**Section 465.380 Standards for Laboratory Pure Water**

The following standards shall apply to all laboratory pure water:

a) Laboratory pure water shall have these characteristics:

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| **Parameter** | **Limits** | **Frequency** |
| Conductivity | >0.5 megohms resistance or <2 micromhos/cm at 25° C | Monthly |
| Cd, Cr, Cu, Pb, Ni, Zn | Not greater than 0.05 mg/L per contaminant. Collectively, no greater than 0.1 mg/L | Annually |
| Total Chlorine Residual 1 | <0.1 mg/L | Monthly |
| Heterotrophic Plate Count 2 | <500 CFU/mL | Monthly |
| Bacteriological Quality of Reagent Water 3 | Ratio of growth rate 0.8 to 3.0 | Annually |

1 DPD Method shall be used. Not required if source water is not chlorinated.

2 Pour Plate Method. See Standard Methods 9215E. SimPlate method.

3 See Standard Methods, Section 9020B, under Laboratory Supplies. This bacteriological quality test is not needed for type II water or better, as defined in Standard Methods. The bacteriological quality test is not needed for water with a conductivity <1 micromhos/cm at 25° C or resistivity >1 megohms. Users of purchased bottled water are not exempt from the suitability test.

b) Laboratory pure water shall be analyzed initially and annually (every 12 months) thereafter by the test for bacteriological quality of distilled water as specified in "Standard Methods for the Examination of Water and Wastewater." Purchased laboratory pure water shall be sampled in-house; manufacturer's test results shall not be used to establish compliance. Only satisfactorily tested water shall be used in preparing media, reagents, rinse, and dilution water. If the water tested does not meet the testing requirements, the water shall not be used until corrective action has been taken and retesting determines that the testing requirements have been met.

c) Laboratory pure water shall be analyzed monthly for conductance, chlorine residual, and heterotrophic plate count. Heterotrophic plate counts shall be performed as specified in "Standard Methods for the Examination of Water and Wastewater." If the water tested exceeds requirements for these properties, the water shall not be used until corrective action has been taken and retesting determines that the testing requirements have been met.

d) Laboratory pure water shall not be in contact with heavy metals, and shall be analyzed initially and annually (every 12 months) thereafter for trace metals (especially Pb, Cd, Cr, Cu, Ni, and Zn) in the quantities specified in subsection (a) of this Section. If the water tested exceeds requirements for trace metals, the water shall not be used until corrective action has been taken and retesting determines that the testing requirements have been met.

(Source: Amended at 46 Ill. Reg. 19150, effective November 17, 2022)