Water Treatment Matrix

BULLETIN PF-WTM-001
August 2026

Process	Adsorption / Media				Oxidation Filtration	Coagulation Filtration	Biological Filtration		Ion Exchange		Oxidation	Mechanical Filtration	UF	RO
Technology	GAC	HMO	E33	AA	PM-200/PM-100	PM-200/PM-100	Aerobic Biofilter	O_3-BAC	Cation Resin	Anion Resin	Ozone/AOP	Sand / Screen	Membrane	Membrane
Ammonia (NH_3/NH_4^+)							✓✓✓		✓✓✓					✓✓✓*
Antimony			✓✓							✓ pH				✓✓✓*
Arsenic (As)			✓✓✓	✓ pH	✓ w/coagulant	✓ w/oxidation				✓✓✓				✓✓✓*
Chromium VI (cr(VI))						✓ w/reduction				✓✓✓				✓✓✓*
Fluoride (F)				✓✓✓										✓✓✓*
Hardness									✓✓✓					
Iron (Fe)					✓✓✓	✓ w/oxidation	✓✓✓		✓✓✓					
Lead (Pb)			✓✓✓											
Manganese (Mn)					✓✓✓	✓ w/oxidation	✓✓✓		✓✓✓					
Nitrates										✓✓✓				✓✓✓*
Perchlorate										✓✓✓				
Phosphate			✓✓✓			✓✓✓				✓✓				✓✓✓*
PFAS	✓✓✓									✓✓✓				✓✓✓*
Radium (Ra)		✓✓✓				✓✓✓			✓✓✓					✓✓✓*
Selenium (Se)										✓✓✓				✓✓✓*
Sulfides	✓✓✓				✓✓✓					✓✓✓				
TSS					✓✓✓	✓✓✓						✓✓✓	✓✓✓	
Taste / Color / Odor	✓✓✓				✓✓			✓✓✓			✓✓✓			✓✓✓*
TOC	✓✓✓							✓✓						✓✓✓*
Turbidity						✓✓✓						✓✓✓	✓✓✓	
Uranium (U)														✓✓✓*
VOC	✓✓✓							✓✓			✓✓			
Microorganism											✓✓✓		✓✓✓	✓✓✓*
1,4 Dioxane											✓✓✓			
Organic Micropollutants	✓							✓✓✓			✓✓✓			✓✓✓*
DBP Precursors								✓✓✓			✓✓			

EFFECTIVENESS KEY

✓✓✓ = Highly Effective
✓✓ = Moderately Effective
✓ = Conditionally Effective

NOTES:

1) Performance assumes proper pretreatment, water chemistry, and design conditions. Certain technologies require oxidation, reduction, or pH adjustment.
2) Biological treatment effectiveness depends on acclimated biomass, temperature, and conditions.
3) * RO has high rejection rates; effectiveness depends on pretreatment & recovery.

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