



## Drinking Water Requirements for States and Public Water Systems

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# Lead and Copper Rule

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## Rule Summary

40 CFR Part 141 Subpart I [↗](#)

Lead and copper enter drinking water primarily through plumbing materials. Exposure to lead and copper may cause health problems ranging from stomach distress to brain damage.

- **[View information about lead in drinking water](https://epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water)** <<https://epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>>

In 1991, EPA published a regulation to control lead and copper in drinking water. This regulation is known as the Lead and Copper Rule (also referred to as the LCR). Since 1991 the LCR has undergone various revisions, see the Rule History section below.

The treatment technique for the rule requires systems to monitor drinking water at customer taps. If lead concentrations exceed an action level of 15 ppb

or copper concentrations exceed an action level of 1.3 ppm in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion.

If the action level for lead is exceeded, the system must also inform the public about steps they should take to protect their health and may have to replace lead service lines under their control.

- **Public Water Systems: Lead and Copper Rule Quick Reference Guide (PDF)**
- **Learn about the Basics: Understanding the Lead and Copper Rule** <<https://epa.gov/ground-water-and-drinking-water/lead-and-copper-101>> **(PDF)**

## Rule History

The Lead and Copper Rule can be found in the Code of Federal Regulations.

- 40 CFR Part 141 Subpart I [↗](#)

## Long Term Revisions

EPA's 2021 Revised Lead and Copper Rule

<<https://epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule>> better protects children and communities from the risks of lead exposure by better protecting children at schools and child care facilities, getting the lead out of our nation's drinking water, and empowering communities through information.

## Short Term Revisions

In 2007, EPA revised the Lead and Copper Rule to enhance implementation in the areas of monitoring, treatment, customer awareness, and lead service line replacement. The update also enhanced public education requirements and ensured drinking water consumers receive is: meaningful, timely and useful information. These changes are also known as the “Short-Term Revisions to the Lead and Copper Rule.”

## Implementation Tools

- View tools for states and water utilities  
<<https://epa.gov/dwreginfo/lead-and-copper-rule-compliance-help-public-water-systems>>
- Resources for Lead Service Line Replacement  
<<https://epa.gov/ground-water-and-drinking-water/lead-service-line-replacement>>
- Register for EPA's Webinar Series on Lead Service Line Replacements  
<<https://epa.gov/dwreginfo/lead-service-line-identification-and-replacement-webinars>>
- See EPA's LCR Compliance Data Factsheet  
<<https://epa.gov/dwreginfo/learn-about-lead-and-copper-rule-compliance-factsheet>>.

- Federal Register Notice - Final Rule, October 10, 2007 (PDF) [↗](http://www.gpo.gov/fdsys/pkg/fr-2007-10-10/pdf/e7-19432.pdf) <<http://www.gpo.gov/fdsys/pkg/fr-2007-10-10/pdf/e7-19432.pdf>>(39 pp, 340 K, About PDF <<https://epa.gov/home/pdf-files>> )
  - 2007 Fact Sheet: Revisions to Regulations Controlling Lead in Drinking Water (PDF)(4 pp, 175 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 815-F-07-003
  - Economic and Supporting Analyses: Short-Term Regulatory Changes to the Lead and Copper Rule (PDF)(191 pp, 556 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 815-R-07-022, September 2007

## Minor Revisions

In 2004, EPA published minor corrections to the LCR to reinstate text that was inadvertently dropped from the rule during previous revisions.

- June 29, 2004 - National Primary Drinking Water Regulations: Minor Corrections and Clarification to Drinking Water Regulations; National Primary Drinking Water Regulations for Lead and Copper [↗](https://www.federalregister.gov/documents/2004/06/29/04-14604/national-primary-drinking-water-regulations-minor-corrections-and-clarification-to-drinking-water) <<https://www.federalregister.gov/documents/2004/06/29/04-14604/national-primary-drinking-water-regulations-minor-corrections-and-clarification-to-drinking-water>>

In 2000, EPA published revisions to the LCR to address implementation issues arising from legal challenges to the 1991 rule. The revisions also streamlined and reduced monitoring and reporting burden.

- Federal Register Notice of Final Rule, January 12, 2000(PDF) [↗](http://www.gpo.gov/fdsys/pkg/fr-2000-01-12/pdf/00-3.pdf) <<http://www.gpo.gov/fdsys/pkg/fr-2000-01-12/pdf/00-3.pdf>>(66 pp, 497 K, About PDF <<https://epa.gov/home/pdf-files>> )
- Lead and Copper Rule Minor Revisions: Fact Sheet (PDF)(3 pp, 31 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 815-F-99-010, December 1999
- 1998 Notice of Data Availability on the minor revisions to the Lead and Copper Rule [↗](https://www.govinfo.gov/content/pkg/fr-1998-04-22/pdf/98-10713.pdf) <<https://www.govinfo.gov/content/pkg/fr-1998-04-22/pdf/98-10713.pdf>>
- Fact Sheets supporting the 2000 revisions
  - LCR Minor Revisions Fact Sheet for Public Water Systems that Serve more than 50,000 Persons (PDF)(10 pp, 450 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-00-009, February 2001
  - LCR Minor Revisions Fact Sheet for Public Water Systems that serve 3301-50000 Persons (PDF)(9 pp, 528 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-00-008, February 2001
  - LCR Minor Revisions Fact Sheet for Public Water Systems that serve 3300 or fewer Persons (PDF)(10 pp, 839 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-00-007, March 2000
  - LCR Minor Revisions Fact Sheet for Tribal Water System Owners and Operators (PDF)(9 pp, 355 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-00-010, February 2001

- Using DWSRF Set-Aside Funds for Capacity Development (PDF)(2 pp, 27 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-00-11, March 2000

## The 1991 Rule

In 1991, EPA published the LCR to minimize lead and copper in drinking water. The rule replaced the previous standard of 50 ppb, measured at the entry point to the distribution system.

The rule established a maximum contaminant level goal (MCLG) of zero for lead in drinking water and a treatment technique to reduce corrosion of lead and copper within the distribution system.

Lead and Copper Rule Historical Documents <<https://epa.gov/dwreginfo/lead-and-copper-rule-historical-documents>>

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## Additional Resources

### Quick Reference Guides

These documents provide a simple and straightforward description of the Rule. It includes deadlines and requirements for public water systems (PWSs) and states, and information on monitoring requirements.

- Lead and Copper Rule: A Revised Quick Reference Guide (PDF)(2 pp, 125 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-08-018, June 2008
- Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that Are Regulated Under the Safe Drinking Water Act (PDF)(5 pp, 546 K, About PDF <<https://epa.gov/home/pdf-files>>) EPA 816-F-05-030, October 2005

### Drinking Water Regulations Under Development or Review

- Lead and Copper Rule Long-Term Revisions <<https://epa.gov/dwstandardsregulations/lead-and-copper-rule-long-term-revisions>>
- Prohibition on Use of Lead Pipes, Solder, and Flux - Implementing Revisions to Section 1417 of the Safe Drinking Water Act <<https://epa.gov/dwstandardsregulations/section-1417-safe-drinking-water-act-prohibition-use-lead-pipes-solder-and>>

You will need the free Adobe Reader to view some of the files on this page. See EPA's PDF page <<https://epa.gov/home/pdf-files>> to learn more. If you need help accessing these PDF documents below, please contact EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## Water Supply Guidance Manual

EPA periodically issues memorandums which clarify drinking water policies and regulations. These policy memos have been collected into a water supply guidance (WSG) manual which is made available to states and public water systems to assist in implementation of the Safe Drinking Water Act.

- [Water Supply Guidance](https://epa.gov/dwreginfo/public-water-system-supervision-program-water-supply-guidance-manual)

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