

NIBCO, INC.

Lead-Free*

Frequently-Asked Questions

Law:

What is the Reduction of Lead in Drinking Water Act?

The Reduction of Lead in Drinking Water Act is a federal law that amends the Safe Drinking Water Act (SDWA) and sets new, lower standards for the amount of lead permissible in plumbing products that come into contact with potable (drinkable) water. The U.S. Environmental Protection Agency (EPA) has primary responsibility for interpreting the SDWA with individual states using health or plumbing codes or other standards consistent with the SDWA and EPA regulations to enforce those standards.

What does the law mandate, specifically?

The new law reduces the permissible levels of lead in the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures to a weighted average of not more than 0.25%. In addition, the law retains the 0.20% lead limit for solders and flux first implemented in 1986 and stipulates a method for calculating the weighted average lead content. Products that meet this standard are referred to in the law as lead free.

When does the law go into effect?

The Reduction of Lead in Drinking Water Act goes into effect on January 4, 2014. However, new lead content restrictions are already in effect in California and Vermont since January 1, 2010, Maryland since January 2012, and Louisiana since January 2013. It will be against the law to sell or install products for use in potable water applications that are not lead free nationally as of January 4, 2014.

Are there any exceptions to the law?

The new standard does not apply to pipes, pipe fittings, plumbing fittings or fixtures that are used exclusively for non-potable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where water is not anticipated to be used for human consumption. The law also specifically excludes 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.

Why are 2" main gate valves exempt?

They are not. Due to the order of wording and lack of punctuation, the exemption has caused confusion. The exemption is specific to gate valves in water-distribution mains 2" in diameter or larger. The Safe Drinking Water Act covers the entire system from water collection all the way to the drinking tap regardless of pipe diameter or valve type.

Who enforces this law?

The U.S. EPA is tasked with implementing this law; however, primary responsibility for enforcing the law is left to the states. Most states pass responsibility to cities, towns, and municipal utilities, which use health and plumbing codes to drive enforcement.

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Standards and Codes:

Do lead-free products need to be third-party certified?

There is no mandatory federal requirement for product testing or third-party certification under the Safe Drinking Water Act; however, some entities such as the state of California do require certification. Users can increase their level of confidence by installing products that have been certified by a third-party ANSI-accredited body. The NSF/ANSI 372 standard is consistent with requirements of the Reduction of Lead in Drinking Water Act.

What is NSF/ANSI 61, Drinking Water System Components?

The standard establishes minimum requirements for the chemical contaminants and impurities that are indirectly imparted to drinking water from products, components, and materials used in drinking water systems. It is intended to cover specific materials or products that come in contact with drinking water, drinking water treatment chemicals, or both.

Are there temperature options within the NSF/ANSI 61 standard that manufacturers can test to?

Yes, there are three options:

- Cold water applications: an end-use that is intended to result in continuous exposure to water at ambient temperature. Products are tested for an end-use temperature of $73 \pm 4^\circ\text{F}$.
- Domestic hot water applications: an end-use that is intended to result in continuous or intermittent exposure to water above that is above ambient, such as a part of the hot side of a residential piping system. Products are tested for an end-use temperature of $140 \pm 4^\circ\text{F}$.
- Commercial hot water applications: an end-use that is intended to result in continuous or intermittent exposure to water that is above ambient and domestic hot conditions, such as a part of the hot side of a commercial piping system. Products are tested for an end-use temperature of $180 \pm 4^\circ\text{F}$.

What is NSF/ANSI 61 Annex F?

This revision lowered the total allowable concentration (TAC) for lead from 15 $\mu\text{g/L}$ to 5 $\mu\text{g/L}$ and lowered the single product allowable concentration (SPAC) for lead from 1.5 $\mu\text{g/l}$ to 0.5 $\mu\text{g/L}$. The requirements defined within Annex F of NSF/ANSI 61 were incorporated into the body of the standard on July 1, 2012.

What is NSF/ANSI 61 Annex G?

An optional evaluation method for products that need to meet a $\leq 0.25\%$ weighted average lead content standard. Products evaluated for compliance with Annex G must first comply with the full requirements of NSF/ANSI 61. The method for evaluation of lead content is in accordance with NSF/ANSI 372.

What is NSF/ANSI 372, Drinking Water System Components?

The standard establishes procedures for the determination of lead content based on the wetted surface area of products. This standard applies to any drinking water system component that conveys or dispenses water for human consumption through drinking or cooking. The NSF/ANSI 372 standard is consistent with requirements of the Reduction of Lead in Drinking Water Act.

What third-party ANSI-accredited agencies provide certification / listing compliance, and what are the markings I should look for?

Truesdail Laboratories, NSF International (NSF), Underwriters Laboratories (UL), Water Quality Association (WQA), International Association of Plumbing and Mechanical Officials Research and

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Testing (IAPMO R&T), CSA Group, Intertek Testing Services, and ICC Evaluation Services (ICC ES) all provide certification. Reference the EPA document, *How to Identify Lead-Free Certification Marks for Drinking Water System & Plumbing Materials* available at nibcoleadfree.com/resources for a list of markings you should look for that indicate compliance.

Lead-Free Materials and Products:

What is replacing lead in lead-free alloys?

There are a variety of lead-free alloy formulations that have been developed that use silicon, bismuth, or other constituents as a primary lead replacement. For over two decades, NIBCO has led the industry in the development of lead-free alloys and commercialization of lead-free plumbing products. To overcome technical limitations of bismuth-based lead-free alloys, NIBCO focused on the development of silicon Performance Bronze™ alloys that exhibit far superior mechanical properties than traditional leaded alloys. Reference NIBCO White Papers WP-LFCAC-1012 and WP-LFPAC-1012 for more information on the benefits of silicon bronze LF alloys.

Is there a difference between silicon used in the NIBCO Performance Bronze™ alloys vs. silicone?

Yes. Silicon is the second most abundant element within the earth's crust (component of sand) and acts to strengthen copper alloys. Silicone (with an "e") is a man-made substance derived from silicon and other chemicals and it may be a liquid or rubber-like plastic polymer.

How can I tell if a product is lead free?

There is currently no industry standardization regarding the marking of lead-free products. Manufacturers may vary in the ways in which they mark their products. NIBCO identifies lead-free products with the unique HydraPure® double oval, white valve handles, blue hang tags, and blue carton labels. For detailed information on how to recognize LF products, reference NIBCO product identifier document www.nibcoleadfree.com.

What NIBCO products have been tested to NSF/ANSI 61 and/or NSF/ANSI 372?

Please reference www.nibcoleadfree.com/Products for an extensive list of products that comply with the aforementioned standards.

Where do I find product compliance documentation?

Please reference www.nibcoleadfree.com and select the specific lead-free product. Documentation is located under the "certifications" tab.

Why is there lead in brass and bronze products?

Lead acts as a chip breaker during machining, lubricates machine tools, and fills casting porosity to aid in casting tightness. Also, as lead segregates into discrete pools within the alloy, it naturally pre-tins solder cups aiding in solder coverage during installation.

Will all products convert to lead-free materials?

No. NIBCO manufactures products for a number of markets beyond plumbing such as fire protection, HVAC and irrigation, among others. Non-drinking water applications are beyond the scope of the new law.

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