Drinking water treatment units — Health effects

NSF International Standard/ American National Standard

NSF/ANSI 53 – 2004

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NSF International Standard/
American National Standard
for Drinking Water Treatment Units —

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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 specific health-related contaminants in public or private water supplies. NSF/ANSI 53 specifies minimum product literature requirements that manufacturers must provide to authorized representatives and owners.

Water contact materials in Drinking Water Treatment Units listed under NSF/ANSI 42, 44, 53, 55, 58, and 62 are tested and evaluated under a separate protocol from NSF/ANSI 61 with criteria that were developed specifically for the intended end-use. NSF/ANSI 61 listing should not be additionally required for acceptance of these listed units for water contact application.

This edition of the Standard contains the following revisions:

– Section 4.2.3.5 has been revised to clarify how without media testing is to be conducted in complex scenarios involving media that is chemically bound to non-media materials.

– Sections 8.2.2 and 8.3.2 have been revised allowing manufacturers to reference individual chemicals when using the surrogate test for VOC on the packaging and literature review. Manufacturers are prohibited from implying that specific testing for the chemical was conducted if only a surrogate test was completed.

– The test dust method as a surrogate for cyst reduction in 7.3.2.4 has been removed following the five-year period from the adoption of testing using live *Cryptosporidium parvum* oocysts and polystyrene microspheres. This revision further clarifies polystyrene microsphere specifications in 7.3.2.2 & 7.3.2.3.

– Section 7.4.4 has been added to clarify the definition of the test water for the 8.5 pH mercury reduction testing.

– Language has been added in sections 3, 6.3, 7.2, 7.3 & 7.4 to address refrigerator filter systems. Contaminant reduction testing will be conducted at a flow rate that equals or exceeds the refrigerator filter system flow rate.

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. Comments should be sent to Chair, Joint Committee on Drinking Water Treatment Units, c/o NSF International, Standards Department, PO Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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for Drinking Water Treatment Units —

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1 General

1.1 Purpose

It is the purpose of this Standard to establish minimum requirements for materials, design and construction, and performance of point-of-use and point-of-entry drinking water treatment systems that are designed to reduce specific health-related contaminants in public or private water supplies. This includes point-of-entry drinking water treatment systems used to treat all or part of the water at the inlet to a residential facility or a bottled water production facility and the material and components used in these systems. 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). These substances are considered established or potential health hazards. They may be microbiological, chemical, or particulate (including filterable cysts) in nature. It is recognized that a system may be effective in controlling one or more of these contaminants, but it is not required to control all. Activated carbon filter systems covered by this Standard are not intended to be used with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

1.3 Minimum requirements

This Standard establishes minimum requirements. Variations may be permitted when it is verified that compared to the systems covered in this Standard the alternate systems are as resistant to wear and physical damage or provide equivalent operation or performance. Systems with components or functions covered under other NSF or NSF/ANSI Standards or Criteria shall comply with those applicable requirements.

1.4 Chemical and mechanical reduction performance claims

1.4.1 All NSF/ANSI 53 performance claims shall be verified and substantiated by test data generated under the requirements of NSF/ANSI 53.

1.4.2 When making performance claims for substances not specifically addressed in the scope of this Standard or for those substances not specifically addressed but falling under the scope of NSF/ANSI 53, those claims not specifically addressed in the Standard shall be so identified.