

NSF/ANSI 44 – 2007

Residential cation exchange water softeners

**NSF International Standard/
American National Standard**

NSF/ANSI 44 – 2007



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American National Standard
for Drinking Water Treatment Units —
**Residential cation exchange
water softeners**

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Foreword²

The purpose of this Standard is to establish minimum requirements for materials, design, construction, and performance of drinking water treatment units that are designed to reduce specific aesthetic-related contaminants in public or private water supplies. This Standard specifies the minimum product literature and labeling information that a manufacturer must supply to authorized representatives and system owners. Lastly, the Standard provides minimum service-related obligations that the manufacturer must extend to system owners.

This edition of the Standard contains the following revisions:

Issue 24

The revisions made in this issue enable point-of-entry (POE) drinking water treatment systems to be covered by NSF/ANSI 61 and make it possible to use this one materials safety standard as the only test protocol for POE drinking water treatment units. The definitions for POE and point-of-use systems have also been updated.

Issue 26

The revision made in this issue updates the pass/fail criteria levels in Tables 1 and 2 for cyclohexanone, methyl ethyl ketone, carbon disulfide, diethyl phthalate, di-n-butyl phthalate, butyl benzyl phthalate, naphthalene, acetone, and 1,4-dioxane to match the levels in NSF/ANSI 61.

Issue 27

The revision made in this issue adds USEPA method 524.2 to Table 1 for the analysis of volatile organic compounds and carbon disulfide and to Table 2 for the analysis of acetone, cyclohexanone, tetrahydrofuran, and methyl ethyl ketone, and adds USEPA method 525.2 to Table 2 for the analysis of phthalates and polynuclear aromatic hydrocarbons. This revision also adds language to ensure that when the GC/MS method (method 625) is used, an adequate analytical library has been developed.

Issue 28

The revision made in this issue lowers the maximum contaminant concentration (MCC) for lead for material extraction testing from 0.015 mg/L to 0.010 mg/L in Table 1.

Issue 29

The modification in this revision clarifies the formulation review requirements and provides consistency between the Drinking Water Treatment Unit Standards and NSF/ANSI 60 and NSF/ANSI 61.

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, P. O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF/ANSI Standard for Drinking Water Treatment Units — Residential cation exchange water softeners

1 General

1.1 Purpose

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of residential cation exchange water softeners. This Standard also specifies the minimum product literature that manufacturers shall supply to authorized representatives and owners, as well as the minimum service-related obligations that manufacturers shall extend to owners.

1.2 Scope

The manual, autoinitiated, and demand-initiated regeneration residential cation exchange water softeners addressed by this Standard are designed to be used for the removal of hardness and the reduction of specific contaminants from drinking water supplies (public or private) considered to be microbiologically safe and of known quality. 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, design, and construction

While specific materials, design, 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.

2 Normative references

The following documents contain requirements that, by reference in this text, constitute requirements of this Standard. At the time of publication, the indicated editions were valid. All of the documents are subject to revision and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below.

ANSI/NFPA 70, 2002, National Electric Code³

NSF/ANSI 53 – 2005: *Drinking water treatment units – Health effects*

NSF/ANSI 61 – 2003e: *Drinking water system components – Health effects*

USEPA-600/4-79-020, *Methods for the Chemical Analysis of Water and Wastes*, March 1983⁴

USEPA-600/4-88-039, *Methods for the Determination of Organic Compounds in Drinking Water*, December 1988 (Revised July 1991)⁴

³ National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269

⁴ USEPA, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268