NSF International

MEMORANDUM

TO: Joint Committee on Drinking Water Additives – System Components

FROM: France Lemieux, Chairperson of the Joint Committee

DATE: May 29, 2019

SUBJECT: Proposed revision to NSF/ANSI 61 – *Drinking Water System Components – Health Effects* (61i142r1)

Revision 1 of NSF/ANSI 61 issue 142 is being forwarded to the Joint Committee for consideration. Please review the proposal and **submit your ballot by June 19, 2019** via the NSF Online Workspace <www.standards.nsf.org>.

When adding comments, please identify the section number / name for your comment and add all comments under one comment number, where possible. If you need additional space, please upload a .doc or .pdf version of your comments online via the browse function.

Purpose

The proposed revision will clarify language regarding muffle furnace temperatures in Section B.3.2.4.

Background

The procedures for preparing samples for chemical extraction testing under NSF/ANSI/CAN 61 are contained in section B.3.2.4. However, this section as currently written contains a preparation method with conflicting parameters that are not typically possible to achieve in the laboratory. The standard specifics both a temperature (20 °C above liquidus) at which to melt the solder and time frame (1 to 2 minutes) in which the solder is to melt. The laboratory has observed that solders do not melt at 20 °C above liquidus in the specified time period and may not melt at all. As a result, the laboratory has to adjust the oven temperature for each solder until the solder melts within the existing 1 to 2 minute time frame. This deviation simplifies the requirements to focus on setting the oven at a temperature which causes the solder to melt within 2 minutes.

Muffle furnace temperatures in excess of liquidus ratings are needed to bring the solder to liquidus temperatures within the 1 to 2 minute time period in the standard. This temperature is typically greater than 20 °C above liquidus due to the insulating properties of the ceramic boats. The actual temperature required also can vary based on several parameters such as the actual solder chemistry and the amount of solder to be melted.

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If you have any questions about the technical content of the ballot, you may contact me in care of:

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[Note – the recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by gray highlighting. Rationale statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI/CAN Standard
for Drinking Water Additives –

Drinking Water System Components – Health Effects

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Annex B
(normative)

Product / material evaluation

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B.3.2.4 Solders

These products shall be prepared by placing the solder in a ceramic combustion boat (96 × 12 × 10 mm). The amount of solder used shall be sufficient to cover the bottom of the boat. The boat (with solder) shall then be placed in a muffle furnace that has been set to a temperature hot enough to melt the solder within ~~20 °C (36 °F) above the liquidus temperature of the product being evaluated. For example, 95/5 tin/antimony solder has a melting range of 232 to 240 °C (450 to 464 °F). The oven shall be set at 260 °C (500 °F) for this solder.~~

~~The boat (with solder) shall be placed in the oven and allowed to heat until the solder has melted (approximately 1 to~~ 2 minutes~~)~~. The boat shall be allowed to cool and the solder piece removed.