Reverse osmosis drinking water treatment systems

NSF International Standard/ American National Standard

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Chair, Drinking Water Treatment Units
c/o NSF International
789 North Dixboro Road, P. O. Box 130140
Ann Arbor, Michigan 48113-0140 USA
Phone: (734) 769-8010 Telex: 753215 NSF INTL
FAX: (734) 769-0109
E-mail: info@nsf.org
Web: http://www.nsf.org

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

Reverse osmosis drinking water treatment systems

Standard Developer

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Contents

Foreword[2]

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of point-of-use reverse osmosis drinking water treatment systems. NSF/ANSI 58 also specifies minimum product literature requirements that manufacturers must provide to authorized representatives and owners. Minimum service related obligations for manufacturers to extend to system owners are also specified in this Standard.

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:

Issue 20

The revision made in this issue established a data transfer method for reverse osmosis membrane modules.

Issue 45

The revision made in this issue clarifies the procedure language in 4.4.3 – Exposure.

Issue 47

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 51

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. It also 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 52

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 53

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.

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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.

NSF/ANSI Standard
for Drinking Water Treatment Units —

Reverse osmosis drinking water treatment systems

1 General

1.1 Purpose

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of reverse osmosis drinking water treatment systems. 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 system owners.

1.2 Scope

The point-of-use reverse osmosis drinking water treatment systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water supplies (public or private) considered to be microbiologically safe and of known quality (except that claims for the reduction of filterable cysts may be permitted). Systems covered by this Standard are intended for reduction of total dissolved solids (TDS) and other contaminants specified herein. Systems with components or functions covered under other NSF or NSF/ANSI Standards or Criteria shall conform to the applicable requirements therein.

1.3 Chemical and mechanical reduction performance claims

1.3.1 All NSF/ANSI 58 performance claims shall be verified and substantiated by test data generated under the requirements of NSF/ANSI 58.

1.3.2 When performance claims are made 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 58, claims not specifically addressed in the Standard shall be so identified.