NSF International

MEMORANDUM

TO: Joint Committee on Drinking Water Additives – System Components

FROM: France Lemieux, Chairperson of the Joint Committee

DATE: March 28, 2019

SUBJECT: Proposed revision to NSF/ANSI/CAN 61 – *Drinking Water System Components – Health Effects* (61i150r1)

Revision 1 of NSF/ANSI/CAN 61 issue 150 is being forwarded to the Joint Committee for consideration. Please review the proposal and **submit your ballot by April 18, 2019** via the NSF Online Workspace <www.standards.nsf.org>.

Purpose

The proposed ballot revises the evaluation of copper and copper alloy pipe, tubing and fittings under NSF/ANSI/CAN 61.

Background

In 2013, an issue paper was submitted recommending a new use limitation statement as an alternative to the standard's current pH 6.5 test water and use limitation statement for copper pipe. This new use limitations statement would better define those conditions where copper pipe will be unlikely to ever cause copper release more than the MCLG. Those use conditions were identified and have been established in Annex H of NSF/ANSI/CAN 61.

This revision will update the standard relative to the use of the pH 6.5 test water by removing it as a required test condition. The requirements around the new use limitation statement will be updated separately once established.

Please see the 2018 DWA-SC JC meeting summary excerpt, issue paper, and Annex H under the referenced items for additional information.

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

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Joint Committee on Drinking Water Additives
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[Note – the changes are seen below using strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted and strike-through text are within the scope of this ballot.]

NSF/ANSI Standard
for Drinking Water System Components – Health Effects

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4 Pipes and related products

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4.5 Extraction procedures

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4.5.3 Exposure water

4.5.3.1 General

Exposure water selection shall be determined by the analytes of interest identified on the analytical summary (see 4.5.1). Exposure water(s) shall be selected in accordance with Annex B, section B.2.5.

4.5.3.2 Copper (C12200) pipe, tubing and fittings

Copper (C12200) pipe, tubing and fittings evaluated under section 4 of this standard shall not require analysis for regulated metals release under the pH 5 test condition provided the following use limitation statement is included in the manufacturer's use instructions or product literature that references this Standard:

> "Copper [tube, pipe, or fitting] (Alloy [alloy designation]) has been evaluated by [Testing Organization] to NSF/ANSI/CAN 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water."

Note: This is the current use limitation statement for copper pipe. A separate NSF 61 task group will be review of this use limitation statement and proposing a revision to address conveyance of the criteria in Annex H (H.2.1) of this standard. The text from H.2.1 has been appended to this ballot for informative purposes.

4.5.3.~~2~~3 Copper and copper alloys other than C12200

Copper and copper alloy pipe and tubing comprised of alloys other than C12200 shall be exposed in either the pH 5 (B.9.3) or the pH 6.5 (B.9.4) exposure waters (at the discretion of the manufacturer) and in the pH ~~10~~ 8 (B.9.8) exposure waters as described in Annex B, Section B.9. Copper and copper alloy fittings comprosed of alloys other than C12200 intended to be used with copper and copper alloy pipe and tubing shall be exposed in either the pH 5 (B.9.3) or the pH 6.5 (B.9.4) exposure waters (at the discretion of the manufacturer) and in the pH ~~10~~ 8 (B.9.8) exposure water, as described in Annex B, Section B.9. For all copper and copper alloy pipes, tubing, and fittings tested using the pH 6.5 exposure water, the

manufacturer's literature shall indicate this use limitation by inclusion of the following statement in the use instructions or product literature that references this Standard:

"Copper [tube, pipe, or fitting] (Alloy [alloy designation]) has been evaluated by [Testing Organization] to NSF/ANSI/CAN 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water."

Rationale: C12200 pipe, fittings and tubing will now be covered separately in 4.5.3.2. In addition, the change from the pH 10 test water to the pH 8 (Sec 9 test water) is consistent with criteria for how other copper alloy products are tested under Table B3b.

Annex B
(normative)

Product/material evaluation

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~~**B.2.5.3 Copper and copper alloys**~~

~~Pipe and tubing manufactured from copper alloy C12200 shall be exposed in the pH 6.5 (Annex B, section B.9.4) and in the pH 10 (Annex B, section B.9.7) extraction waters. The manufacturer's use instructions shall indicate this use limitation.~~

~~Copper and copper alloy fittings intended to be used with copper pipe and tubing shall be exposed in either the pH 5 or the pH 6.5 exposure waters (at the discretion of the manufacturer) and in the pH 10 exposure water. When the pH 6.5 exposure water is chosen, the manufacturer's literature shall indicate this use limitation.~~

Rationale: Requirements for copper and copper alloys are being addressed in 4.5.3.2.

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Table B.3b – Alternate extraction water selection

Material type by section	Analyte of interest	X = Required extraction water selection				
		pH 5 (B.9.3)	**pH 10** (B.9.7)	**pH 6.5** (B.9.4)	**pH 8** (B.9.8)	**Reagent Water**[3,4] (B.9.3)
Sections 4, 5, 6, and 8						
Brass and bronze surfaces	all analytes				X	
Chrome, zinc, galvanized, and other non-brass and non-bronze metal surfaces excluding copper pipe [1]	metals	X	X			
	organics				X	
Copper pipe other than ~~(~~C12200~~)~~	metals	X[2]	~~X~~	X[2]	X	

~~pipe, tubing~~ and copper alloy fittings used exclusively to join copper pipe	organics				X	
Copper (C12200) pipe, tubing and fittings	metals	X[3]			X	
	organics				X	
PVC and CPVC materials	metals	X	X			
	organics				X	
Cementitious materials	metals	X	X			
	organics				X	
Asphaltic coatings	metals	X	X			
	organics				X	
All other wetted surfaces	all analytes				X	

[1] Chrome, zinc, and galvanized surfaces refers to those intentionally coated and is not a selection criteria for small areas of overspray.

[2] The pH 6.5 test water may be used in replacement of the pH 5 test water provided the requirements in 4.5.3.~~2~~3 are also met.

[3] Metals analysis with the pH 5 test water is not required provided the requirements in 4.5.3.2 are also met.

[~~3~~4] Placeholder for eventual citing of test waters used for process media currently contained in section 7.