

# Lead Reduction Act

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## Sources of Lead Exposure in Public Drinking Water

- \* Concentrations of lead found in drinking water do not typically derive from natural sources.
- \* Instead, the most common cause of lead concentrations in potable water is due to contamination from the gradual corrosion of water supply pipes and plumbing fixtures as well as the solder or flux used in their installation and repair.
- \* Current regulatory efforts to control lead in drinking water focus primarily on reducing the lead content of these system components.

## Health Effects of Lead Exposure

- \* Lead is a neuro-toxic metal that accumulates in both soft tissue and bones.
- \* Is shown to have adverse health effects such as brain, nervous system, and blood disorders.
- \* Children and infants are particularly sensitive to lead exposure . One of the major health effects being a delay in physical or mental development.



## Previous Requirements

- \* Safe Drinking Water Act – Section 1417
- \* Louisiana Plumbing Code, 2000 Edition

*Lead Free Pipe and Fittings* – containing not more than 8.0 percent lead.

*Lead Free Solder and Flux* – containing not more than 0.2 percent lead.

Any pipe, solder or flux which is used in the installation or repair of any plumbing in a residential or nonresidential facility providing water for human consumption shall be lead free. This does not apply to leaded joints necessary for the repair of cast iron pipes.

All pipes, pipe fittings, solder, and flux used in the installation of water supply and distribution systems shall be lead free.

EXCEPTION: Leaded joints may be used for the repair of existing cast iron systems.

## Reduction of Lead in Drinking Water Act

### U.S. Senate Bill 3874

- \* Signed by President Obama January 4, 2011
- \* Becomes effective January 4, 2014

### Louisiana House Bill 471

- \* Signed by Governor Jindal June 29, 2012 (Act 362)
- \* Became effective January 1, 2013



## Regulatory Changes

- \* Amends the definition of "lead free" by reducing the allowable lead content from 8.0 percent to a weighted average of not more than 0.25 percent of the wetted surface
- \* Establishes statutory requirement for calculating lead content
- \* Adds additional exemptions for water systems and plumbing fixtures not used for human consumption

## Early Implementation

- \* California
  - \* Effective 1/1/2010
- \* Vermont
  - \* Effective 1/1/2010
- \* Maryland
  - \* Effective 1/1/2012
- \* Louisiana
  - \* Effective 1/1/2013
- \* United States
  - \* Effective 1/4/2014

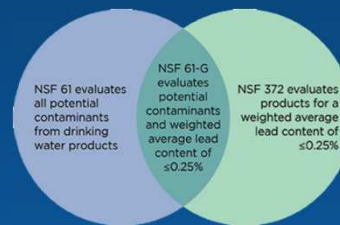


## Louisiana's New Lead Requirements -ACT 362-

- \* New lead requirements are included in Parts XII (Water Supplies) and XIV (Plumbing) of LAC Title 51 (Sanitary Code).
- \* Defines *Lead Free*
  - \* not containing more than 0.2 percent lead when used with respect to solder and flux; and
  - \* 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.
- \* All potable water pipes, pipe related products and materials that join or seal pipes and pipe related products shall be evaluated and listed as conforming with a national consensus product (or material) standard, ANSI/NSF Standard 61, and NSF/ANSI 372. Any solder or flux used in the installation or repair of any plumbing in a residential or nonresidential facility providing water for human consumption shall be lead free.

## NSF 61 and NSF 372

- \* Material standard which evaluates the lead content in drinking water system components.
- \* If each components of a product has a wetted surface with a verifiable lead content of not more than 0.25 percent lead, then the product is considered compliant
- \* If some of the wetted components of a product contain more the 0.25 percent lead, then the weighted lead content shall be calculated



## Formula Calculation

$$WLC = \sum_{c=1}^n ( LC_c \times [ WSA_c / WSA_t ] )$$

WLC = weighted average lead content of product

$LC_c$  = percentage lead content

$WSA_c$  = wetted surface area of component

$WSA_t$  = total wetted surface area of all components

n = number of wetted components in product

## Exemptions

- \* Used exclusively for nonpotable services
  - \* Manufacturing, industrial processing, irrigation
  - \* Any instance when the water is not anticipated to be used for human consumption
- \* For “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”
- \* **Louisiana - Materials purchased or acquired by a public water system prior to January 1<sup>st</sup>, 2013 can continue to be utilized until January 2014.**

## “Lead Free” Challenges

- \* Demonstrating “Lead Free”
  - \* Third party certification (NSF/ANSI)
  - \* Manufacturer certification (including supporting information)
- \* Identifying Potable versus Non-Potable Products
  - \* Distributors having dual product lines
  - \* Labeling of product (NL – nonlead)

## Effects on Water Systems

- \* Potential loss of inventory – Inventory purchased and acquired prior to 2013 can be used until 2014
- \* Increased cost of lead free compliant components



## Returning to Service?

- \* What do you do about repairing and overhauling meters, valves, etc. ?
- \* Will new non-lead-ed parts be allowed or compatible?
- \* Will this require a total replacement of a component if it is needed to be repaired?



## Additional Resources

- \* Louisiana Administrative Code Online (Title 51)

<http://doa.louisiana.gov/osr/lac/books.htm>

- \* NSF – Low Lead Water Products Guide

[http://www.nsf.org/business/mechanical\\_plumbing/annexg.asp#overview](http://www.nsf.org/business/mechanical_plumbing/annexg.asp#overview)

- \* Underwriter's Laboratories

<http://www.ul.com/global/eng/pages/offerings/industries/waterandfood/water/prodcert/components/>

## Questions



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Or Search for Louisiana Engineering Services with a web browser