



# LT2ESWTR Laboratory Factsheet

## WHAT IS THE LT2ESWTR?

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The U.S. Environmental Protection Agency (EPA) published the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) on January 5, 2006. The goal of the LT2ESWTR is to improve control of microbial pathogens by identifying water systems whose source water is vulnerable to contamination by *Cryptosporidium* and requiring those systems to treat for that greater risk. Key provisions of the LT2ESWTR include:

- Source water monitoring at public water systems (PWSs) that use surface water or ground water under the direct influence of surface water (GWUDI).
- Monitoring for *Cryptosporidium*, *E. coli*, and turbidity based on system size and filtration type.
- Using Surface water or GWUDI source water monitoring data to categorize the sources according to four “bin” classifications that have associated treatment requirements. Systems that avoid filtration will be placed into one of two categories based on source water monitoring, and will have to meet specified inactivation requirements.
- Using grandfathered data collected before the system must begin *Cryptosporidium* source water monitoring, if the data meet rule requirements. Systems may use this data instead of conducting source water monitoring.

For detailed information regarding source water monitoring, including sampling and shipping procedures, systems should consult the *Source Water Monitoring Guidance Manual For Public Water Systems For The Final Long Term 2 Enhanced Surface Water Treatment Rule* [EPA 815-R06-005 February 2006]), at [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2).

## WHICH LABORATORIES MUST SYSTEMS USE?

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PWSs must use laboratories or personnel approved for source water monitoring analyses required by the rule (i.e., *Cryptosporidium*, *E. coli*, and turbidity sampling).

- ***Cryptosporidium* analysis:** EPA approves laboratories through the Laboratory Quality Assurance Evaluation Program (the Lab QA Program) to analyze *Cryptosporidium*. The purpose of the Lab QA Program is to identify laboratories that can reliably measure the presence of *Cryptosporidium* in surface water using the EPA Method 1622 or 1623. A list of commercial, government, PWS, and university laboratories approved or pending approval to analyze *Cryptosporidium* is located at [www.epa.gov/safewater/disinfection/lt2/lab\\_aprvlabs.html](http://www.epa.gov/safewater/disinfection/lt2/lab_aprvlabs.html).
- ***E. coli* analysis:** Laboratories must be certified by EPA, the National Environmental Laboratory Accreditation Conference, or the state to analyze *E. coli*.
- **Turbidity analysis:** Analysis must be conducted by a party approved by the state, which usually means a state-certified operator or a professional engineer. You should consult with your state for specific state requirements.

Commercial laboratories and other laboratories that accept samples from an outside party may charge varying rates. Systems may consider contacting multiple laboratories to compare costs. For detailed information on contracting laboratory services, consult the *Source Water Monitoring Guidance Manual for Public Water Systems for the Final Long Term 2 Enhanced Surface Water Treatment Rule* [EPA 815-R06-005 February 2006], or go online at [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2).

## WHAT METHODS MUST LABORATORIES USE?

Laboratories and personnel must use methods approved by EPA for *Cryptosporidium*, *E. coli*, and turbidity, as presented in the following tables.

Approved Methods for <i>E. coli</i>	Approved Methods for Turbidity
<ul style="list-style-type: none"> <li>■ Standard Methods 9223B (Colilert/Colilert-18)<sup>®</sup></li> <li>■ Standard Methods 9221B/9221F (LTB-EC-MUG)</li> <li>■ Standard Methods 9222D/9222G (mFC-NA-MUG)</li> <li>■ Standard Methods 9213D/ EPA Method 1103.1 (mTEC)</li> <li>■ EPA Method 1603 Modified mTEC</li> <li>■ EPA Method 1604 MI medium</li> <li>■ m-ColiBlue24Broth</li> <li>■ Standard Methods 9222B/9222G (mEndo/LES-Endo-NA-MUG)</li> </ul>	<ul style="list-style-type: none"> <li>■ Method 2130 B</li> <li>■ Revised Method 180.1</li> <li>■ Great Lakes Instrument (GLI) Method 2</li> </ul>
Approved Methods for <i>Cryptosporidium</i>	
<ul style="list-style-type: none"> <li>■ Method 1623: <i>Cryptosporidium</i> and <i>Giardia</i> in Water by Filtration/IMS/FA, United States Environmental Protection Agency, EPA-815-R-05-002. 2005.</li> </ul>	
<ul style="list-style-type: none"> <li>■ Method 1622: <i>Cryptosporidium</i> in Water by Filtration/IMS/FA, United States Environmental Protection Agency, EPA-815-R-05-001. 2005.</li> </ul>	

## WHEN SHOULD SYSTEMS CONTACT LABORATORIES?

PWSs should contact laboratories to discuss contracts and sampling dates as soon as possible. The number of samples processed each day will impact the laboratory's capacity. The PWS and the laboratory must agree on calendar dates for monthly, or more frequent, sample analysis because the PWS must submit a monitoring schedule no later than 3 months before monitoring begins. Monitoring start dates are summarized in the following table.

Systems that serve...	Must begin the first round of source water monitoring...
At least 100,000 people or part of a combined distribution system serving at least 100,000 people	October 2006
50,000 to 99,999 people or part of a combined distribution system serving at least 50,000 to 99,999 people	April 2007
10,000 to 49,999 people or part of a combined distribution system serving at least 10,000 to 49,999 people	April 2008
Less than 10,000 or part of a combined distribution system serving less than 10,000 people, and are filtered and monitoring for <i>E. coli</i>	October 2008
Less than 10,000 or part of a combined distribution system serving less than 10,000 people, and are monitoring for <i>Cryptosporidium</i> <sup>1</sup>	April 2010

<sup>1</sup>Applies to filtered systems that exceed the *E. coli* trigger or decide not to monitor for *E. coli*, and to unfiltered systems.

For additional information, please contact the Safe Drinking Water Hotline at 1-800-426-4791, send an email to [stage2mdbp@epa.gov](mailto:stage2mdbp@epa.gov), or visit [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2).