	-	-	A	A	-	D	-	-	-	D	-	-	D	-	-	-	-	-	-
Sodium Metaphophate	-	B	A^1	A	-	A^1	-	A^1	-	A^1	-	A	A	A	A	A	B	-	A	B	A	-	A	-	A	A	-	C	B	D	A	C	-	-	A	-	-	-	A	-	-
Sodium Metasilicate	-	D	A	A	-	-	-	-	-	A	-	A	A	-	A	A^1	B	-	A	A	-	-	A	-	A	A	-	D	B	-	A	A^1	-	-	B	-	A	-	-	-	-
Sodium Nitrate	-	A	A	A	-	A^2	A^1	A^1	-	A	A	A	A^2	A	A^1	A	A	A	B	D	B	B	A	A^1	B^1	B^1	A^4	B	D	-	B	B	A^2	A^4	C	D	B	A	C	A	A
Sodium Perborate	-	B	A^1	B	-	A^1	A	B^1	-	A	-	A	A^2	-	B	A	B	A	B	B	B	-	A	-	B	B	-	C	B	D	B	C	-	-	D	-	B	-	C	-	-
Sodium Peroxide	-	D	A^2	C	-	A	-	A^1	A^2	B	-	A	B^2	A	B	A	B	A	B	B^1	D	-	A	-	A	A	-	C	B	D	A	C	A^1	-	D	-	B	-	A	-	-
Sodium Polyphosphate	-	B	A^1	A	-	A	A^1	A^1	-	A	-	A	A^1	A	A	A	B	A	C	B	D	-	A	-	B	B	-	D	A	D	B	D	-	-	C	-	A	A	A	-	-
Sodium Silicate	-	C	A^2	A	-	A^2	A^1	A^1	-	A	A	A	A^2	A	A	A	A	A	A	A	A	B	A	A^4	A	B	A^4	A	B	D	B	B	A^2	A^4	A	-	B	A	A	A	-
Sodium Sulfate	-	B	A^2	A	-	A^2	A	A	A^2	A	A	A	A^2	A	A	A	A	A	B	A	A	-	A	-	B	B^1	-	A	B	B	B	B	A^2	A^4	C	A^4	B	A	A	A	-
Sodium Sulfide	-	B	A^2	A	-	A^2	A	A^1	D	A	A	A	A^2	A	A	A^2	A	A^1	B	A	A	B	A^2	D	B	D	D	D	D	D	B^1	C	D	-	D	-	B^1	A	A	A	-
Sodium Sulfite	-	-	A^2	A	-	B^1	A	D	-	A^2	-	A	A^2	A	A	A	A	A	B	A	A	A	A^2	-	D	A	-	C^1	D	D	B	A^1	D	A^4	C	D	B	A	A	-	-
Sodium Tetraborate	-	B	A	A	-	A^2	A	A	-	-	-	A	A^2	-	A	A	A	-	A	B	A	-	A	-	A^2	A	-	C	B	-	A	C	-	-	-	-	-	-	A	-	-
Sodium Thiosulfate (hypo)	-	C^1	A^2	A	-	A^1	A	B	D	A^2	A	A	A^2	A	B	A^2	A	A	B	A^2	A	-	A	-	A^2	B	-	A	D	D	A^2	C	-	-	D	-	A^2	A	A	-	-
Sorghum	-	A	-	A	-	-	-	A	-	-	-	-	-	-	A	-	-	-	A	A	-	-	A	-	A	A	-	-	-	-	A	A	-	-	D	-	-	-	-	-	-
Soy Sauce	-	A	-	A	-	-	A	A	-	-	-	-	-	-	A	-	-	-	-	A	-	-	A	-	A	A	-	A	-	-	A	D	-	-	A	-	-	-	-	-	-
Stannic Chloride	-	C	A^2	A	-	A^2	A^1	B^1	A^1	A	A	A	A^2	A	A	A	C^1	A	A	C^1	B	-	A	D	D	D	D	D	-	-	A	D	D	D	D	D	B	A	A	A	-
Stannic Fluoborate	-	C	-	A	-	-	A	-	-	-	-	-	-	-	A	-	-	-	-	A	-	-	A	-	-	A	-	-	-	-	A	D	-	-	D	-	-	-	-	-	-
Stannous Chloride	-	-	A^2	A	C	B^2	A^2	C^1	-	A	A^1	A	A^1	A	A	C	A^1	A	A	A^1	B	A	A	D	C^2	A^2	-	D	-	-	A^1	-	D	D	D	D	B	A	-	A	-
Starch	-	A	A	A	-	B	A^2	A^1	-	A^2	-	A	A	A	A	A	A	A	A	A	-	A	A	-	A	A	-	A	-	-	-	C	-	-	A	-	-	-	A	A	A
Stearic Acid	-	A	B^2	B	C	B^2	A	A^2	A	A^2	-	A	B^2	A	B	B	C	-	-	B^1	B	B	A^1	A^4	B	A	A^2	B	D	D	B	C	D	A^4	C	A^4	B	A	A	-	-
Stoddard Solvent	B	A	C^1	A	-	C^2	D	A	A^2	C	A	A	C^1	A	A	D	-	A	D	C^1	D	C	A	-	A	A	-	A	A	-	A	A	-	-	A	-	A	-	A	-	-

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)

AMERICAN-MARSH PUMPS

Chemical Resistance Charts

Ratings -
Chemical Behavior
A - No effect
B - Minor effect
C - Moderate effect
D - Severe effect; not recommended
- No data available

D A N G E R

Variations in chemical behavior during handling due to factors such as temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test.

The information in this chart has been supplier to American-Marsh Pumps by other reputable sources and is to be used **ONLY** as a guide in selection equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application.

Ratings of chemical behavior listed in this chart apply to a 48-hour exposure period; American-Marsh Pumps has no knowledge of possible effects beyond this period. American-Marsh Pumps does not warrant (neither express nor implied) that the information in this chart is accurate or complete or that any material is suitable for any purpose.

	Plastics													Elastomers								Metals															Non-Metals		
CHEMICAL	ABS Plastic	Acetal (Delrin®)	CPVC	Epoxy	Hytrel®	LDPE	NORYL®	Nylon	Polycarbonate	Polypropylene	PPS (Ryton®)	PTFE (Teflon®)	PVC	PVDF (Kynar®)	Buna N (Nitrile)	EPDM	Hypalon®	Kel-F®	Natural Rubber	Neoprene	Silicone	Tygon®	Viton®	416 Stainless Steel	304 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	Aluminum	Copper	Brass	Bronze	Cast Iron	Ductile Iron/Cast Steel	CD_4MCu	Alloy 20	Hastelloy-B®	Hastelloy-C®	Titanium	Carbon Graphite	Ceramic Al2O3	Ceramic Magnet
Styrene	-	A	D	A	D	-	A	A^1	D	-	-	A	D	-	D	D	D	-	D	D	D	-	B	A^1	A	A	A^1	A	B	A	A	A	A^2	A^4	A	A^1	D	-	A	-	-
Sugar (Liquids)	B	A	-	A	-	-	A^2	A^1	-	A	-	A	-	-	A	A	A	-	A	A	A	B	A	-	A	A	-	A	A	-	A	-	-	-	A	-	A	-	A	-	-
Sulfate (Liquors)	-	D	B	A	-	A^2	-	B^1	-	A	-	A	B	A	A^2	A	B	-	B	B	B	-	A^1	-	B	B	-	D	D	-	B	C	-	-	D	-	B	-	A	-	-
Sulfur Chloride	-	B	C^1	C	-	C^1	A	A^1	-	C^1	-	A	C^1	A^1	D	D	-	A	D	D	C	C	A	A^1	D	D	D	D	B	D	B	D	A^4	A^5	D	A^4	A	D	D	-	-
Sulfur Dioxide	D	B	A^2	A	C	B^1	A	C^1	-	A^1	A	A	A^1	A	D	A^2	C	A	-	B	B	C	A	-	D	A^1	-	B	B	D	B	-	-	-	B	-	C	A	A	-	-
Sulfur Dioxide (dry)	-	B	A^2	A^1	C	A^1	A	B^1	A^1	A^1	A	A	A^2	A	D	A^2	-	A	C	D	B	C	A	-	D	A	-	B	A	D	B	A	-	-	A	-	B	A	A	-	-
Sulfur Hexafluoride	-	-	-	-	-	B	-	B	-	-	-	-	B	-	B	B	B	-	D	A	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur Trioxide	-	-	A	A	-	-	D	D	-	C	-	A	A	-	D	C^2	D	-	C	D	B	A	A	-	A	C	-	A	-	D	C	B	-	-	A	-	-	B	-	-
Sulfur Trioxide (dry)	-	D	A	A	-	C^1	D	A^1	-	D	-	A	A^1	C^1	D	C^1	-	-	-	D	B	B	A	-	D	A	-	A	B	A	B	A	-	-	B	-	B	D	D	-	-
Sulfuric Acid (<10%)	B	D	A	A^1	A	A^1	A	C^1	A	A^2	A	A	A^1	A	A	A	A	A	A^1	B^2	C	B	A	D	D	B	D	D	-	-	B	C	D	-	D	-	B^1	D	A^1	A	-
Sulfuric Acid (10-75%)	B	D	A	A^1	-	A^1	A	D	B^1	A^1	A	A	A^1	A	B^1	B^2	B	A	C	B^1	D	-	A^2	D	D	D	D	D	-	-	B	D	D	-	A^2	-	B^1	D	A^1	A	-
Sulfuric Acid (75-100%)	-	-	C	C^1	C	B^1	A	D	D	C^1	A^1	A	D	A	C	B^1	C	A	D	D	D	D	A^1	D	C	D	D	D	D	-	B	D	D	A^2	A^2	A^4	B^1	D	C^1	A	A
Sulfuric Acid (cold concentrated)	-	-	D	D	B	C	A	D	-	A^2	A^1	A	D	A	D	C	C	A	D	D	D	D	B	D	C	B	D	B	-	-	B	D	-	-	A^2	-	A^1	D	D	-	-
Sulfuric Acid (hot concentrated)	-	-	D	D	-	D	D	D	D	D	D	A	D	C	D	D	D	A	D	D	D	D	A^2	D	D	C	D	D	-	-	B	D	-	-	D	-	D	D	D	A	-
Sulfurous Acid	-	C	A^2	A	-	B^2	A	D	-	A	A	A	A^2	A	B^1	B	A	A	B	C	D	B	A	D	B^1	B	-	B^1	D	-	B	D	D	-	D	D	B	A	A	-	-
Sulfuryl Chloride	-	A	-	A	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tallow	-	A	-	A	-	C	A	A^1	-	A^2	-	A	-	-	A	A	C	-	-	B	-	-	A	-	A	A	-	A	-	-	-	-	-	-	-	-	-	-	A	-	-
Tannic Acid	-	B	A^1	A	A	B^2	A^2	C^1	C	A	A	A	A^1	B	A	A	A	A	A	A	B	B	A	-	B^1	A	-	C	A	B	B	C	-	-	A	-	B^1	A	A	A	A
Tanning Liquors	-	B	A^1	A	-	A^1	A^2	A^1	-	A^1	-	A	A^1	-	B^1	B	B	-	C	A	B	B	A	-	A^2	A^2	-	A	-	-	A^2	-	-	-	A	-	B	A	A	-	-
Tartaric Acid	-	B	A^1	A	C	A^1	A^1	B^2	-	A	A	A	A^1	B	A	B	A	A^2	A	A^2	A	B	A	-	C^2	C^2	-	B^1	A	D	B^1	C	D	A^4	A	A^4	B	A^1	A	A	A
Tetrachloroethane	-	A	C	A	-	-	D	C^1	-	C	-	A	C	A	D	D	D	A	D	D	D	-	A	-	B	A	-	C	A	-	-	A	-	-	-	-	-	A	A	-	-
Tetrachloroethylene	-	A	D	-	-	B	D	A^1	D	D	-	A	D	-	D	D	D	A	D	D	D	-	A	-	-	A	-	-	A	-	-	A	-	-	-	-	-	-	A	-	-
Tetrahydrofuran	-	A	D	A	B	C^1	D	A	D	C^2	A	A	D	B^1	D	D	D	A^1	D	D	D	-	D	-	A	A	-	-	-	-	A	-	-	-	D	-	A	B	A	A	-
Tin Salts	-	-	-	-	-	-	-	-	-	A	-	A	A	A	A	B	A	-	A	-	B	A	A	-	-	D	-	D	-	-	-	-	-	-	D	-	C	A	-	-	-
Toluene (Toluol)	D	C^1	D	B^1	B	C^1	D	A^1	D	C^1	A	A	D	A^1	D	D	D	B^2	D	D	D	D	C	A^4	A	A	A^4	A	A	A	A	A	A^4	A^4	A	A^4	A	A	A	A	A
Tomato Juice	B	B	-	A	-	A^1	A	A^1	A^1	A	A	A	A	A	A	A	-	A	-	A	-	-	A	-	A	A	-	A	-	-	A	-	-	-	C	-	-	-	A	-	-
Trichloroacetic Acid	-	-	-	D	-	A	-	C	D	A	A	A	B	B	-	B	-	A	C	D	D	C	C	-	D	C	-	C	D	-	-	D	-	-	-	-	B	D	A	A	-
Trichloroethane	-	A	-	A	-	-	D	C^1	D	C	-	A	C	A	D	D	D	A	D	D	D	-	A	-	B	B	-	D	-	-	A	B	-	-	A	-	A	A	A	-	-
Trichloroethylene	D	D	D	C^1	C	D	D	C^1	-	C^1	A^1	A	D	B	D	D	D	A	D	D	D	-	A	-	B	B	-	D	A^1	-	B	C	A^4	A^4	A	A^4	A	A	A	A	A
Trichloropropane	D	A	-	A	-	-	D	-	-	-	-	A^1	-	-	D	-	-	A	D	A	-	D	A	-	A	A	-	D	A	-	A	A	-	-	A	-	A	-	-	-	-
Tricresylphosphate	B	C	D	A	-	B^1	A	A^2	-	A^1	-	A	D	D	D	A	D	-	B	C	C	D	A^2	-	B	B	-	D	B	-	A^2	B	-	-	A	-	A	B	A	D	-
Triethylamine	-	D	A	A	-	-	B	A^1	-	D	-	A	B	A^2	C	A	-	A	B	A	-	A	D	-	A	A	-	-	A^1	-	-	A	-	-	A	-	-	-	A	B	-
Trisodium Phosphate	B^1	A	A	A	A	A	A	A	-	A	A	A	A	A	A	A	-	-	A	A	A	A	A	-	B	B	-	D	B^1	-	A	-	-	-	C	-	A	-	A	-	-
Turpentine	D	A^2	A	B	-	D	D	B	D	D	A	A	D	A	-	D	D	A	D	D	D	B	A	-	A	A	-	A	B	D	A	-	-	-	C	-	B	B	A	A	-
Urea	B	A	A	-	-	A	A	A	D	A	A	A	D	A	B	A	-	-	-	B	B	B	A	-	B	B	-	B	-	-	B	-	-	-	-	-	B	A	A	B	-
Uric Acid	-	-	-	-	-	B	-	A	-	-	-	A	A	-	-	-	-	-	-	A	-	A	-	-	B	B	-	D	A	-	B	D	-	-	-	-	B	A	A	D	-
Urine	-	A	A	A	-	A^2	A^2	B	-	A	-	A^1	A	A	A^1	A^1	-	-	D	D	-	-	A^1	-	A	A	-	B	-	-	A	A	-	-	C	-	-	-	A	-	-
Varnish	-	A	-	A	-	A	D	A	-	A	-	A	D	-	B	D	D	A	D	D	D	D	A	-	A	A	-	A	B	A	-	C	-	-	A	-	A	-	A	-	-
Vegatable Juice	B	A	-	A	-	-	A	A	-	-	-	A	-	-	A^2	A	-	-	-	-	B	A	A	-	A	A	-	D	A	A	A	D	-	-	C	-	-	-	-	A	-
Vinegar	A	B	A	A	-	A	A^1	A	A^2	A	A	A	B	B	B	A	A	A	B	B	A	A^1	A	-	A	A	-	D	B	D	A	D	-	-	C	-	A	A	A	A	A
Vinyl Acetate	-	-	D	A^1	-	A	-	-	-	B^1	-	A^2	D	A^2	D	B^2	A^2	-	D	D	D	D	A^1	-	B	B	-	A^1	B	-	-	B	A^2	A^2	-	-	-	-	A^2	B	-
Vinyl Chloride	D	-	D	-	-	-	-	A^1	-	-	-	A^2	D	B^1	D	C	-	-	C	D	-	D	A^1	-	B^2	A^1	-	B^2	B	-	A^2	B	-	-	-	-	A^2	A	A^2	A	-
Water, Deionized	-	A	A^2	-	-	-	A^2	1	-	A^2	A	A^2	A^2	A^2	A^1	A^1	A^2	A^1	A	A	-	A^2	A^1	-	A^1	A^2	-	A^2	B	A	-	D	-	-	-	-	A^2	A^2	A^2	B	-
Water, Acid, Mine	B	A^1	A	A	-	A^2	-	A	B^2	A	A	A	B	A	A	A	-	A	B	C	B	-	A	-	B	B	-	D	D	D	A	D	-	-	C	-	A	A	A	A	-
Water, Distilled	B	B	A	A	-	A^2	A	A^1	A^2	A	A	A	A^2	A	A	A	-	A	A	A	C	B	A	-	A	A	-	A	B	A	A	D	-	-	D	-	A	A	A	-	-
Water, Fresh	A	A^2	A	A	A	A^2	A	A^1	A^2	A	A	A	B	A	A	A	-	A	A	A	B	B	A	-	A	A	-	B	B	D	A^1	D	-	-	A	-	A	A	A	A	-
Water, Salt	-	A	A	A	A	A^2	A	A^2	A^2	A	A	A	B	A	A	A	-	A	A	A	B	B	A	D	B	B	D	B	B	D	A	D	A^2	A^2	D	A^3	A	A	A	B	-
Weed Killers	-	A	-	A	-	-	-	A	-	-	-	-	-	-	A	-	-	-	-	C	A	-	A	-	A	D	-	D	-	-	-	-	-	-	C	-	-	-	-	B	-
Whey	-	A	-	A	-	-	-	-	-	-	-	A	-	-	A	-	-	-	-	-	-	-	A	-	A	A	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-
Whiskey & Wines	C	A	A^2	B	-	C	A^2	A^1	A^1	A	-	A	A^2	A	A	A	A	A	A	C	A	C	A	-	A	A	-	C^1	B	B	A	D	-	-	C	-	-	A	A	A	A
White Liquor (Pulp Mill)	-	D	A	A	-	A^2	A^1	A^1	-	A^1	-	A	A^2	A^1	A	-	-	-	-	A	A	-	A	-	A	A	-	B	-	B	A	C	-	-	D	-	A	-	A	-	-
White Water (Paper Mill)	-	B	-	A	-	-	D	A	-	A	-	-	A	-	-	-	-	-	-	A	-	-	A	-	A	A	-	-	-	-	-	A	-	-	A	-	-	-	-	-	-
Xylene	D	A	D	A	B	B	B	A^2	D	B	A	A	D	A	D	D	D	A	D	D	D	D	D	A^4	B	B	A^4	A^1	A	A	A	B	A^4	A^5	A	A	A^5	A	A	A	A	-
Zinc Chloride	A	C	A	A	A	A^1	A^1	A	A^2	A	A	A	B	A	A	A	A	A	A	A	B	A	A	D	B	B	D	D	C	D	B^1	D	D	C^2	D	A^4	B	A^1	A	D	-
Zinc Hydrosulfite	A	C	-	A	-	-	A	A	-	-	A	A	-	-	A	A	-	-	-	A	-	-	-	-	A	A	-	D	B	-	-	D	-	-	D	-	-	-	-	-	-
Zinc Sulfate	A	C	A	A	-	A^2	A^1	A	A^2	A	A	A	A^2	A	A	A	A	A	B	A	A	A	A	C^1	B^1	A	C^1	D	B^1	B^2	B	D	D	A^4	C	A^4	A^2	A^2	A	D	A

Explanation of footnotes:
1. Satisfactory to 72°F(22°C)
2. Satisfactory to 120°F(48°C)
3.Satisfactory to 167°F(75°C)
4.Satisfactory to 212°F(100°C)
5.Satisfactory to 257°F(125°C)