

SOLUTIONS: WATER & WASTEWATER TREATMENT

PIPE AND VALVE RECOMMENDATIONS FOR WASTEWATER TREATMENT, BLEACH PACKAGING, & CHLOR-ALKALI

Chemical	Common Uses	Typical Conc./ Conditions	Pipe Material Recommendations	Valve Body**/Seal Material
ALUM (Aluminum Sulfate) $Al_2(SO_4)_3$	Clarification coagulant, floculant	<50%	Proline [®] PP Chem Proline [®] PE	EPDM or PTFE
Aqueous Ammonia NH_4OH	Biocide, chloramination	19%	Proline [®] PP Chem Proline [®] PE	EPDM or PTFE
BLEACH* (Sodium Hypochlorite) NaOCl	Biocide	Up to 12.5%	Chem Proline [®] PE	Ball - PVC/FKM (140° F) Diaphragm - PVC/PTFE (140° F) Butterfly - PVC/PVC/FKM (120° F)
		>12.5%	Ultra Proline [®] E-CTFE	EPDM or PTFE
CAUSTIC (Sodium Hydroxide) NaOH	pH adjustment	<60%	Chem Proline [®] PE Ultra Proline [®] E-CTFE	Diaphragm - PP/PTFE (175° F) Diaphragm - PP/EPDM (175° F)
		Saturated	Chem Proline [®] PE (<140° F) Ultra Proline [®] E-CTFE (up to 212° F)	
Chlorinated Brine	Return w/ free chlorine	<i>Consult Factory</i>	<i>Consult Factory</i>	Diaphragm - PVC or CPVC or PVDF/PTFE/ PVDF (140° F, 195° F, 250° F) EL-PVDF/EL-PTFE/PVDF (250° F)
Chlorine (wet and dry) Cl_2	<i>Consult Factory</i>	0.5% - 20%	<i>Consult Factory</i>	<i>Consult Factory</i>
Clean Brine Feed	Salt brine transportation	100%	Chem Proline [®] PE	Ball - PVC or CPVC/EPDM (140° F, 195° F) Diaphragm - PVC or CPVC/EPDM (140° F, 195° F) PVC, CPVC, PVDF/PTFE (140° F, 195° F, 250° F) Butterfly - PP/PP/EPDM (175° F)
MURIATIC ACID* (Hydrochloric Acid) HCl	pH adjustment	Up to 37%	Chem Proline [®] (10 years)	Ball - PP/FKM (175° F) Ball - PVDF/FKM (250° F) Diaphragm - PVDF/PTFE (250° F)
			Super Proline [®] PVDF (25 years)	
		>37%	Ultra Proline [®] E-CTFE (25 years)	

* Special Considerations: Vented Ball Valves, PVDF Gas Barrier in Diaphragm Valves

** Body to conform to pipe materials

Please Note: These are general recommendations. Please consult Asahi/America's Engineering Department.



Chemical	Common Uses	Typical Conc./ Conditions	Pipe Material Recommendations	Valve Body**/Seal Material
Ferric Chloride FeCl ₃	Flocculant	40%	Proline® PP Chem Proline® PE	EPDM or PTFE
Sulfuric Acid H ₂ SO ₄	Raw water treatment, pH adjustment	Up to 85%	Chem Proline® PE	PVC/FKM
		86% - 93%	Super Proline® PVDF	PVDF/PTFE
		94% - 98.3%	Ultra Proline® E-CTFE	PVDF/PTFE
H ₂ O Feed	Variable	100%	PVC	Ball - PVC or CPVC/EPDM (140° F, 195° F) Diaphragm - PVC or CPVC/EPDM (140° F, 195° F) Butterfly - PVC/PP/EPDM (175° F)
Hydrofluosilicic Acid H ₂ SiF ₆	Fluorination	50%	Proline® PP Chem Proline® PE	EPDM or PTFE
Polymer	Dispersant		Proline® PP Chem Proline® PE	EPDM or PTFE
Anti-Scalant; Phosphonates	Corrosion inhibitor, deflocculant		Proline® PP Chem Proline® PE	EPDM or PTFE
Sodium Bisulfite NaHSO ₃	Excess chlorine removal	40%	Proline® PP Chem Proline® PE	EPDM or PTFE
Corrosion Inhibitor	Corrosion inhibitor		Proline® PP Chem Proline® PE	EPDM or PTFE
Ferric Sulfate Fe ₂ (SO ₄) ₃	Coagulant	50%	Proline® PP Chem Proline® PE	EPDM or PTFE
Citric Acid HOC(CO ₂ H)(CH ₂ CO ₂ H) ₂	Membrane cleaning	Saturated	Proline® PP Chem Proline® PE	EPDM or PTFE

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