May 11, 2020

Joint Committee on Drinking Water Additives – System Components
c/o Monica Leslie of NSF International
Sent only to mleslie@nsf.org

Re: Proposed revision to the NSF/ANSI/CAN Standard for Drinking Water Additives

Dear Ms. Leslie:

We write in support of the proposed changes to the NSF/ANSI/CAN Standard for Drinking Water Additives/Drinking Water System Components – Health Effects, as proposed in the *Revision to NSF/ANDI/CAN 61-2019 Issue 156 Revision 1 (March 2020).* We appreciate the opportunity to provide supportive comments regarding this proposal.

Our understanding of the hazards posed by lead at levels previously thought to be tolerable continues to evolve, and our support stems from our increasing concern about the public's exposure to lead, even at low levels.

The watershed for this understanding was a peer-reviewed 2012 report by the National Toxicology Program (NTP) which concluded "that there is *sufficient* evidence that blood [lead] levels <10 µg/dL [micrograms of lead per deciliter of blood] and <5 µg/dL are associated with adverse health effects in children and adults." The study found no evidence of a safe level of lead in blood.

A year earlier, the Centers for Disease Control and Prevention reached a similar conclusion and replaced its "action level" of 10 µg/dL in children's blood with a "reference level" of 5 µg/dL. Based on evidence showing there is no safe level of lead in blood, the term "action level" improperly implied there was a level of lead below which no action was needed. In contrast, the term "reference level" was based on the blood lead level of the 2.5 percent of most exposed children and was designed to be reduced every five years as our country made progress in reducing children's exposure. The approach essentially defines an elevated blood lead level and seeks to drive all lead exposure lower. The CDC now says that:

> No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect IQ, the ability to pay attention, and academic achievement. The good news is that childhood lead poisoning is 100% preventable.

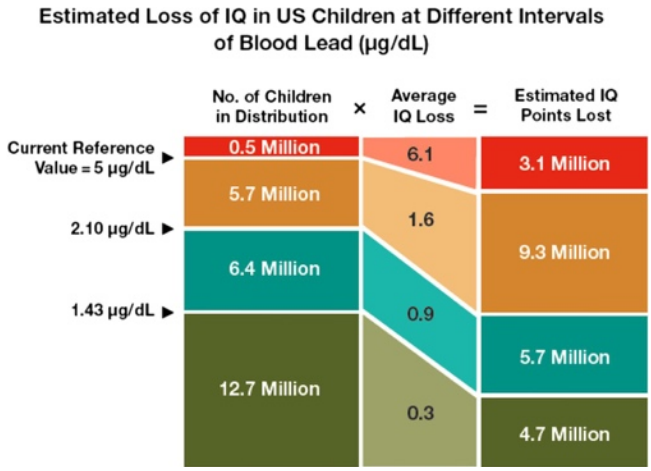
In 2016, the American Academy of Pediatrics, the nation's preeminent organization representing pediatricians, assessed the science and concluded that:

> Evidence continues to accrue that commonly encountered blood lead concentrations, even those below 5 µg/dL (50 ppb), impair cognition; there is no identified threshold or safe level of lead in blood.

When finding that even very low levels of lead exposure cause children significant long-term cognitive harm, the academy stated:

> The population impact of lead on intellectual abilities is substantial. Despite the dramatic reductions in blood lead levels, lead toxicity accounts for an estimated total loss of 23 million IQ points among a 6-year cohort of U.S. children.

According to the academy's analysis, 20 million of these IQ points are lost by children with blood lead levels below the CDC's current reference standard of 5 mcg/dL. The academy illustrated its finding in this graph:



Since no therapeutic interventions currently exist for low blood lead concentrations, the academy maintained that "prevention of exposure is paramount."

Regarding contamination in water, the academy recognized that the ingestion of any lead will cause a child's blood to contain lead, and the academy found that:

> Water is an important but often overlooked source of exposure for children, especially for infants who are formula fed. Water typically contributes to approximately 20% of a child's blood lead concentrations if the water lead concentration exceeds 5 [parts per billion (ppb)]. The contribution of lead from water can be much higher for some children, especially for infants who ingest large quantities of tap water [in their formula]. *Citations omitted.*

As a result, the academy recommended that "state and local governments should take steps to ensure that water fountains in schools do not exceed water lead concentrations of 1 ppb."

The Environmental Protection Agency and California's Office of Environmental Health Hazard Assessment agree with the academy's recommendation and have set goals of no more than 0 and 0.2 ppb lead, respectively, in public drinking water.

Most of the attention has rightly been on preventing children's exposure to lead to protect their brains, so it is easy to overlook that NTP also found that adults have no safe level of exposure to lead. In 2018, a team of researchers led by Dr. Bruce Lanphear of Simon Fraser University, in Canada, published an important new study on the deadly impact of lead exposure for adults. The researchers examined data on more than 14,000 adults and found that an increase of 1 to 6.7 µg/dL blood lead was significantly associated with an increase in mortality of 37 percent for all causes, 70 percent for cardiovascular, and 108 percent for ischemic heart disease.

Based on this study and several others that showed similar results, in its October 2019 proposed revisions to its Lead and Copper Rule designed to limit lead in drinking water, the EPA calls for every water system to periodically inform its customers and the public that "Recent science suggests that adults who drink water containing lead have increased risks of heart disease, high blood pressure, kidney and nervous system problems." In June 2019, the EPA also successfully completed a peer review of a model that demonstrated the society costs of cardiovascular disease deaths from adult lead exposure at levels as low as 1 microgram (µg) of lead.

The bottom line is that all the evidence we have points to no safe level of exposure to lead, and that even low levels of lead exposure in children cause irreparable cognitive harm. Therefore, government and industry alike need to consistently drive lead exposures as low as possible.

With the legacy of lead contamination in our paint, pipes and food, there are limits to what we can achieve. We may not be able to reach zero exposure in the near future, but we can do much to remove lead from our drinking water. We know that water from treatment facilities does not contain detectable levels of lead; the water picks up lead as it travels through pipes and faucets. So by reducing lead in pipes and faucets, we can effectively lessen the amount we ingest when drinking water.

The proposed new lead-leaching standard for faucets in the NSF/NSI/CAN 61 standard proposed by the Joint Committee on Drinking Water Additives – System Components provides us with an excellent opportunity to disrupt this toxic legacy and reduce lead exposure from new plumbing. The proposal tightens the Q or R statistic from an average of 5 µg lead over the first three weeks to 1 µg, the amount of lead expected to leach from faucets, fountains and other similar devices. It sets a tighter 0.5 µg lead limit for supply stops, flexible plumbing connectors and miscellaneous components. There is sufficient evidence to show that plumbing manufacturers can achieve this aggressive goal.

The data from NSF International on 507 faucet tests provides assurance that a 1 µg lead-leaching limit can indeed be met without disrupting the market; about three of four faucets tested over the past seven years would achieve it. Although it is difficult to translate these results to all faucets

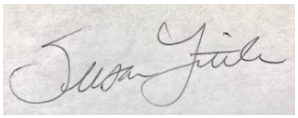
on the market, we think the test results are a fair indication that it is possible to reach a new leaching limit of 1 µg lead.

As we have stated, we support the proposed lead-leaching standard, but we are also concerned that this proposal will follow the path of two similar proposals and be defeated. In California and across the U.S., schools and child care facilities are attempting to reduce the lead content of their facilities' drinking water and install faucets that leach less than 1 µg lead. However, in the absence of the new certification standard, these facilities are left up to their own devices – guessing games, in essence – to identify faucets and fixtures that leach the least amount of lead.

In the interest of public health, and our nation's youngest members, we ask the Joint Committee on Drinking Water Additives – System Components to move quickly and expeditiously to approve the proposed changes to the NSF/ANSI/CAN 61 standard so that third-party certifiers can begin to certify compliant products.

Again, we thank you for the opportunity to express our support for this new lead-leaching standard.

Sincerely,



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