

**Environmental Protection Agency**

**§ 141.63**

**BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(b)—Continued**

Chemical Name	BAT(s)
Beryllium .....	1,2,5,6,7
Cadmium .....	2,5,6,7
Chromium .....	2,5,6 <sup>2</sup> ,7
Cyanide .....	5,7,13
Mercury .....	2 <sup>1</sup> ,4,6 <sup>1</sup> ,7 <sup>1</sup>
Nickel .....	5,6,7
Nitrate .....	5,7,9
Nitrite .....	5,7
Selenium .....	1,2 <sup>3</sup> ,6,7,9
Thallium .....	1,5

<sup>1</sup> BAT only if influent Hg concentrations ≤10µg/l.  
<sup>2</sup> BAT for Chromium III only.  
<sup>3</sup> BAT for Selenium IV only.  
<sup>4</sup> BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.  
<sup>5</sup> To obtain high removals, iron to arsenic ratio must be at least 20:1.

*Key to BATS in Table*

- 1 = Activated Alumina
- 2 = Coagulation/Filtration (not BAT for systems <500 service connections)
- 3 = Direct and Diatomite Filtration
- 4 = Granular Activated Carbon
- 5 = Ion Exchange
- 6 = Lime Softening (not BAT for systems <500 service connections)
- 7 = Reverse Osmosis
- 8 = Corrosion Control
- 9 = Electrodialysis
- 10 = Chlorine
- 11 = Ultraviolet
- 12 = Oxidation/Filtration
- 13 = Alkaline Chlorination (pH ≥8.5)

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

**SMALL SYSTEM COMPLIANCE TECHNOLOGIES (SSCTs)<sup>1</sup> FOR ARSENIC<sup>2</sup>**

Small system compliance technology	Affordable for listed small system categories <sup>3</sup>
Activated Alumina (centralized).	All size categories.
Activated Alumina (Point-of-Use) <sup>4</sup> .	All size categories.
Coagulation/Filtration <sup>5</sup> .....	501–3,300, 3,301–10,000.
Coagulation-assisted Micro-filtration.	501–3,300, 3,301–10,000.
Electrodialysis reversal <sup>6</sup> .....	501–3,300, 3,301–10,000.
Enhanced coagulation/filtration.	All size categories
Enhanced lime softening (pH>10.5).	All size categories.
Ion Exchange .....	All size categories.
Lime Softening <sup>5</sup> .....	501–3,300, 3,301–10,000.
Oxidation/Filtration <sup>7</sup> .....	All size categories.
Reverse Osmosis (centralized) <sup>6</sup> .	501–3,300, 3,301–10,000.

**SMALL SYSTEM COMPLIANCE TECHNOLOGIES (SSCTs)<sup>1</sup> FOR ARSENIC<sup>2</sup>—Continued**

Small system compliance technology	Affordable for listed small system categories <sup>3</sup>
Reverse Osmosis (Point-of-Use) <sup>4</sup> .	All size categories.

<sup>1</sup> Section 1412(b)(4)(E)(ii) of SDWA specifies that SSCTs must be affordable and technically feasible for small systems.  
<sup>2</sup> SSCTs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.  
<sup>3</sup> The Act (ibid.) specifies three categories of small systems: (i) those serving 25 or more, but fewer than 501, (ii) those serving more than 500, but fewer than 3,301, and (iii) those serving more than 3,300, but fewer than 10,001.  
<sup>4</sup> When POU or POE devices are used for compliance, programs to ensure proper long-term operation, maintenance, and monitoring must be provided by the water system to ensure adequate performance.  
<sup>5</sup> Unlikely to be installed solely for arsenic removal. May require pH adjustment to optimal range if high removals are needed.  
<sup>6</sup> Technologies reject a large volume of water—may not be appropriate for areas where water quantity may be an issue.  
<sup>7</sup> To obtain high removals, iron to arsenic ratio must be at least 20:1.

[56 FR 3594, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31847, July 17, 1992; 59 FR 34325, July 1, 1994; 60 FR 33932, June 29, 1995; 66 FR 7063, Jan. 22, 2001; 68 FR 14506, Mar. 25, 2003; 69 FR 38855, June 29, 2004]

**§ 141.63 Maximum contaminant levels (MCLs) for microbiological contaminants.**

(a) Until March 31, 2016, the total coliform MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system that collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system that collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Until March 31, 2016, any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in subpart Q of this part, this is a violation that may pose an acute risk to health.

(c) Beginning April 1, 2016, a system is in compliance with the MCL for *E.*

*coli* for samples taken under the provisions of subpart Y of this part unless any of the conditions identified in paragraphs (c)(1) through (c)(4) of this section occur. For purposes of the public notification requirements in subpart Q of this part, violation of the MCL may pose an acute risk to health.

(1) The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.

(2) The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.

(3) The system fails to take all required repeat samples following an *E. coli*-positive routine sample.

(4) The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.

(d) Until March 31, 2016, a public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this section for each month in which it is required to monitor for total coliforms. Beginning April 1, 2016, a public water system must determine compliance with the MCL for *E. coli* in paragraph (c) of this section for each month in which it is required to monitor for total coliforms.

(e) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section and for achieving compliance with the maximum contaminant level for *E. coli* in paragraph (c) of this section:

(1) Protection of wells from fecal contamination by appropriate placement and construction;

(2) Maintenance of a disinfectant residual throughout the distribution system;

(3) Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, cross connection control, and continual maintenance of positive water pressure in all parts of the distribution system;

(4) Filtration and/or disinfection of surface water, as described in subparts H, P, T, and W of this part, or disinfection of ground water, as described in subpart S of this part, using strong oxidants such as chlorine, chlorine dioxide, or ozone; and

(5) For systems using ground water, compliance with the requirements of an EPA-approved State Wellhead Protection Program developed and implemented under section 1428 of the SDWA.

(f) The Administrator, pursuant to section 1412 of the Act, hereby identifies the technology, treatment techniques, or other means available identified in paragraph (e) of this section as affordable technology, treatment techniques, or other means available to systems serving 10,000 or fewer people for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section and for achieving compliance with the maximum contaminant level for *E. coli* in paragraph (c) of this section.

[78 FR 10347, Feb. 13, 2013]

**§ 141.64 Maximum contaminant levels for disinfection byproducts.**

(a) *Bromate and chlorite.* The maximum contaminant levels (MCLs) for bromate and chlorite are as follows:

Disinfection byproduct	MCL (mg/L)
Bromate .....	0.010
Chlorite .....	1.0

(1) *Compliance dates for CWSs and NTNCWSs.* Subpart H systems serving 10,000 or more persons must comply with this paragraph (a) beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (a) beginning January 1, 2004.

(2) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for bromate and chlorite identified in this paragraph (a):