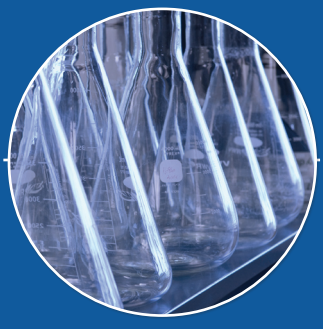
NSF International Standard /
American National Standard

NSF/ANSI 401 - 2016

Drinking Water Treatment Units - Emerging Compounds/Incidental Contaminants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NSF International Standard/
American National Standard
for Drinking Water Treatment Units –

Drinking water treatment units – Emerging compounds/incidental contaminants

Standard Developer

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Contents

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Foreword[2]

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of drinking water treatment systems that are designed to reduce emerging compounds in public or private water supplies, such as pharmaceutical, personal care products (PPCPs), and endocrine disrupting compounds (EDCs).

While standards have existed to evaluate treatment products designed to reduce a wide range of potential compounds and contaminants in drinking water, there have been none for emerging compounds. These compounds have an increasing awareness among consumers and a desired demonstration of reduction among product manufacturers causing the need for proper methods of test and criteria.

In 2008, a task group was formed and charged with making recommendations to the Joint Committee regarding the feasibility of producing a standard (or standards) for EDCs and PPCPs. A subtask group was also formed in 2008 and charged with surveying data on target compounds and classes of compounds and to evaluate the state of analytical capabilities for these compounds.

The initial list of contaminants included in this Standard represent identified pharmaceutical, personal care and EDC compounds that have been identified in published studies as occurring with the highest frequency, and/or at the highest levels of those compounds identified and studied. While occurring at levels well below any known or measured health effect, the mere presence of these compounds in drinking water has resulted in increased concern on the part of consumers. It is anticipated that with the advancement of science additional compounds or classes of compounds will be identified that will result in similar levels of concern for consumers. It is envisioned that NSF/ANSI 401 can become the repository for these contaminants.

It has been discussed that should future toxicological studies and/or research determine that any of the compounds in this Standard pose health risks at the concentrations in this Standard, that the claims should be removed from this Standard and re-established in the appropriate health effects standard (e.g., NSF/ANSI 53).

This version includes the following revisions:

Issue 2:

This revision harmonized the Standard with updates made to the family of DWTU standards regarding structural integrity, section 4 materials, treatment train criteria, and batch treatment systems.

Issue 3:

Methods and procedures to minimize premature filter plugging were incorporated.

Issue 6:

CAS numbers were added to Table 4.1 of the materials evaluation criteria (section 4).

Issue 7:

Language to state that systems be conditioned using the test water with the specified contaminant for chemical reduction claims under section 7 was incorporated.

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The tables in this edition have also been changed to reflect the appropriate section in which it is located:

Previous edition of NSF/ANSI 401	Current edition of NSF/ANSI 401
Table 1	Table 4.1
Table 2	Table 4.2
Table 3	Table 4.3
Table 4	Table 4.4
Table 5	Table 5.1
Table 6	Table 6.1
Table 7	Table 7.1
Table 8	Table 8.1

This Standard was developed by the NSF Joint Committee on Drinking Water Treatment Units using the consensus process described by the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments should be sent to Chair, Joint Committee on Drinking Water Treatment Units at standards@nsf.org, or c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

NSF/ANSI Standard
for Drinking Water Treatment Units –

Drinking water treatment units – Emerging compounds/incidental contaminants

1 General

1.1 Purpose

It is the purpose of this Standard to establish minimum requirements for materials, design and construction, and performance of drinking water treatment systems that are designed to reduce specific emerging compounds/incidental contaminants in public or private water supplies, such as pharmaceutical, personal care products, and endocrine disrupting compounds. This Standard also specifies the minimum product literature and labeling information that a manufacturer shall supply to authorized representatives and system owners as well as the minimum service-related obligations that the manufacturer shall extend to system owners.

1.2 Scope

The point-of-use and point-of-entry systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water (public or private) considered to be microbiologically safe and of known quality. Systems covered under this Standard are intended to reduce substances that are at very low, yet measurable concentrations but not at definitive concentrations of known health concern. These substances may be soluble or particulate in nature but their presence, even at very low concentrations, may influence public acceptance/perception of the drinking water quality. The systems addressed by this Standard are not intended for reducing these specific substances at higher concentrations that may have a known acute or chronic health effect. It is recognized that a system may be effective in reducing one or more of the emerging compounds/incidental contaminants listed in this Standard. It is not necessary that a device be able to reduce all the Emerging Compounds/Incidental Contaminants listed in order to meet the requirements of this Standard. Systems with components or functions covered under other NSF or NSF/ANSI standards or criteria shall conform to the applicable requirements therein.

1.3 Alternate materials, designs, and construction

While specific materials, designs, and construction may be stipulated in this Standard, systems that incorporate alternate materials, designs, and construction may be acceptable when it is verified that such systems meet the applicable requirements stated herein.

1.4 Chemical and mechanical reduction performance claims

1.4.1 All NSF/ANSI 401 performance claims shall be verified and substantiated by test data generated under the requirements of NSF/ANSI 401.

1.4.2 When performance claims are made for substances not specifically addressed in the scope of this Standard or for substances not specifically addressed but falling under the scope of NSF/ANSI 401, such claims shall be identified as not specifically addressed in the Standard.