

CRYPTOSPORIDIUM TREATMENT COMPLIANCE DATES TABLE—Continued

Systems that serve . . .	Must comply with <i>Cryptosporidium</i> treatment requirements no later than . . . ^a
(4) Fewer than 10,000 people	(i) October 1, 2014.

^a States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements.

(d) If the bin classification for a filtered system changes following the second round of source water monitoring, as determined under §141.710(d), the system must provide the level of treatment for *Cryptosporidium* required under §141.711 on a schedule the State approves.

(e) If the mean *Cryptosporidium* level for an unfiltered system changes following the second round of monitoring, as determined under §141.712(a)(2), and if the system must provide a different level of *Cryptosporidium* treatment under §141.712 due to this change, the system must meet this treatment requirement on a schedule the State approves.

§ 141.714 Requirements for uncovered finished water storage facilities.

(a) Systems using uncovered finished water storage facilities must comply with the conditions of this section.

(b) Systems must notify the State of the use of each uncovered finished water storage facility no later than April 1, 2008.

(c) Systems must meet the conditions of paragraph (c)(1) or (2) of this

section for each uncovered finished water storage facility or be in compliance with a State-approved schedule to meet these conditions no later than April 1, 2009.

(1) Systems must cover any uncovered finished water storage facility.

(2) Systems must treat the discharge from the uncovered finished water storage facility to the distribution system to achieve inactivation and/or removal of at least 4-log virus, 3-log *Giardia lamblia*, and 2-log *Cryptosporidium* using a protocol approved by the State.

(d) Failure to comply with the requirements of this section is a violation of the treatment technique requirement.

REQUIREMENTS FOR MICROBIAL TOOLBOX COMPONENTS

§ 141.715 Microbial toolbox options for meeting *Cryptosporidium* treatment requirements.

(a)(1) Systems receive the treatment credits listed in the table in paragraph (b) of this section by meeting the conditions for microbial toolbox options described in §§141.716 through 141.720. Systems apply these treatment credits to meet the treatment requirements in §141.711 or §141.712, as applicable.

(2) Unfiltered systems are eligible for treatment credits for the microbial toolbox options described in §141.720 only.

(b) The following table summarizes options in the microbial toolbox:

MICROBIAL TOOLBOX SUMMARY TABLE: OPTIONS, TREATMENT CREDITS AND CRITERIA

Toolbox Option	<i>Cryptosporidium</i> treatment credit with design and implementation criteria
Source Protection and Management Toolbox Options	
(1) Watershed control program	0.5-log credit for State-approved program comprising required elements, annual program status report to State, and regular watershed survey. Unfiltered systems are not eligible for credit. Specific criteria are in § 141.716(a).
(2) Alternative source/intake management	No prescribed credit. Systems may conduct simultaneous monitoring for treatment bin classification at alternative intake locations or under alternative intake management strategies. Specific criteria are in § 141.716(b).
Pre Filtration Toolbox Options	
(3) Presedimentation basin with coagulation.	0.5-log credit during any month that presedimentation basins achieve a monthly mean reduction of 0.5-log or greater in turbidity or alternative State-approved performance criteria. To be eligible, basins must be operated continuously with coagulant addition and all plant flow must pass through basins. Specific criteria are in § 141.717(a).
(4) Two-stage lime softening	0.5-log credit for two-stage softening where chemical addition and hardness precipitation occur in both stages. All plant flow must pass through both stages. Single-stage softening is credited as equivalent to conventional treatment. Specific criteria are in § 141.717(b).

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MICROBIAL TOOLBOX SUMMARY TABLE: OPTIONS, TREATMENT CREDITS AND CRITERIA—Continued

Toolbox Option	<i>Cryptosporidium</i> treatment credit with design and implementation criteria
(5) Bank filtration	0.5-log credit for 25-foot setback; 1.0-log credit for 50-foot setback; aquifer must be unconsolidated sand containing at least 10 percent fines; average turbidity in wells must be less than 1 NTU. Systems using wells followed by filtration when conducting source water monitoring must sample the well to determine bin classification and are not eligible for additional credit. Specific criteria are in § 141.717(c).
Treatment Performance Toolbox Options	
(6) Combined filter performance	0.5-log credit for combined filter effluent turbidity less than or equal to 0.15 NTU in at least 95 percent of measurements each month. Specific criteria are in § 141.718(a).
(7) Individual filter performance	0.5-log credit (in addition to 0.5-log combined filter performance credit) if individual filter effluent turbidity is less than or equal to 0.15 NTU in at least 95 percent of samples each month in each filter and is never greater than 0.3 NTU in two consecutive measurements in any filter. Specific criteria are in § 141.718(b).
(8) Demonstration of performance	Credit awarded to unit process or treatment train based on a demonstration to the State with a State-approved protocol. Specific criteria are in § 141.718(c).
Additional Filtration Toolbox Options	
(9) Bag or cartridge filters (individual filters)	Up to 2-log credit based on the removal efficiency demonstrated during challenge testing with a 1.0-log factor of safety. Specific criteria are in § 141.719(a).
(10) Bag or cartridge filters (in series)	Up to 2.5-log credit based on the removal efficiency demonstrated during challenge testing with a 0.5-log factor of safety. Specific criteria are in § 141.719(a).
(11) Membrane filtration	Log credit equivalent to removal efficiency demonstrated in challenge test for device if supported by direct integrity testing. Specific criteria are in § 141.719(b).
(12) Second stage filtration	0.5-log credit for second separate granular media filtration stage if treatment train includes coagulation prior to first filter. Specific criteria are in § 141.719(c).
(13) Slow sand filters	2.5-log credit as a secondary filtration step; 3.0-log credit as a primary filtration process. No prior chlorination for either option. Specific criteria are in § 141.719(d).
Inactivation Toolbox Options	
(14) Chlorine dioxide	Log credit based on measured CT in relation to CT table. Specific criteria in § 141.720(b).
(15) Ozone	Log credit based on measured CT in relation to CT table. Specific criteria in § 141.720(b).
(16) UV	Log credit based on validated UV dose in relation to UV dose table; reactor validation testing required to establish UV dose and associated operating conditions. Specific criteria in § 141.720(d).

§ 141.716 Source toolbox components.

(a) *Watershed control program.* Systems receive 0.5-log *Cryptosporidium* treatment credit for implementing a watershed control program that meets the requirements of this section.

(1) Systems that intend to apply for the watershed control program credit must notify the State of this intent no later than two years prior to the treatment compliance date applicable to the system in § 141.713.

(2) Systems must submit to the State a proposed watershed control plan no later than one year before the applicable treatment compliance date in § 141.713. The State must approve the watershed control plan for the system to receive watershed control program treatment credit. The watershed con-

trol plan must include the elements in paragraphs (a)(2)(i) through (iv) of this section.

(i) Identification of an “area of influence” outside of which the likelihood of *Cryptosporidium* or fecal contamination affecting the treatment plant intake is not significant. This is the area to be evaluated in future watershed surveys under paragraph (a)(5)(ii) of this section.

(ii) Identification of both potential and actual sources of *Cryptosporidium* contamination and an assessment of the relative impact of these sources on the system’s source water quality.

(iii) An analysis of the effectiveness and feasibility of control measures that could reduce *Cryptosporidium* loading from sources of contamination to the system’s source water.