



Public Health Sanitation and Safety Program

Public Health Services



Free Chlorine Residual Guidance Document

With regard to the current national standard established by the American National Standards Institute (ANSI) 1, "Public Swimming Pools", the Public Health Sanitation and Safety Program in the New Jersey Department of Health and Senior Services (NJDHSS), is providing a guidance document regarding the levels of free chlorine and bromine in New Jersey public pools. With Recreational Water Illnesses (RWI) on the rise every summer, the NJDHSS acknowledges that increasing the free chlorine or bromine levels to national guideline levels can only benefit the public.

In ANSI 1, the levels should meet the following standards: free chlorine levels should be between 1.0 and 10.0 parts per million (ppm) with bromine levels between 2.0 and 10.0 ppm. ANSI's ideal range is 2.0 to 4.0 ppm for swimming pools. In whirlpools, spas and hot tubs, the free chlorine and bromine levels continue to be between 2.0 to 10.0 ppm with an ideal range of 3.0 to 5.0 ppm as in N.J.A.C. 8:26 (Public Recreational Bathing rule).

With that said, if a facility wishes to exceed the current levels found at N.J.A.C. 8:26-7.8, 'a maximum of 4.0 ppm for free chlorine in swimming pools', the NJDHSS will require that all public pool water quality to be within the acceptable standards for all other parameters:

1. pH (7.2 – 7.8),
2. combined chlorine (\leq .2),
3. total alkalinity (60 to 180),
4. stabilizer (cyanuric acid - 10 to 100 ppm and only in outdoor pools) and;
5. pool water clarity (the deepest portion of the pool floor shall be clearly visible from the swimming pool's edge).

In addition, the maximum disinfectant level shall also be determined by the capabilities of the test kits utilized. The test kit must give an accurate reading of the actual level of disinfectant available. Therefore, for example, if the maximum detectable level of the test kit is 8.0 ppm, then the maximum level of free chlorine or bromine is 7.0 ppm.

Also, please be advised that this is a guidance policy. It is the local health authorities' (LHA) jurisdiction to permit this exceedance of the current maximum levels of disinfectant found at N.J.A.C. 8:26-7.8. All the other operational parameters must also be in compliance for the approval by a LHA.

If you have any questions, please feel free to contact the Public Health Sanitation and Safety Program at (609) 826-4941 or via email at loel.muetter@doh.state.nj.us.