

1.1 **Department of Health**

1.2 **Adopted Permanent Rules Relating to Pool Water Conditions**

1.3 **4717.1750 POOL WATER CONDITION.**

1.4 Subpart 1. **Maximum water temperature.** The water temperature in a pool must
1.5 not be more than 104 degrees Fahrenheit.

1.6 Subp. 2. **Test kits.** Each pool must have the testing equipment specified in this
1.7 subpart:

1.8 A. a DPD (Diethyl-P-Phenylene Diamine) test kit to measure the concentration
1.9 of disinfectant in water, accurate within 0.1 parts per million;

1.10 B. a phenol red pH testing kit accurate to the nearest 0.2 pH unit;

1.11 C. a test kit to measure alkalinity using the methyl orange or equivalent method;
1.12 and

1.13 D. where cyanuric acid is used, a test kit to test cyanuric acid concentration.

1.14 Subp. 3. **Disinfection residual.** When in use, a pool must be continuously
1.15 disinfected with a chemical that imparts an easily measured, free available residual.

1.16 A. When chlorine is used, a free chlorine residual of at least 1.0 parts per
1.17 million must be maintained throughout the pool.

1.18 B. When bromine is used, a bromine residual of at least 2.0 parts per million
1.19 must be maintained throughout the pool.

1.20 C. The disinfectant concentration in an operating pool must not exceed ten parts
1.21 per million for chlorine and 20 parts per million for bromine.

1.22 D. If other halogens are used, residuals of equivalent disinfectant strength
1.23 must be maintained.

2.1 E. If the concentration of combined chlorine residual exceeds 0.5 parts per
2.2 million, the pool must be superchlorinated or treated to reduce the concentration of the
2.3 combined chlorine residual to not exceed 0.5 parts per million.

2.4 F. Where a cyanuric acid compound is used to stabilize chlorine, the
2.5 concentration of cyanuric acid in the pool must not exceed 100 parts per million.

2.6 Subp. 4. **Disinfection of spa pools.** The disinfectant residual in a spa pool must
2.7 be at least 2.0 parts per million for free chlorine and 4.0 parts per million for bromine
2.8 throughout the pool when in use.

2.9 Subp. 5. **pH.** Water in the pool must be maintained with a pH of not less than 7.2 and
2.10 not more than 7.8.

2.11 Subp. 6. **Alkalinity.** The alkalinity of the water in the pool must be at least 50
2.12 parts per million.

2.13 Subp. 7. **Water clarity.** Whenever the pool is open for use, the pool water must be
2.14 clear enough so the bottom drain is easily visible.

2.15 Subp. 8. **Use of nontoxic chemicals; chemical container security.** Chemicals used
2.16 to control water quality must not impart toxic properties to the water. All containers used
2.17 for chemicals must be kept in a secure location, inaccessible to pool users, and properly
2.18 labeled and stored according to the manufacturer's instructions.

2.19 Subp. 9. **Bacteriological samples.** When bacteriological sampling is done, no
2.20 sample collected may:

2.21 A. exceed 200 bacteria per milliliter as determined by the heterotrophic plate
2.22 count; or

2.23 B. indicate the presence of total coliform organisms in a 100 milliliter sample
2.24 by any of the following methods:

2.25 (1) multiple tube;

3.1 (2) membrane filter; or

3.2 (3) the Minimal Medium ONPG-MUG test described in Code of Federal
3.3 Regulations, title 40, part 141.

3.4 All samples must be collected, dechlorinated, and examined according to the
3.5 American Public Health Association's "Standard Methods for the Examination of Water
3.6 and Wastewater."

3.7 Subp. 10. **Bacteriological treatment.** Where sampling indicates that the standards
3.8 in subpart 9 are exceeded, the pool must be treated to effectively reduce biological
3.9 concentration to a complying level.