

Kinetics Specification for WATER PURIFICATION SYSTEMS



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PARAMETER	EFFLUENT SPECIFICATION FOR WP PRODUCTS	EFFLUENT SPECIFICATION, WITH DRINKING WATER OPTION ¹		
Bacterial Parameters				
E. coli or thermotolerant coliform bacteria	None Detectable, per 100 ml sample	None Detectable, per 100 ml sample		
Fecal Coliform	20 CFU/100 ml	0 CFU/100 ml		
Physical Parameters				
Color	15 TCU (True Color Unit)	15 TCU		
Total Suspended Solids (TSS)	None Detectable	None Detectable		
Turbidity	0 NTU (Nephelometric Turbidity Units)	0 NTU		
Total Dissolved Solids (TDS)	No change of the concentration compared to the raw water to be treated	No change of the concentration compared to the raw water to be treated		
Hardness				
pH				
Inorganic Constituents				
Ammonia (NH ³)	No change of the concentration compared to the raw water to be treated	No change of the concentration compared to the raw water to be treated		
Cyanide (CN)				
Hydrogen Sulfide (H ² S)				
Manganese (Mn)				
Nitrate (NO ³)				
Nitrite (NO ²)				
Dissolved Oxygen (O ²)				
Sulfate (SO ³)				
Elemental Constituents				
Aluminium (Al)	No change of the concentration compared to the raw water to be treated	No change of the concentration compared to the raw water to be treated		
Antimony (Sb)				
Arsenic (As)				
Barium (Ba)				
Beryllium (Be)				
Boron (B)				
Cadmium (Cd)				
Chromium (Cr)				
Chloride (Cl)				
Copper (Cu)				
Fluoride (F)				
Iron (Fe)				
Lead (Pb)				
Manganese (Mn)				
Mercury (Hg)				
Molybdenum (Mo)				
Nickel (Ni)				
Selenium (Se)				
Sodium (Na)				
Uranium (Ur)				
Zinc (Zn)				
Organic Constituents				
Total Organic Carbon			Reduction between 50% and 80% ²	Reduction between 90% and 95% ²
Toluene	No Specification	700 µg/L ³		
Xylene		500 µg/L		
Ethyl-benzene		300 µg/L		
Styrene		20 µg/L		
Monochlorobenzene		300 µg/L		
1,2-dichlorobenzene		1000 µg/L		
1,4-dichlorobenzene		300 µg/L		
trichlorobenzenes (total)		20 µg/L		
Disinfectants and By-products				
Chlorine		No Specification	5 µg/L ³	
2-chlorophenol	10 µg/L			
2,4-dichlorophenol 40	40 µg/L			
2,4,6-trichlorophenol	200 µg/L			
Chlorinated Alkanes				
Carbon Tetrachloride (CCl ⁴)	No Specification	2 µg/L		
Dichloromethane		20 µg/L		
1,2-dichloroethane		30 µg/L		
1,1,1-trichloroethane		2000 µg/L		
Chlorinated Ethenes				
Vinyl Chloride	No Specification	5 µg/L		
1,1-dichloroethene		30 µg/L		
1,2-dichloroethene		50 µg/L		
Trichloroethene		70 µg/L		
Tetrachloroethene		40 µg/L		
Aromatic Hydrocarbons				
Benzene	No Specification	10 µg/L		
Toluene		700 µg/L		
Xylenes		500 µg/L		

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Ethylbenzene		300 µg/L	
Styrene		20 µg/L	
Benzo [a] Pyrene		0.7 µg/L	
Chlorinated Benzenes			
monochlorobenzene	No Specification	300 µg/L	
1,2-dichlorobenzene		1000 µg/L	
1,4-dichlorobenzene		300 µg/L	
Trichlorobenzenes (total)		20 µg/L	
Other Compounds			
Di(2-ethylhexyl)adipate	No Specification	80 µg/L	
Di(2-ethylhexyl)phthalate		8 µg/L	
Acrylamide		0.5 µg/L	
Epichlorohydrin		0.4 µg/L	
Hexachlorobutadiene		0.6 µg/L	
Edetic acid (EDTA)		600 µg/L	
Nitrilotriacetic acid		200 µg/L	
Tributyltin Oxide		2 µg/L	
Microcystin-LR		1 µg/L	
Disinfectants			
Monochloramine	No Specification	3 mg/L	
Chlorine		5 mg/L	
Disinfectants By-products			
Bromate	No Specification	25 µg/L	
Chlorite		200 µg/L	
2,4,6-trichlorophenol		200 µg/L	
formaldehyde		900 µg/L	
Bromoform		100 µg/L	
Dibromochloromethane		100 µg/L	
Bromodichloromethane		60 µg/L	
Chloroform		200 µg/L	
Chlorinated Acetic Acids			
Dichloroacetic Acid		No Specification	50 µg/L
Trichloroacetic Acid	100 µg/L		
Chloral Hydrate (trichloroacetaldehyde)	10 µg/L		
Halogenated Acetonitriles			
Dichloroacetonitrile	No Specification	90 µg/L	
Dibromoacetonitrile		100 µg/L	
Trichloroacetonitrile		1 µg/L	
Cyanogen Chloride (as CN)		70 µg/L	
Pesticides			
Alachlor	No Specification	20 µg/L	
Aldicarb		10 µg/L	
Adrin/dieldrin		0.03 µg/L	
Atrazine		2 µg/L	
Bentazone		300 µg/L	
Carbofuran		7 µg/L	
Chlortoluron		30 µg/L	
Cyanazine		0.6 µg/L	
DDT		2 µg/L	
1,2-dibromo-3-chloropropane		1 µg/L	
1,2-dibromoethane		0.4-15 µg/L	
2,4-dichlorophenoxyacetic acid (2,4-D)		30 µg/L	
1,2-dichloropropane (1,2-DCP)		40 µg/L	
1,3-dichloropropene		20 µg/L	
Diquat		10 µg/L	
Heptachlor and Heptachlor epoxide		0.03 µg/L	
Hexachlorobenzene		1 µg/L	
Isoproturon		9 µg/L	
Lindane		2 µg/L	
MCPA		2 µg/L	
Methoxychlor		20 µg/L	
Molinate		6 µg/L	
Pendimethalin		20 µg/L	
Pentachlorophenol		9 µg/L	
Permethrin		20 µg/L	
Propanil		20 µg/L	
Pyridate		100 µg/L	
Simazine		2 µg/L	
Terbutylazine (TBA)		7 µg/L	
Trifluralin		20 µg/L	
2,4-DB		90 µg/L	
Dichlorprop		100 µg/L	
Fenoprop		9 µg/L	
Mecoprop		10 µg/L	
2,4,5-T		9 µg/L	

¹Equal or better than drinking water quality according to WHO (Source: Guidelines for Drinking-Water Quality, 2nd ed., Vol. 2 Health Criteria and other). Supporting Information, 1996 (pp. 940-949) and Addendum to Vol. 2, 1998 (pp. 281-283), Geneva, World Health Organization.

²Reduction in organic contaminants depends on the type/molecular weight of the organic materials

³Odor, taste (health-based guideline value)