



*NSF International Standard /  
American National Standard*

# NSF/ANSI 44 - 2014 Residential Cation Exchange Water Softeners



*NSF International, an independent, not-for-profit, non-governmental organization, is dedicated to being the leading global provider of public health and safety-based risk management solutions while serving the interests of all stakeholders.*

*This Standard is subject to revision.  
Contact NSF to confirm this revision is current.*

Users of this Standard may request clarifications and interpretations, or propose revisions, by contacting:

Chair, Joint Committee on 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](mailto:info@nsf.org)  
Web: <http://www.nsf.org>

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

Standard Developer  
**NSF International**

**NSF International**

**Designated as an ANSI standard**  
October 16, 2014  
**American National Standards Institute**

Prepared by  
**The NSF Joint Committee on Drinking Water Treatment Units**

Recommended for adoption by  
**The NSF Council of Public Health Consultants**

Adopted by  
**The NSF Board of Directors**  
**December 1987**

Revised November 1996  
Revised November 1998  
Revised September 1999  
Revised May 2000  
Revised November 2000  
Revised January 2001  
Revised February 2002  
    Editorial revision December 2003  
Revised June 2004  
Revised October 2007  
Revised August 2009  
Revised February 2012  
Revised December 2013  
Revised January 2015

Published by

**NSF International**  
**PO Box 130140, Ann Arbor, Michigan 48113-0140, USA**

For ordering copies or for making inquiries with regard to this Standard, please reference the designation “NSF/ANSI 44 – 2014.”

Copyright 2015 NSF International  
Previous editions © 2013, 2012, 2009, 2007, 2004, 2002, 2001, 2000, 1999, 1998, 1996, 1987

Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from NSF International.

Printed in the United States of America.

## Disclaimers<sup>1</sup>

NSF, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of NSF represent its professional judgment. NSF shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. NSF shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Standard.

NSF Standards provide basic criteria to promote sanitation and protection of the public health. Provisions for mechanical and electrical safety have not been included in this Standard because governmental agencies or other national standards-setting organizations provide safety requirements.

Participation in NSF Standards development activities by regulatory agency representatives (federal, local, state) shall not constitute their agency's endorsement of NSF or any of its Standards.

Preference is given to the use of performance criteria measurable by examination or testing in NSF Standards development when such performance criteria may reasonably be used in lieu of design, materials, or construction criteria.

The illustrations, if provided, are intended to assist in understanding their adjacent standard requirements. However, the illustrations may not include **all** requirements for a specific product or unit, nor do they show the only method of fabricating such arrangements. Such partial drawings shall not be used to justify improper or incomplete design and construction.

Unless otherwise referenced, the annexes are not considered an integral part of NSF Standards. The annexes are provided as general guidelines to the manufacturer, regulatory agency, user, or certifying organization.

---

<sup>1</sup> The information contained in this Disclaimer is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. Therefore, this Disclaimer may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

**Contents**

1 General ..... 1  
1.1 Purpose ..... 1  
1.2 Scope ..... 1  
1.3 Alternate materials, design, and construction ..... 1

2 Normative references ..... 1

3 Definitions ..... 2

4 Materials ..... 2  
4.1 Materials in contact with drinking water ..... 2  
4.2 Materials evaluation ..... 3  
4.3 Gas chromatography/mass spectroscopy (GC/MS) analysis ..... 4

5 Structural performance ..... 13  
5.1 Structural integrity ..... 13

6 Minimum performance requirements ..... 18  
6.1 Hazards ..... 18  
6.2 Waste connections ..... 18  
6.3 Brine tank ..... 18  
6.4 Operation ..... 18  
6.5 Performance indication ..... 18  
6.6 Chemical and mechanical performance ..... 19

7 Elective performance claims – Test methods ..... 32  
7.1 Scope ..... 32  
7.2 Barium and radium reduction ..... 35

8 Instruction and information ..... 40  
8.1 Installation, operation, and maintenance instructions ..... 40  
8.2 Data plate ..... 42  
8.3 Performance data sheet ..... 43

Annex A ..... A1

Annex B ..... B1