

PURIFIED WATER STANDARDS

AMERICAN SOCIETY FOR TESTING AND MATERIALS

Standard Specifications for Reagent Water

ASTM Type

	I	II	III	IV
Conductivity @ 25°C (micromhos/cm)	0.056	1.0	0.25	5.0
Resistivity @ 25°C (Megohms-cm)	18	1.0	4.0	0.2
Total Silica (µg/L)	3	3	500	—
Total Organic Carbon (µg/L)	50 ppb	50	200	—
Chlorides (µg/L)	1	5	10	50
Sodium (µg/L)	1	5	10	50
pH*	—	—	—	5.0-8.0
	Type A	Type B	Type C	
Max Heteriotropic Bacteria Count	10/1000 mL ..	10/1000 mL ..	100/10 mL	
Endotoxin, EU/mL	<0.03	0.25	N/A	

*The measurement of pH in Type I, II and III reagent water has been eliminated because these grades of water do not contain constituents in sufficient quantity to alter pH.

CLSI (CLINICAL LABORATORY STANDARDS INSTITUTE)

Clinical Laboratory Reagent Water (CLRW)

CLSI

Resistivity @ 25°C (megohms-cm)	10
Conductivity @ 25°C (micromhos/cm)	0.1
Bacterial Growth (cfu/mL)	10
Organics	< 500 ppb
Particulate Matter	0.22 µm Filter ^a

^a The specification is a process specification, and not measured by the end-user.

College of American Pathologists National committee for Clinical Laboratory Standards CAP/NCCLS

	I	II	III
Conductivity (ms/cm @ 25°C)	0.1	1.0	10
Resistivity @ 25°C Meg / cm	10	1	0.1
Total Silica (mg/l)	50	100	1,000
pH	—	--	5.0-8.0
Bacterial Growth (cfu / ml)	10*	1,000	NS
Particulate Matter	0.22 mm Filter**	NS	NS
Organics	Activated Carbon**	NS	NS

*Type 1 water is preferably bacteria free

**Specifications are process specifications, not measured by end user

UNITED STATES PHARMACOPOEIA STANDARDS

USP Pharmacopoeia Grade Water

Organics	<0.5 ppm TOC
Conductivity	<1.3 µS/cm at 25°C in-line measurement
Endotoxin by LAL	
Purified Water	No specification
WFI	<0.25 EU/ml
Bacteria (guideline only)	
Purified Water	<100 cfu/mL
WFI	<10 cfu/100 mL