

Draft Reduction Of Lead In Drinking Water Act  
Frequently Asked Questions  
Please send comments to [LeadFreeAct@epa.gov](mailto:LeadFreeAct@epa.gov)

The “Reduction of Lead in Drinking Water Act was enacted on January 4, 2011 to amend Section 1417 of the Safe Drinking Water Act (SDWA or Act) respecting the use and introduction into commerce of lead pipes, plumbing fittings or fixtures, solder and flux. The Act established a prospective effective date of January 4, 2014, which provided a three year timeframe for affected parties to transition to the new requirements. In anticipation of these changes taking effect, EPA is providing the following summary of the requirements of the lead ban provisions in Section 1417 and some answers to frequently asked questions related to the amendments to assist manufacturers, retailers, and plumbers in understanding the changes to the law and how EPA intends to implement it.

### **Outreach**

On August 16, 2012, EPA held a public webinar with external stakeholders to discuss the Reduction of Lead in Drinking Water Act and the potential ramifications that this change in law may have. Participants included public utilities, government agencies, plumbing manufacturers, plumbing retailers and trade associations. At the end of this webinar, EPA solicited comments from the attendees on issues and concerns related to the new requirements. The webinar proceedings and the solicited input were used in formulating the Frequently Asked Questions (FAQs) below.

This draft document, including the answers to frequently asked questions, expresses EPA’s interpretation of the statutory requirements as of the time of publication. In some instances, the answers to the frequently asked questions include recommendations that are advisory only (indicated by the use of the words such as “should” or “encourages”). EPA is interested in input on the usefulness and completeness of this document as a whole and its answers to the Frequently Asked Questions (FAQs); as a result, EPA is seeking comments on the document and EPA will re-publish the FAQs after consideration of any comments received on this draft document.

Please direct comments or questions regarding the FAQs to: [LeadFreeAct@epa.gov](mailto:LeadFreeAct@epa.gov) by June 21, 2013.

### **SDWA Section 1417**

Since 1986, the Safe Drinking Water Act has prohibited the use of certain items that are not lead free and since 1996 the Act has made it unlawful for anyone to introduce into commerce items that are not lead free.

### **Use Prohibition**

Section 1417(a)(1) prohibits the “use of any pipe, any pipe or plumbing fitting or fixture, any solder, or any flux, after June 1986, in the installation or repair of (i) any public water system; or (ii) any plumbing in a residential or non-residential facility providing water for human consumption, that is not lead free” as defined in Section 1417(d). Prior to the 2011 Amendments, the only exception to this prohibition is for “leaded joints necessary for the repair of cast iron pipes.”

### **Unlawful Commerce Provision**

There are three components to the “unlawful commerce” provision. Section 1417(a)(3) provides that “it shall be unlawful –

- (A) for any person to introduce into commerce any pipe, or any pipe or plumbing fitting or fixture, that is not lead free, except for a pipe that is used in manufacturing or industrial processing;
- (B) for any person engaged in the business of selling plumbing supplies, except manufacturers, to sell solder or flux that is not lead free; or
- (C) for any person to introduce into commerce any solder or flux that is not lead free unless the solder or flux bears a prominent label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing providing water for human consumption.”

### **Summary of the Amendments to SDWA Section 1417**

The 2011 “Reduction of Lead in Drinking Water Act” revised Section 1417 to:

- (1) Redefine “lead free” in SDWA Section 1417(d) to
  - lower the maximum lead content of plumbing products such as pipes and fixtures from 8.0% to 0.25%;
  - establish a statutory method for the calculation of lead content; and
  - eliminate the requirement that lead free products be in compliance with voluntary standards established in accordance with SDWA 1417(e) for leaching of lead from new plumbing fittings and fixtures.
- (2) Create exemptions in SDWA Section 1417(a)(4) from the prohibitions on the use or introduction into commerce for:
  - “pipes, pipe fittings, plumbing fittings or fixtures, including backflow preventers, that are used exclusively for nonpotable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption;” (SDWA 1417(a)(4)(A))
  - “toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are 2 inches in diameter or larger.” (SDWA 1417(a)(4)(B))

### **Effective Date of the Amendments**

The amendments will become effective on January 4, 2014.

Until January 3, 2014:

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- The definition of lead free is a maximum lead content of 8.0%
- None of the exemptions created by the 2011 amendments apply
- Plumbing fittings and fixtures must be in compliance with the voluntary standard Section 9 of NSF, International (NSF)/American National Standards Institute (ANSI) Standard 61.

As of January 4, 2014, the 2011 amendments to Section 1417 of SDWA (the Reduction of Lead in Drinking Water Act) take effect and therefore:

- A new definition of lead free applies (including a maximum lead content of 0.25% and a method for calculating it) unless the product is covered by one of the exemptions.
- SDWA no longer requires plumbing fittings and fixtures to be in compliance with Section 9 of NSF/ANSI Standard 61 (e.g., new endpoint devices).

### **Other laws related to the sale or use of plumbing products that contain lead**

It is important to note that state and local jurisdictions may have additional limitations or requirements regarding the use or introduction into commerce of pipes, pipe or plumbing fittings, or fixtures that contain lead. You will need to be aware of and comply with those state or local laws in addition to the SDWA requirements.

### **Frequently Asked Questions**

#### **Definition of Lead Free**

1. Q. How exactly will the definition of lead free change?

A. The current definition of lead free in SDWA Section 1417(d) is  
For purposes of this section, the term lead free –

- (1) when used with respect to solders and flux refers to solders and flux containing not more than 0.2 percent lead;
- (2) when used with respect to pipes and pipe fittings refers to pipes and pipe fittings containing not more than 8.0 percent lead; and
- (3) when used with respect to plumbing fittings and fixtures, refers to plumbing fittings and fixtures in compliance with standards established in accordance with subsection (e) of this section (e.g. Section 9 of NSF, International/American Standards Institute [ANSI] Standard 61).

After January 4, 2014, the new definition of lead free in Section 1417(d) will be:

- (1) In general.  
For the purposes of this section, the term lead free means--

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(A) not containing more than 0.2 percent lead when used with respect to solder and flux; and

(B) not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

(2) Calculation

The weighted average lead content of a pipe, pipe fitting, plumbing fitting, or fixture shall be calculated by using the following formula: For each wetted component, the percentage of lead in the component shall be multiplied by the ratio of the wetted surface area of that component to the total wetted surface area of the entire product to arrive at the weighted percentage of lead of the component. The weighted percentage of lead of each wetted component shall be added together, and the sum of these weighted percentages shall constitute the weighted average lead content of the product. The lead content of the material used to produce wetted components shall be used to determine compliance with paragraph (1)(B). For lead content of materials that are provided as a range, the maximum content of the range shall be used.<sup>1</sup>

2. Q. I am a manufacturer of faucet-mounted water treatment devices and plumbed-in treatment devices for use with dedicated faucets (point-of-use devices). Would EPA consider these types of devices to be a “plumbing fitting or fixture” that is subject to the new lead free requirements?

A. Yes, EPA would consider such devices to be a plumbing fitting or fixture. Those terms are commonly understood to include kitchen and bathroom faucets and the pipes leading to such faucets. Point of use treatment devices are typically integrated into faucets that deliver drinking water because they are either faucet mounted or plumbed in for use with a faucet; as a result, they would be considered plumbing fittings or fixtures that would be subject to

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<sup>1</sup> Note: The formula will vary for each product depending upon the number of components and the wetted surface area of each component. Equation: Total % Lead = [Pb%C<sub>1</sub> X RWSAC<sub>1</sub>] + [Pb%C<sub>2</sub> X RSAC<sub>2</sub>] + [Pb%C<sub>n</sub> X RSAC<sub>n</sub>]

Example:

Component	(Pb%) Lead Content	(RWSA) Ratio of Wetted Surface Area	Weighted % Lead
Washer	0.50%	1/1000	0.0005
Pipe	0.10% lead	999/1000	0.099

Weighted Average Lead Content: 0.0005 + 0.099 = 0.0995

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the new lead free requirements. Because point of use devices are typically designed to remove lead, EPA expects that they may already meet the lead content limit of 0.25%.

**Effective Date**

3. **Q.** I operate a hardware store that sells plumbing fittings and fixtures primarily to home owners, contractors, and some small businesses that sell plumbing services. I recently purchased a large amount of fixtures that meet the old definition of lead free, but not the new definition of lead free. If my inventory of these fixtures has not sold by January 4, 2014, may I continue to sell them until I've sold my existing supply?

**A.** No. The changes to the law become effective on January 4, 2014. Congress provided a transition period of three years after enactment (2011) of the new requirements. There are no further extensions and no exceptions for back inventory, small businesses, or sales to end-users.

4. **Q.** I am a plumber, a plumbing supply retailer or distributor, or a manufacturer of plumbing parts. What if I do not comply with the new requirements in Section 1417 of SDWA?

**A.** While you could be subject to an enforcement action by EPA under Section 1414 of the SDWA, our efforts initially once these requirements become effective will be focused on compliance assistance. You may also be subject to a citizen suit under Section 1449 of SDWA or a State enforcement action.

**Calculating Lead Content, Third Party Certification and Labeling Products**

5. **Q.** I am a manufacturer of plumbing fittings. What method must I use for determining whether my products meet the definition of lead free in SDWA?

**A.** You must use the method for calculating lead content in Section 1417(d)(2) (see answer to question 1).

6. **Q.** I am a manufacturer of plumbing supplies. If I apply a coating to the wetted surface or use a lead removal technology to treat the surface, how does it affect my calculation of the "lead content of the material used to produce the wetted component"?

**A.** The statutory provision for calculating lead content (Section 1417(d)(2)) provides that "[t]he lead content of the material used to produce wetted components shall be used to determine compliance with paragraph (1)(B)." Paragraph (1)(B) defines lead free to mean "not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures." Paragraph (1)(B) also states

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that “For lead content of materials that are provided as a range, the maximum content of the range shall be used.” The “material used to produce wetted components” includes all of the materials used to produce any component that has a wetted surface. If a coating is applied to a pipe, for example, you would need to calculate the lead content of both the alloy and the coating and use the maximum lead content. If a pipe is treated with a lead removal technology, you would need to calculate the lead content of the alloy used to produce the pipe –not just the surface of the pipe -- because the pipe is the “wetted component” and use the maximum lead content.

7. **Q.** What does it mean for plumbing fittings and fixtures now that the new definition of lead free no longer refers to plumbing fittings and fixtures “in compliance with standards established in accordance with subsection (e) of this section”?

**A.** As of January 4, 2014, plumbing fittings and fixtures are no longer required by the SDWA to be in compliance with voluntary standards (e.g., Section 9 of NSF/ANSI Standard 61 or NSF/ANSI Standard 372) because Congress removed Section 1417(d)(3) from the definition of lead free. State or local laws and regulations (e.g., plumbing codes) however, may still prohibit the use of products that are not in compliance with certain voluntary standards.

8. **Q.** I am a plumbing manufacturer. Does SDWA require that my products be certified by a third party to demonstrate compliance with the new definition of “lead free?”

**A.** No, the SDWA does not require manufacturers to obtain third party certification of their products. However, EPA encourages manufacturers to use third party certification or to create a system to document compliance (e.g., self-certification) with Section 1417 of SDWA. Additionally, a recent survey of States has found that 46 have requirements for water treatment and distribution system components to comply with NSF/ANSI Standard 61 and most of them require an ANSI-accredited third party certification.

9. **Q.** I am a manufacturer of plumbing fittings. Am I required to label my products as being lead free?

**A.** While there are no requirements in SDWA for a manufacturer to label their products as lead free, EPA encourages manufacturers to provide consumers with information on the lead content in the products they are considering purchasing.

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**10. Q.** I am installing a bathroom sink faucet (e.g., a plumbing fixture for a potable service) and I want to be sure that the fixture meets the requirements of the Reduction of Lead in Drinking Water Act. How can I tell which product to purchase?

**A.** As of January 4, 2014, all plumbing fixtures introduced into commerce must be lead free as defined by The Reduction of Lead in Drinking Water Act unless they are exempt because (1) they are used exclusively for nonpotable services and not anticipated to be used for human consumption or (2) they are toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are 2 inches in diameter or larger. A bathroom faucet would not be exempt. Therefore, any bathroom sink faucet for sale after January 4, 2014 must be lead free (containing not more than 0.25% weighted lead content).

In addition, many plumbing product manufacturers may choose to label their products as lead free. Additionally, many State plumbing codes require the use of products that are in compliance with NSF/ANSI standards 61 and 372. NSF/ANSI Standard 372 is a certification process by which independent laboratories verify that the plumbing product is in compliance with the requirements of the Reduction of Lead in Drinking Water Act. Manufacturers choosing to use this process typically place a certification mark on their products package if it complies with this standard.

**11. Q.** Is there a role for third party certifications?

**A.** Third party certification, confirmation from an independent laboratory stating that the product meets specific criteria or standards, may still be used by manufacturers to inform consumers which products meet a voluntary standard. One such standard, NSF/ANSI 372, is consistent with the requirements of the Reduction of Lead in Drinking Water Act. A third party certification such as NSF/ANSI 372 could be a useful way to identify a product as meeting the requirements of Section 1417. Also, there may be state or local laws that require third party certification.

**Repairs and Replacement Parts**

**12. Q.** I am a manufacturer of bathroom and kitchen faucets and other fixtures. The faucets and fixtures are made up of several component parts. If I sell or provide free replacement parts for the faucets and fixtures, must those parts meet the new definition of lead free?

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**A.** It depends. If the replacement part is itself is a pipe, pipe fitting, plumbing fitting or fixture, then it must meet the new definition of lead free because SDWA Section 1417(a)(3) prohibits the introduction into commerce of “any pipe, or any pipe or plumbing fitting or fixture” that is not lead free. If the replacement part is not a pipe, pipe fitting, plumbing fitting or fixture it is not subject to the requirements of Section 1417(a)(1) or (3).

**13. Q.** I am a plumber who installs and repairs plumbing in residential facilities and non-residential facilities providing water for human consumption. A kitchen faucet requires replacement; does the new faucet need to meet the new federal definition of lead free?

**A.** Yes, the replacement of a kitchen faucet would trigger the requirements of Section 1417 and the new faucet would need to meet the new definition of lead free. Section 1417(a)(1) prohibits the use of a fixture that is not lead free in the installation or repair of any plumbing in a residential or non-residential facility providing water for human consumption.

**14. Q.** I am a plumber who installs and repairs plumbing in facilities providing water for human consumption. A kitchen sink requires repair of a part that is not a pipe, pipe fitting, plumbing fitting or fixture and that does not include solder and flux. Does the new part need to meet the definition of lead free?

**A.** No. It would not be subject to the requirements of Section 1417 because it is not a pipe, pipe fitting, plumbing fitting or fixture and doesn't include solder and flux.

**15. Q.** I am a plumber who installs and repairs plumbing in facilities providing water for human consumption. A kitchen faucet requires repair of a part that does not come into contact with water. Does the new part need to meet the definition of lead free?

**A.** If the part has no wetted components, then the part will meet the lead-free definition based on the weighted average lead content calculation methodology described in Section 1417(d) (see question 1).

**Q.** I am a plumber who is repairing a faucet in a residential facility providing water for human consumption. The faucet was installed prior to January 4, 2014 and it does not meet the new definition of lead free. Is the repaired faucet required to meet the new definition of lead free?

**A.** No, but any parts used in the repair that are covered by Section 1417 (any pipe, pipe or plumbing fitting or fixture, solder or flux) must meet the definition of lead free and



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additionally any wetted components (not covered by Section 1417) used in the repair should meet the new definition of lead free.

**16. Q.** I manage a public water system. When a water meter needs repair, we typically remove the meter from service, repair it off site, and place the same meter back into service after it's been repaired. Does this meter now need to meet the new definition of lead free?

**A.** No, but certain parts used in the repair may need to meet the definition. The removal from service of the fixture for repair and replacement, by itself, does not trigger the requirements of Section 1417(a). Any part used in the repair of the meter that is a pipe, pipe fitting, plumbing fitting or fixture must meet the new definition of lead free, but the meter being repaired is not independently subject to the requirements in 1417(a) because it is not being used or installed for the first time in that location. The original purpose of Section 1417 of SDWA was to eliminate the future use of lead in water supply distribution systems (H.R. Rep. 99-575 at 38). This is reflected in the legislative history of the recent amendments -- "This bill doesn't require people to buy replacements. No one is forced to replace their faucets." (156 Cong. Rec. H8617-01 (Dec. 17, 2010)).

**17. Q.** I operate a seasonal water system that temporarily removes fittings/fixtures, such as water meters, at the end of the season and then the next year returns the same fittings/fixtures to the same location without replacing or repairing the fittings/fixtures or components of the fittings/fixtures. Must these fittings/fixtures meet the new definition of Lead Free after January 4, 2014?

**A.** No. Because the seasonal water system is simply returning a fitting/fixture to the same location, and there has been no installation or repair, the fitting/fixture in question would not be required to meet the new definition of lead free.

#### **Exemptions**

**18. Q.** I am a manufacturer of pipes, pipe fittings, plumbing fittings or fixtures, including backflow preventers. Some of the products I make are marketed and sold for use in nonpotable services exclusively, and some products I make are marketed and sold for both potable and nonpotable services. The products marketed and sold for use in nonpotable services could theoretically be used for potable services. If I affix a label to the products that are sold for nonpotable services identifying it as illegal to use in a potable application, could it be considered exempt under 1417(a)(4)(A)?

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**A.** Yes. While there is no requirement in the statute to label pipes, pipe fittings, plumbing fittings or fixture as either lead free or not lead free, a manufacturer could use labeling to establish that pipes, pipe fittings, plumbing fittings or fixtures are to be used exclusively for nonpotable services and therefore, exempt from the lead free requirements in SDWA 1417(a)(1) and (3). In implementing the new requirements, EPA would generally consider pipes, pipe fittings, plumbing fittings or fixtures to be “used exclusively for nonpotable services and not anticipated to be used for human consumption” if they are marketed and sold for use in nonpotable services, and prominently and clearly labeled as illegal to use for potable services.

**19. Q.** I am a manufacturer of products that are sold for use in nonpotable services but they could be connected to potable services. If I want to assure my products are used exclusively for nonpotable applications, what kind of labeling should I use?

**A.** If you choose to label your pipe, pipe fitting, plumbing fitting or fixture products in order to establish that they are to be used exclusively for nonpotable services, the labeling should be clear and prominent; otherwise, it may not be reasonable to assume that the product will be used exclusively for nonpotable services and not anticipated to be used for human consumption. EPA recommends that the labeling consist of both a product label and a packaging label because products can get separated from their packaging. Another reason for labeling both the package and the product is that one package may contain many individual products within it and purchasers may not be aware of the label on the bulk package. EPA further recommends that product labels consist of physically marking the product, a tag physically attached to each individual product or an individual bag that contains each individual product. Labels should clearly indicate that it is illegal to use the product for a potable application.

**20. Q.** I am a manufacturer of toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are 2 inches in diameter or larger. Now that the new law exempts these products from the use prohibition and the unlawful commerce provision in SDWA 1417(a)(1) and (3), do they still need to meet the old definition of lead free or could they contain more than 8.0% lead?

**A.** Once the amendments take effect on January 4, 2014, there will be nothing in the SDWA that would require these products to meet the old definition of lead free (no more than 8.0% lead). However, there may be state or local laws prohibiting these products from containing

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more than 8.0 % lead, or other legal implications to increasing the lead content of these products, so manufacturers may want to seek legal advice before increasing the lead content of these products.

**21. Q.** I am a manufacturer of hose bibs (threaded faucets with nozzles bent downward). I market them and sell them primarily for use outdoors –e.g. to connect to a garden hose, sprinkler, or irrigation system, but they could be used for potable services as well. Are the hose bibs required to meet the new definition of lead free?

**A.** A hose bib is a plumbing fitting/fixture and therefore it is subject to the requirements in Section 1417 unless it is used exclusively for nonpotable services. If you market and sell hose bibs for nonpotable services, and the bibs are prominently and clearly labeled as illegal to use for potable services and not anticipated to be used for human consumption, then EPA would generally consider them to be “used exclusively for nonpotable services” and therefore, exempt from the lead free requirements in SDWA 1417(a)(1) and (3).