



California Facility Purified Water Specification Testing Results

For the month of: December 2017

Listed below are the testing results for the purified water used in the manufacture of products at Hardy Diagnostics.

Test	Testing Frequency	Units	In-House Specification (method detection limit)	Testing Data
Minimum Resistivity* ^{1,3,4,5}	Continuous Monitoring	Megohm* cm	> 18.0	18.48
pH**	Daily	N/A	5.5 – 7.5	7.32
Total Organic Carbon ^{1,3,5}	Monthly	ug/L	<500	ND
Heavy Metals (Single) ^{1,3,4} (Cd, Cr, Cu, Ni, Pb and Zn)	Annually	mg/L	< 0.05	Cd – ND Cr – 0.00014 Cu – ND Pb – ND Ni – ND Zn – ND
Heavy Metals (Total) ^{3,4}	Annually	mg/L	< 0.1	ND
Ammonia/Organic Nitrogen ³	Monthly	mg/L	< 0.1	ND
Total Chlorine Residual ^{3,4}	Monthly	mg/L	<0.1	ND
Maximum Bacterial Content*** ^{1,3,4,5}	Weekly	colony forming units (CFU) per milliliter	<10	<1
Water Quality ^{3,4} ratio	Annually	ratio	0.8 – 3.0	1.00
Use Test (Student t) ³	Quarterly	N/A	≤ 2.78	< 2.78
Inhibitory Residue ⁴	Annually	N/A	< 15%	2.5
Maximum Silicate, SiO ₂ ^{3,4}	Annually	mg/L	≤ 0.05	ND

ND = Not Detected at or above the method detection limit.

*Testing data is given as a monthly average at the water source.

**Testing data is given as a monthly average.

***Testing data is given as an average.

References:

1. *Preparation and Testing of Reagent Water in the Clinical Laboratory*, C3-A. Clinical Laboratory Standards (CLSI), Villanova, PA.
2. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, M22-A. Clinical Laboratory Standards Institute (CLSI – formerly NCCLS), Villanova, PA.
3. *Standard Methods for the Examination of Water and Wastewater*, editors Andrew D. Eaton, Lenore S. Clesceri, et al. American Public Health Association, Washington, D.C.
4. *Manual for the Certification of Laboratories Analyzing Drinking Water*, Criteria and Procedures Quality Assurance, Environmental Protection Agency (EPA).
5. USP. *USP NF, Water for Pharmaceutical Purposes <1231>*. Rockville, MD: US Pharmacopeial Convention.

Wendy Hadley
Quality Control Manager

Hardy Diagnostics
1430 W. McCoy Lane
Santa Maria, CA 93455
(800) 266-2222
www.hardydiagnostics.com