



*NSF International Standard /  
American National Standard*

## NSF/ANSI 61 - 2014

### Drinking Water System Components - Health Effects



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**NSF/ANSI 61 – 2014**

NSF International Standard/  
American National Standard  
for Drinking Water Additives —

**Drinking water system components —  
Health effects**

Standard Developer

NSF International

**NSF International Board of Directors**

**Designated as an ANSI Standard**

March 16, 2014

**American National Standards Institute**

Prepared by  
**The NSF Joint Committee on Drinking Water Additives**

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

Adopted by  
**The NSF Board of Directors**  
**June 1988**

Revised October 1988	Revised November 2000	Revised October 2010
Revised May 1990	Revised February 2001	Revised June 2011
Revised May 1991	Addendum September 2001	Addendum March 2012
Revised May 1992	Revised July 2002	Revised July 2012
Revised September 1994	Addendum August 2002	Addendum March 2013
Revised January 1995	Editorial Revision February 2002	Revised January 2014
Revised July 1996	Revised September 2003	Revised September 2014
Revised September 1996	Editorial Revision October 2003	
Revised November 1996	Revised November 2004	
Revised January 1997	Addendum March 2005	
Revised January 1997	Revised October 2005	
Revised March 1997	Revised March 2007	
Revised July 1997	Revised July 2007	
Revised November 1998	Addendum October 2007	
Revised January 1999	Revised December 2008	
Revised November 1999	Revised August 2009	
Revised September 2000	Revised February 2010	

Published by

**NSF International**  
P.O. 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 61 – 2014."

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## Foreword<sup>2</sup>

In response to a competitive request for proposals from the U. S. Environmental Protection Agency (USEPA), a Consortium led by NSF International (NSF) agreed to develop voluntary third-party consensus standards and a certification program for all direct and indirect drinking water additives. Other members of the Consortium include the American Water Works Association Research Foundation, the Association of State Drinking Water Administrators, the Conference of State Health and Environmental Managers, and the American Water Works Association. (COSHEM has since become inactive as an organization.) Each organization was represented on a steering committee with oversight responsibility for the administration of the cooperative agreement. The Steering Committee provides guidance on overall administration and management of the cooperative agreement. Currently, the member organizations remain active in an oversight role.

Two standards for additives products were developed. NSF/ANSI 60: – *Drinking water treatment chemicals — Health effects* covers many of the water treatment chemicals, also known as direct additives. This Standard, NSF/ANSI 61: *Drinking water system components — Health effects*, covers all indirect additives products and materials. Testing to determine the potential of a product to impart taste and/or odor to drinking water is not included in this Standard.

NSF/ANSI 61 was developed to establish minimum requirements for the control of potential adverse human health effects from products that contact drinking water. It does not attempt to include product performance requirements that are currently addressed in other voluntary consensus standards established by such organizations as the American Water Works Association, the American Society for Testing and Materials, and the American National Standards Institute. Because this Standard complements the performance standards of these organizations, it is recommended that products also meet the appropriate performance requirements specified in the standards of such organizations.

NSF/ANSI 61, and subsequent product certification against it, has replaced the USEPA Additives Advisory Program for drinking water system components. USEPA terminated its advisory role in April 1990. For more information with regard to USEPA's actions, refer to the July 7, 1988 *Federal Register* (53FR25586).

This Standard and the accompanying text are intended for voluntary use by certifying organizations, utilities, regulatory agencies, and/or manufacturers as a basis of providing assurances that adequate health protection exists for covered products. Product certification issues, including frequency of testing and requirements for follow-up testing, evaluation, enforcement, and other policy issues, are not addressed by this Standard.

This version includes the following revisions:

- Issue 111: This revision has removed the 2 square inch restriction from Table 3.1, and has removed the reference to Annex G.
- Issue 113: Section 4.7.2 has been revised to exclude polypropylene (PP) fittings and unions from normalization as repeating fittings.
- Issue 114: This revision has eliminated the 2-L sample size requirement for POE systems.

This Standard was developed by the NSF Joint Committee on Drinking Water Additives – System Components using the consensus process described by the American National Standards Institute.

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<sup>2</sup> The information contained in this Foreword 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 Foreword 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.

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 Additives – System Components at [standards@nsf.org](mailto:standards@nsf.org), or NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

### **Consortium organizations<sup>3</sup>**

#### **NSF International**

Popularly referred to as NSF, NSF International is a noncommercial agency. It is incorporated under the laws of Michigan as a not-for-profit organization devoted to research, education, and service. It seeks to solve problems involving man and his environment. It wishes to promote health and enrich the quality of life through conserving and improving that environment. Its fundamental principle of operation is to serve as a neutral medium in which business and industry, official regulatory agencies, and the public come together to deal with problems involving products, equipment, procedures, and services related to health and the environment. It is conceived and administered as a public service organization.

NSF is perhaps best known for its role in developing standards and criteria for equipment, products, and services that bear upon health. NSF was the lead organization in the Consortium responsible for developing this Standard. NSF conducts research; tests and evaluates equipment, products, and services for compliance with standards and criteria; and grants and controls the use of NSF registered Marks.

NSF offers product certification (Listing Services) for all products covered by its standards. Each program has established policies governing the associated product evaluation, Listing Services, follow-up, and enforcement activities. The NSF Listing Mark is widely recognized as a sign that the product or service to which it relates complies with the applicable NSF standard(s).

#### **AWWA Research Foundation**

The mission of the American Water Works Association Research Foundation (now the Water Research Foundation), is to sponsor practical, applied research on behalf of the drinking water industry of North America. The scope of the research program embraces all aspects of water supply operation, from development and maintenance of water resources to treatment technologies and water quality issues, from storage and distribution system operations to health effects studies and utility planning and management activities. Water Research Foundation (WRF) serves as the centralized industry institution for planning, managing, and funding cooperative research and development in drinking water, including the subsequent transfer of technology and results for practical application by the water utility community.

WRF's purpose in this cooperative program is to provide a communication link with the water utilities throughout North America and serve as the focal point for identification of research needs of the water supply industry with respect to the additives program.

#### **The Association of State Drinking Water Administrators**

The Association of State Drinking Water Administrators (ASDWA) is a nonprofit organization whose eligible membership is comprised of drinking water program administrators in each of the 50 states and seven U. S. territories. Through the organization, representatives speak with a collective voice to Congressional committees, the United States Environmental Protection Agency (EPA), professional and trade associations, water utilities, and the general public on issues related to state drinking water programs. With its mission of protecting the public health through assurance of high-quality drinking water, and promoting responsible, reasonable, and feasible drinking water programs at the state and federal levels, the Association is a valued contributor to the consortium, and to the program. It provides the link between the additives program and the state drinking water programs.

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<sup>3</sup> The information contained in this section 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 section 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.

### The Conference of State Health and Environmental Managers

The Conference of State Health and Environmental Managers (COSHEM), known formerly as the Conference of State Sanitary Engineers (CSSE), is currently inactive as an organization. It brought to the consortium expertise and involvement of state health and environmental program managers. The Conference was the focal point for health concerns of all state environmental programs, including drinking water, wastewater, air, solid and hazardous wastes, radiology, occupational health, and food. A standing committee on water supply focused on drinking water issues and kept the membership informed. The Conference played an important role early in the program through two-way communication with state health and environmental program decisionmakers.

### American Water Works Association

The purpose of the American Water Works Association (AWWA) is to promote public health, safety, and welfare by improving the quality and increasing the quantity of water delivered to the public, and to developing and furthering an understanding of the problems relating thereto by:

- advancing the knowledge of the design, construction, operation, water treatment, and management of water utilities;
- developing standards for procedures, equipment, and materials used by public water supply systems;
- advancing the knowledge of problems involved in the development of resources, production, and distribution of safe and adequate water supplies;
- educating the public on the problems of water supply and promoting a spirit of cooperation between consumers and suppliers in solving these problems; and
- conducting research to determine the causes of problems with providing a safe and adequate water supply, and proposing solutions thereto in an effort to improve the quality and quantity of the water supply provided to the public.

AWWA brings to the Consortium its established position as the largest public drinking water association in North America, with a broad membership that includes utilities, consultants, manufacturers/distributors/agents, contractors, and other organizations with a direct interest in drinking water.

## NSF/ANSI Standard for Drinking Water Additives —

# Drinking water system components – Health effects

## 1 Purpose, scope, and normative references

### 1.1 Purpose

This Standard establishes minimum health effects requirements for the chemical contaminants and impurities that are indirectly imparted to drinking water from products, components, and materials used in drinking water systems. This Standard does not establish performance, taste and odor, or microbial growth support requirements for drinking water system products, components, or materials.

### 1.2 Scope

**1.2.1** This Standard is intended to cover specific materials or products that come into contact with: drinking water, drinking water treatment chemicals, or both. The focus of the Standard is evaluation of contaminants or impurities imparted indirectly to drinking water. The products and materials covered include, but are not limited to, process media (e.g., carbon, sand), protective materials (e.g., coatings, linings, liners), joining and sealing materials (e.g., solvent cements, welding materials, gaskets), pipes and related products (e.g., pipes, tanks, fittings), mechanical devices used in treatment/transmission/distribution systems (e.g., valves, chlorinators, separation membranes, point-of-entry drinking water treatment systems), and mechanical plumbing devices (e.g., faucets, endpoint control valves).

**1.2.2** Point-of-use drinking water treatment devices are not covered by the scope of this Standard.

### 1.3 Normative references

The following documents contain requirements that, by reference in this text, constitute requirements of this Standard. At the time this Standard was balloted, the editions listed below were valid. All documents are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the documents indicated below. The most recent published edition of the document shall be used for undated references.

21 CFR 58, *Good Laboratory Practice for Non-Clinical Laboratory Studies*<sup>4</sup>

40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*<sup>5</sup>

40 CFR Part 141, *National Primary Drinking Water Regulations*<sup>5</sup>

40 CFR Part 160, *Good Laboratory Practice Standards*<sup>5</sup>

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<sup>4</sup> USFDA, 5600 Fishers Lane, Rockville, MD 20857 <[www.fda.gov](http://www.fda.gov)>

<sup>5</sup> Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402 <[www.gpo.gov](http://www.gpo.gov)>