

Purified Water Specification Testing Results (California Facility)

For the month of: July 2012 12183-12213

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	17.51
pH*	Each use	N/A	5.5 – 7.5	7.07
Total Organic Carbon ^{1,3,5}	Monthly	ug/L	<500	133
Heavy Metals* (Single) ^{1,3,4} (Cd, Cr, Cu, Ni, Pb and Zn)	Annually	mg/L	< 0.05	Cd – ND Cr – ND Cu – 0.00016 mg/L Ni – 0.00011 mg/L Pb – ND Zn – 0.0013 mg/L
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	1.14
Use Test (Student <i>t</i>) ³	Quarterly	N/A	≤ 2.78	2.0
Inhibitory Residue ⁴	Annually	N/A	< 15%	0%
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.

References:

1. *Preparation and Testing of Reagent Water in the Clinical Laboratory*, C3-A4. Clinical Laboratory Standards (CLSI), Villanova, PA, 2006.
2. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, M22-A3. Clinical Laboratory Standards Institute (CLSI – formerly NCCLS), Villanova, PA, 2004.
3. *Standard Methods for the Examination of Water and Wastewater*, 21st ed., editors Andrew D. Eaton, Lenore S. Clesceri, et al. American Public Health Association, Washington, D.C. 2005.
4. *Manual for the Certification of Laboratories Analyzing Drinking Water*, Criteria and Procedures Quality Assurance 5th ed., Environmental Protection Agency (EPA).
5. USP. *USP 35-NF 30, Water for Pharmaceutical Purposes <1231>*. Rockville, MD: US Pharmacopeial Convention; 2012:886-907.



Wendy Hadley
 Manager of Quality Control

Hardy Diagnostics
 1430 W. McCoy Lane
 Santa Maria, CA 93455
 (800) 266-2222 FAX (805) 346-2760 www.hardydiagnostics.com