



editor's emphasis

California's New Health & Safety Code

Beginning Jan. 1, 2010, companies who manufacture plumbing components for sale in California will need to demonstrate compliance with new, stricter low-lead requirements set forth by California Assembly Bill (AB) 1953.

By Tom Bowman

This law requires no more than 0.2% lead by weight in solder and flux used in the installation or repair of any public water system or any residential or nonresidential facility that provides water for human consumption. AB 1953 also requires no more than a weighted average of 0.25% lead by weight when used with respect to the wetted surfaces of pipes and pipe fittings, plumbing fittings and fixtures.

AB 1953 does not define how to uniformly determine compliance to the new lead requirements because analytical methods or protocols were not provided in the published legislation. Furthermore, compliance with the plumbing code is not currently a way to demonstrate compliance to the new definition of "low-lead."

To understand the impact of AB 1953 on plumbing manufacturers and how manufacturers can be assured the investments they make now can be verified by third-party certifiers in a manner acceptable to the state of California, let's take a look at the history of the Safe Drinking Water Act (SDWA) and the amendments that followed.

The Safe Drinking Water Act

The SDWA was established in 1974 to minimize chemical and bacterial contamination of drinking water in municipalities and rural water districts. Since then, there have been several amendments issued by Congress intended to further control drinking water.

The 1986 Amendment

Prior to the 1986 amendment, the U.S. Environmental Protection Agency (EPA) set standards for 25 contaminants. The 1986 amendment called on the government organization to set standards for an additional 83 chemicals. The 1986 amendment added Section 1417 to address concerns for lead contamination in drinking water systems,

and specified that all pipes, solders, pipe fittings and plumbing fixtures used in the installation or repair of any public water system or any residential or non-residential facility that provided water for human consumption be lead free.

The term "lead free" was defined to mean that solder and flux could not contain more than 0.2% lead by weight and that pipes and fittings could not contain more than 8% lead.

Section 1417 also required plumbing fixtures and fittings to comply with voluntary standards required under the SDWA.

The 1996 Amendment

In 1996, an amendment passed to expand Section 1417 to include subsection (e) that focused on plumbing fittings and fixtures. Subsection (e) had provisions in place so that in the event that a voluntary standard was not established within two years of the enactment, the EPA would be required to issue regulations setting a performance standard that establishes maximum leaching levels for lead used in fixtures intended to dispense water for human consumption.

In a Federal Register notice dated Aug. 22, 1996, the EPA stated, "NSF Standard 61 satisfies the requirement of section 1417(e), that a voluntary standard be established. Thus the obligation to issue regulations is not triggered." This Federal Register notice effectively placed the burden of establishing the maximum leaching levels for plumbing fixtures and fittings with the NSF Drinking Water Additive committee.

The 1996 SDWA amendments also added enforcement provisions with effective dates within two years of the enactment. These provisions make it unlawful for any person to introduce any pipe, pipefitting, plumbing fixture or plumbing fixture fitting into commerce that is not lead free.

At the end of this two-year period, the EPA can no longer enforce the provision, but individual states are required to assume primacy and enact legislation or modify plumbing codes as an enforcement mechanism.

Plumbing Codes

Plumbing codes reflect expanded Section 1417 of the SDWA. To solve this problem, the Uniform Plumbing Code (UPC) and International Plumbing Code (IPC) adopted ANSI/NSF Standard 61, a requirement for plumbing fixtures and plumbing fixture fittings. Once the requirements had been codified, states and municipalities could simply enforce the plumbing code to ensure compliance to the SDWA.

This enforcement mechanism could ensure compliance for these types of products. The plumbing inspectors would be the enforcers and not allow products to be installed that were not compliant with the new lead-free definitions.

Taking Low Lead Even Lower

This brings us to present day, with the effective date for AB 1953 on the horizon. AB 1953 was chaptered on Sept. 30, 2006, and will be enforced beginning Jan. 1, 2010.

The bill revises the 1996 SDWA definition of "lead free" in section 116875 of the California Health & Safety Code. The old definition stated solder and flux could not contain more than 0.2% lead by weight and that pipes and fittings could not contain more than 8% lead. The new definition states no more than 0.2% lead by weight can be used in solder and flux and no more than a weighted average of 0.25% lead by weight when used with respect to the wetted surfaces of pipes and pipe fittings, plumbing fittings and fixtures.

In addition to AB 1953, there are two corresponding pieces of legislation, California Senate Bill (SB) 1395 and California SB 1334 that further describe California's new low-lead requirements. SB 1395 grants authority to the California Department of Toxic Substance Control (DTSC) to select random product samples for

The impact of low-lead requirements on plumbing manufacturers

testing to determine compliance to AB 1953; however, this bill does not grant the California DTSC power to enforce compliance.

SB 1395 also requires the California DTSC use adequate test methods, protocols and sample preparation procedures to evaluate the total lead concentration in a drinking water plumbing fitting or fixture to determine compliance with AB 1953. Results from the random sampling and subsequent analytical testing will be posted on the California DTSC's website with no further enforcement.

SB 1334 requires all plumbing products that come into contact with potable water be certified by an independent ANSI-accredited third-party certification body. The bill goes further to state the third-party certification body must include material testing in accordance with the protocols used by the California DTSC.

As of July 2009, the California DTSC has yet to publish the test methods, protocols or sample preparation procedures.

The Development of Annex G

As a result, a request was made to the NSF Joint Committee on Drinking Water Additives to amend ANSI/NSF Standard 61 to include weighted average lead content criteria. The NSF Lead Task Group developed criteria, which became known as Annex G.

Published on Jan. 2, 2009, Annex G of ANSI/NSF Standard 61 was intended to be a method for manufacturers to demonstrate compliance to California's reduced lead content requirement; however, because SB 1395 does not define test methods, protocols or sample preparation procedures, Annex G does not include these procedures. As a result, Annex G in its current form does not guarantee full compliance with the new low-lead requirements.

To address this issue, the ANSI/NSF Standard 61 Lead Task Group recently completed round-robin testing of proposed analytical methods, protocols and sample preparation procedures. The recommendation of this task group is scheduled to be presented

to the Drinking Water Additives Joint Committee soon.

The importance of establishing recognized analytical methods, protocols and sample preparation procedures cannot be understated. Manufacturers that need to comply with the new low-lead requirements must be assured the investment they are making now can be verified by third-party certifiers in a manner acceptable to the state of California.

The Next Steps

New low-lead requirements are not confined to California. Vermont recently enacted legislation similar to AB 1953, which also is scheduled to take effect Jan. 1, 2010. In addition to being actively engaged with both California and the industry to determine what protocols, including Annex G, will be accepted by the state, Underwriter's Laboratory is creating a separate certification program for low-lead compliance that will include testing metal alloys to demonstrate compliance to AB 1953.

This program will help manufacturers with products that are required to demonstrate compliance with the California law, but are not covered by, or specifically included in, ANSI/NSF Standard 61. This program will also give manufacturers the option of demonstrating compliance with the law by using Annex G or other acceptable means. *wqp*

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