

3745-9-08 **Well disinfection.**

- (A) A public water system well shall be disinfected at the time of completion after construction, installation, development, alteration, or repair, and before supplying water for human consumption.
- (B) The standard "AWWA C654-97, Disinfection of Wells," shall be used as a guide except for the topics presented in sections 4.2, 4.5, and 5 that are otherwise specified in paragraphs (C) and (D) of this rule.
- (C) These disinfection procedures shall apply.
 - (1) All loose debris, sediment, mineral encrustation and bacterial slime shall be removed from the well prior to disinfection.
 - (2) Disinfectant shall be slowly poured into the well by wetting the inside casing circumference, drop pipe, and electrical cable.
 - (3) Disinfectant concentration in the water column shall be initially at least one hundred milligrams per liter chlorine. A public water system may use an alternative disinfectant concentration following consultation with the district office staff of the district in which the public water system is located, provided the disinfection procedure will ensure complete disinfection and includes:
 - (a) A mechanical cleaning of the well casing to remove loose debris, sediment, mineral encrustation and bacterial slime before disinfection;
 - (b) Monitoring of the pH and chlorine residual; and
 - (c) Maintaining at least fifty milligrams per liter free chlorine residual throughout the water column.
 - (4) Water in the well shall be agitated or surged to ensure even dispersal of the disinfectant throughout the entire water column.
 - (5) Disinfectant contact time shall be at least eight hours.
 - (6) Disinfectant shall be thoroughly flushed or dissipated from the well before supplying water for human consumption.
 - (7) When calcium hypochlorite is used for disinfection, the tablets or granules shall be completely dissolved in water prior to placement into the well. Sodium hypochlorite solution shall be used within the manufacturer's posted expiration date. Sodium hypochlorite solution

with fragrance additives shall not be used for disinfection.

- (8) With prior consultation with the district office, buffering chemical that has standard ANSI/NSF 60 certification may be used to enhance disinfection efficacy. The director may require submission of chemical disinfection procedures with specifications for the method, equipment, chemicals, and testing for residual chemicals.
 - (9) Disinfectant shall have ANSI/NSF 60 certification.
- (D) After disinfection, a well shall not supply water for human consumption until a least two consecutive total coliform samples that are collected from a well at least twenty-four hours apart are analyzed and demonstrate inactivation of microbiological contaminants with total coliform-negative results.
- (1) Total coliform samples shall be collected at least forty-eight hours after disinfection and after residual chlorine is completely flushed or dissipated from the well. Total chlorine shall be undetectable before total coliform sampling.
 - (2) If total coliform analysis is total coliform-positive, then an additional sample shall be collected and analyzed for total coliform and either fecal coliform or *Escherichia coli* (*E. coli*).
 - (3) Microbiological and total chlorine samples shall be analyzed in accordance with Chapter 3745-89 and rule 3745-81-27 of the Administrative Code.

[Comment: "Standard ANSI/NSF 60, Drinking Water Treatment Chemicals - Health Effects, February 9, 2001, Document Number NSF/ANSI 60- 2001." This rule incorporates this standard or specification by reference. At the effective date of this rule, a copy may be obtained from "NSF International, 789 N Dixboro Road, PO Box 130140, Ann Arbor, MI 48113-0140," (734)769-8010, www.nsf.org. This document is available for review at "Ohio EPA, Lazarus Government Center, 122 South Front Street, Columbus, OH, 43215-3425."]

[Comment: "Standard AWWA C654-97, Disinfection of Wells," effective date January 1, 1998, catalog number 43654. This rule incorporates this standard or specification by reference. At the effective date of this rule, a copy may be obtained from "AWWA Bookstore, 6666 W Quincy Avenue, Denver, CO, 80235-3098," (303)795-2114, www.awwa.org. This document is available for review at "Ohio EPA, Lazarus Government Center, 122 South Front Street, Columbus, OH, 43215-3425."]

Replaces: 3745-9-08
Effective: May 1, 2003
R.C. 119.032 review dates: May 1, 2008

Promulgated Under: 119.03
Statutory Authority: 6111.42, 6109.04
Rule Amplifies: 6109.04(B), 6109.04(C)(1)(a), 6111.42(E)
Prior Effective Dates: February 15, 1975