



PCA Guide to the Reduction of Lead in Drinking Water Act

Lead Free Implementation Begins January 4, 2014

Beginning January 4, 2014, national implementation of the Reduction of Lead in Drinking Water Act goes into effect. As part of a 2010 amendment to **Safe Water Drinking Act** (SWDA), the bill, specifies that lead content allowed in potable water systems be less than 0.25% with respect to fittings and fixtures and 0.2% with respect to solder and flux. Beginning January 4, 2014, you will only be able to install these new low lead fixtures, fittings, valves, solder and flux on any project, even those that are already in progress.

In preparation for compliance with this law, the PCA recommends the following action items:

1. **Review your inventory** – Some of the plumbing supplies that have a higher lead content can still be used in non-potable systems under the new requirements. Evaluate your inventory and determine which materials can be used for non-potable systems after the implementation date and which must be used before January 4, 2014.
2. **Contact your suppliers** – Fixtures and fittings with the new low-lead content levels are more expensive. *On average, low-lead fixtures cost about 20% more* than those with a higher lead content. When similar laws went into effect in California, Vermont, Maryland and Louisiana, shortages of low lead materials occurred. In addition to pricing, you will need to determine your suppliers' and manufacturers' return dates and policies.
3. **Review upcoming projects and contact plumbing engineers** – If you have projects that start on or after the implementation date, you will need to review the specifications and provide change orders for any items that were specified with the higher lead content. Remember to include projects that could be pushed past the implementation date because of delays in this review. Also consider pre-purchased materials (including fabrication) which may need to be replaced if the plumbing work is installed after January 4, 2014.
4. **Contact your local plumbing inspectors and code officials** – Contact your local plumbing inspectors and determine how they intend to enforce the new law with regard to projects in progress. Each jurisdiction may be different; some may be lenient during the transition while others may require you to cut out systems and replace them after inspection.
5. **Get Product Samples** – Based on contractor feedback in states that have already implemented these laws, *some lower-level lead materials do not behave the same way as higher-level lead components*. Test the materials and talk to contractors in California, Maryland, Vermont or Louisiana to get their perspective.

The Facts:

The Amended definition of “Lead Free” in the Safe Water Drinking Act is:

- 0.20% maximum lead for solder and flux
- 0.25% maximum lead for products by weighted average
- Multiple component products are calculated to address total wetted exposure based upon wetted surface area of each component and that component’s lead by percentage.

The Exemptions:

- Pipes, pipe fittings, plumbing fittings or fixtures, including backflow preventers that are used exclusively for **non-potable** 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.
- 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.
- Bathroom faucets **are not** exempt because they provide water intended for human consumption.
- Water heaters **are** exempt as they are not covered by section 9 of NSF, however they must still contain less than 8% lead.

Enforcement:

- All products anticipated for potable water use must be lead free if sold or installed after January 4, 2014.
- Plumbing fixtures and fittings are already compliant to similar laws in several states through certification to NSF 61 Annex G or NSF 372.
- **Local** authority having jurisdiction will make final interpretation.

Alloy Comparison

Lead Free Bronze/Brass with $\leq 0.25\%$ lead typically has higher bismuth or silicon content.

- It is a harder material.
- Has minimal erosion and corrosion.
- More difficult to cast.
- Harder to press and machine.

Installation – Soldering Practice for Lead Free Products

- Good preparation and cleaning is a must.
- Use Sandpaper 120 grit or coarser for end prep.
- Apply flux immediately after prepping surfaces.
- Use only lead-free compliant solder.
- Heat the joint gradually and not to excess.
- Ensure adequate cooling after soldering to allow for time to set.

The FAQs

The EPA has released a draft Frequently Asked Questions document in preparation for the implementation. Here are some that pertain to plumbing contractors:

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.

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.

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.

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.

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).

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

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.

Identification of Low Lead Products

As noted in the FAQ, there is no standard labeling process for manufacturers to demonstrate that they are compliant with the lower definition of “Lead Free.” Here are some examples of how to distinguish between products with lower and higher levels of lead.

ZURN – ZURN completed their lead-free conversion in February 2013. Lead free products are designated by the lead free icon. Their [website](#) offers details about their full line of lead free products.



Ferguson Enterprises – Ferguson has developed a [No-Lead Brass Resource Center](#) that contains information on the law, frequently asked questions, and information about return requests.

Sloan Valve – Sloan Valve upgraded all of their electronic faucets and mixing valves to be in compliance with low lead standards in 2011. Each of their compliant products carries a UPC Low Lead shield logo. Their [website](#) also offers information on lead compliant products.



Milwaukee Valve – Milwaukee Valve has a low lead product line called [UltraPure](#). Products in this line are identified with the UltraPure logo on the handles and tags.



NIBCO – NIBCO has a low lead compliant line of products called HydraPure. They are designated with the NIBCO HydraPure logo. Their [website](#) also provides guidance in identifying the new lead free products.



Anvil International – Anvil International’s [website](#) offers guidance on their lead free products, which are not currently identified with a separate product line or logo.

Apollo Valves – Due to the dual use of their valves, Apollo Valves labels their lead free line with a “LF” symbol on the body. Additionally, valve handles include have a “Lead Free” logo and “LF” tags. Their [website](#) includes product listings and a conversion guide.



Elkhart Products – Elkhart’s [website](#) includes a listing of the company’s low lead cast products along with examples of their low lead or lead free indicators.



Kohler – Kohler faucets have been low lead compliant since 2011. Their website offers no specific guidance on lead free compliance since the majority of their non-compliant inventory has already been exhausted. A half inch silver symbol on each faucet box indicates the product meets low lead compliance standards.

Legend Valve – Legend Valve products include new logos to clearly identify both “No Lead” valves and ones that can be used on non-potable systems. The Legend [website](#) offers information on products, implementation and identification.



McGuire Manufacturing – As of January 2013, all of McGuire Manufacturing’s stops and supply kits met lead compliance standards. Their [website](#) notes that their Lead Free line contains a “LF” designation and the specifications have a UPC Low Lead logo shield included.

Mueller Industries – Mueller Industries uses a “Lead Free Compliant” logo to indicate that their products can be used in potable systems. The Mueller [website](#) contains information about the legislation as well as their lead free compliant product catalog.



Uponor – Uponor has upgraded their lead free brass transition fittings to comply with the new low lead standards. According to their [website](#), these fittings carry the NSF us-pw-G marking that indicate lead-free compliance.

Viega – Viega has created a Zero Lead product line for their ProPress, PEX fittings and transitions. According to their [website](#), product labels contain a “Zero Lead” notice and will be marked with a “cNSF@us pw-G,” a “NSF/ANSI 61-G” or, in cases where there are size constraints, a “Z.”

Ward Fittings – Ward Fittings’ [website](#) assists contractors in identifying which of their fittings are lead free compliant. Each of their galvanized fittings that meet compliance requirements have an “AB-1953” marking.

Watts – Watts’ lead free product line uses a variety of identification methods. Their [website](#) contains information on their lead free compliant product line, how to identify lead free products and their transition plan. Their Lead Free products include “LF” markings, “Lead Free” labels, tags and identifiers on the bags.

