

Water for Analytical Laboratory Use

According to

**International Organization for Standardization ISO 3696:1987
And The Standards Institute of Israel SII 902 Standards**

Specifications Summary

Parameter	Grade 1	Grade 2	Grade 3
pH Value at 25°C Inclusive Range	–	–	5.0 - 7.5
Electrical Conductivity μS/cm at 25°C, Max.	0.1	1.0	5.0
Oxidizable Matter Oxygen (O) Content mg/L, Max.	–	0.08	0.4
Absorbance at 254 nm and 1 cm Optical Path Length, absorbance units, Max.	0.001	0.01	–
Residue after Evaporation on Heating at 110°C mg/kg, Max.	–	1	2
Silica (SiO ₂) content mg/L, Max.	0.01	0.02	–

Clinical Laboratory Reagent Water (CLRW)

According to

Clinical Laboratory Standards Institute (CLSI)

Specifications Summary

Parameter	CLRW
Electrical Resistivity	10 MΩ-cm
TOC	<500 µg/L C
Bacteria	<10 CFU / mL
Particle Content	Inline 0.2 µm-filter

Reagent Grade Water

According to

American Society for Testing and Materials

ASTM D1193-91 Standard

Specifications Summary

Parameter	Type I*	Type II**	Type III***	Type IV
Electrical Conductivity, Max. ($\mu\text{S}/\text{cm}$ at 25°C)	0.056	1.0	0.25	5.0
Electrical Resistivity, Min. ($\text{M}\Omega\text{-cm}$ at 25°C)	18.0	1.0	4.0	0.2
pH @ 25°C	–	–	–	5.0 - 8.0
TOC, Max. ($\mu\text{g}/\text{L}$)	100	50	200	No Limit
Sodium, Max. ($\mu\text{g}/\text{L}$)	1	5	10	50
Silica, Max. ($\mu\text{g}/\text{L}$)	3	3	500	No Limit
Chloride, Max. ($\mu\text{g}/\text{L}$)	1	5	10	50

* Requires the use of 0.2 μm membrane filter.

** Prepared by distillation.

*** Requires the use of a 0.45 μm membrane filter.

When bacterial levels need to be controlled, reagent grade types should be further classified as follows:

Parameter	Grade A	Grade B	Grade C
Total Bacterial Count, Max. (CFU / 100mL)	1	10	1000
Endotoxin, Max. (EU / mL)	0.03	0.25	–

Purified Water

According to

U.S. Pharmacopoeia and European Pharmacopoeia Standards

Specifications Summary

Parameter	USP 42	EP 9.2
Electrical Conductivity	$\leq 1.3 \mu\text{S/cm}$ at 25°C	$\leq 5.1 \mu\text{S/cm}$ at 25°C
TOC	$\leq 500 \mu\text{g/L C}$	$\leq 500 \mu\text{g/L C}$
Nitrates	–	$\leq 0.2 \text{ ppm}$
Heavy Metals	–	$\leq 0.1 \text{ ppm}$
Total Aerobic Bacteria	$\leq 100 \text{ CFU / mL}$	$\leq 100 \text{ CFU / mL}$