TO: Joint Committee on Recreational Water Facilities

FROM: Mr. Tom Vyles, Chairperson

DATE: December 10, 2018

SUBJECT: Proposed revision to NSF/ANSI 50 Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities (50i146r1)

Draft 1 of NSF/ANSI 50 issue 146 is being forwarded to the Joint Committee for balloting. Please review the changes proposed to this Standard and submit your ballot by January 4, 2019 via the NSF Online Workspace (http://standards.nsf.org).

Please review all ballot materials. When adding comments, please include the section number applicable your comment and add all comments under one comment number whenever possible. If additional space is needed, you may upload a word or .PDF version of your comments online via the browser function.

Purpose
This ballot will revise language regarding shelf life testing of water quality testing devices in NSF/ANSI 50.

Background
The issue proponent states that it may be three or four months before a consumer test kit reaches its final purchase point or the end user. The manufacturer must have confidence that the packaging will protect the product until the consumer opens it. For this reason, manufacturers of the types of diagnostic tests referenced in Standard 50 generally assign shelf life based on studies in a closed container. Testing protocols can be quite specific. A manufacturer must understand their products and how they will be transported and used to choose the correct stability study protocol. Closed-bottle, open-bottle, and in-use stability testing, for example, require different assumptions and do not substitute for each other. Testing often occurs over multiple time frames (sometimes years) with multiple manufacturing runs.

Stability testing rests on the principle that chemicals, and their reactions, degrade with exposure to stress over time. “Stress” can be defined as conditions known to change the state or condition of the reactants. Heat and moisture are common stressors. Since pool water tests measure analytes in water one can consider them “activated” by contact with water. Typically, the test packaging provides an environment designed to limit contact with water in liquid or vapor form. A product is exposed to ambient conditions the instant a package is opened; a package may go from a low of 3% relative humidity to ambient in moments. Depending on the conditions and length of the exposure the product performance may be affected. Given the variation in testing environments and consumer attention to resealing a package, it can be difficult to assign a meaningful shelf life for opened product. It is not uncommon to see “close cap immediately”, “reseal after use,” “store in a cool dry place, away from direct sunlight,” or “use within” messages to the end user to mitigate exposure.
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 Recreational Water Facilities
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NSF/ANSI Standard

Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and other Recreational Water Facilities

Evaluation criteria for materials, components, products, equipment, and systems for use at recreational water facilities

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Annex O
(normative)

Water quality testing devices

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O.14 Shelf life testing

To verify shelf life, open or use product as required for the above testing. Upon completion of use of product close/seal/turn off, and store in accordance with manufacturer’s instructions or store at 50% relative humidity at 73 ± 8 °F (23 ± 4 °C) for the duration of the shelf life. Within a range of ± 2 wk of the expiration date/shelf life claim, open/turn on etc. and conduct testing with the product for the appropriate product types or parameters. If product does not comply, the manufacturer shall revise shelf life claims, storage conditions, etc. as appropriate.

O.14 For shelf-life claims based on closed package studies

Approximately one month before the shelf life time has elapsed, follow the manufacturer’s instructions to conduct testing with the WTD or test kit for the appropriate product types or parameters. If the WTD or test kit includes reagents (e.g. liquid, powders, dry-phase chemistry) use reagents from an unopened package of the same lot used during the initial testing phase. If the product does not meet the shelf life claims, the manufacturer shall revise shelf life claims or other pertinent storage and handling information as appropriate. For shelf life claims based on open package studies use the same package(s) used in the original testing phase.