



**American Water Works  
Association**

The Authoritative Resource on Safe Water®

ANSI/AWWA B306-07  
(First Edition)

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*AWWA Standard*

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# Aqua Ammonia (Liquid Ammonium Hydroxide)



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6666 West Quincy Avenue  
Denver, CO 80235-3098  
T 800.926.7337  
www.awwa.org

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## **Science and Technology**

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## Committee Personnel

The AWWA subcommittee that developed this standard had the following personnel at the time:

W.B. Huebner, Mine Hill, N.J.	(AWWA)
B.C. Lauer, Standards Group Liaison, AWWA, Denver, Colo.	(AWWA)
K.B. Stark, Disinfectants Committee Liaison, NSF International, Ann Arbor, Mich.	(AWWA)
D.B. Binder, Tanner Industries, Inc., Southampton, Pa.	(AWWA)
R. Cannon, La Roche Industries., Atlanta, Ga.	(AWWA)
B. Lonsdale, Terra Industries, Courtright, Ont.	(AWWA)
M.F. Knudson, Portland Bureau of Water Works, Portland, Ore.	(AWWA)
E.R. Saxon, Beaufort-Jasper Water & Sewer Authority, Okatie, S.C.	(AWWA)
J.C. Cranor, Littleton, Colo.	(AWWA)

The AWWA Standards Committee on Disinfectants, which reviewed and approved this standard, had the following personnel at the time:

Clifford L. McLain, *Chair*

Gary F. Trojak, *Vice-Chair*

### *General Interest Members*

D.J. Gates, Sabre Oxidation Technologies Inc., Citrus Heights, Calif.	(AWWA)
S. Pan, HDR, Folsom, Calif.	(AWWA)
S.J. Posavec, Standards Group Liaison, AWWA, Denver, Colo.	(AWWA)
K.B. Stark, NSF International, Ann Arbor, Mich.	(AWWA)

### *Producer Members*

W.B. Huebner, Mine Hill, N.J.	(AWWA)
G.F. Trojak, The Chlorine Institute Inc., Arlington, Va.	(AWWA)

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<sup>1</sup>Liaison, non-voting

*User Members*

I. Alvarez, John Preston Water Plant, Hialeah, Fla.	(AWWA)
B.S. Aptowicz, Philadelphia Water Department, Philadelphia, Pa.	(AWWA)
R.C. Lorenz, Westerville Water Plant, Westerville, Ohio	(AWWA)
C.L. McLain, Moorhead Public Service, Moorhead, Minn.	(AWWA)
A.T. Segars, Miami–Dade Water & Sewer Department, Hialeah, Fla.	(AWWA)

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<sup>1</sup>Alternate

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## Foreword

*This Foreword is for information only and is not part of ANSI/AWWA B306.*

### 1. Introduction.

I.A. *Background.* Aqua ammonia (liquid ammonium hydroxide) is a pungent, colorless liquid at room temperature and atmospheric pressure. Aqua ammonia is a solution produced commercially by reacting anhydrous ammonia with water to form a solution whose concentration is generally less than 30 percent ammonia by weight. Typical commercial grades include 19 percent and 29 percent; however, users may require other concentrations specific to their needs. In the water industry, aqua ammonia is combined with chlorine to form chloramine.

I.B. *History.* The first edition of ANSI/AWWA B306, Aqua Ammonia, was approved by the AWWA Board of Directors on Jan. 4, 2007.

I.C. *Acceptance.* In May 1985, the US Environmental Protection Agency (USEPA) entered into a cooperative agreement with a consortium led by NSF International<sup>\*</sup> (NSF) to develop voluntary third-party consensus standards and a certification program for direct and indirect drinking water additives. Other members of the original consortium included the American Water Works Association Research Foundation (AwwaRF) and the Conference of State Health and Environmental Managers (COSHEM). The American Water Works Association (AWWA) and the Association of State Drinking Water Administrators (ASDWA) joined later.

In the United States, authority to regulate products for use in, or in contact with, drinking water rests with individual states.<sup>†</sup> Local agencies may choose to impose requirements more stringent than those required by the state. To evaluate the health effects of products and drinking water additives from such products, state and local agencies may use various references, including two standards developed under the direction of NSF, NSF/ANSI<sup>‡</sup> 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI 61, Drinking Water System Components—Health Effects.

Various certification organizations may be involved in certifying products in accordance with NSF/ANSI 60. Individual states or local agencies have authority to accept or accredit certification organizations within their jurisdiction. Accreditation of certification organizations may vary from jurisdiction to jurisdiction.

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<sup>\*</sup>NSF International, 789 N. Dixboro Road, Ann Arbor, MI 48105.

<sup>†</sup>Persons outside the United States should contact the appropriate authority having jurisdiction.

<sup>‡</sup>American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036.

Annex A, "Toxicology Review and Evaluation Procedures," to NSF/ANSI 60 does not stipulate a maximum allowable level (MAL) of a contaminant for substances not regulated by a USEPA final maximum contaminant level (MCL). The MALs of an unspecified list of "unregulated contaminants" are based on toxicity testing guidelines (noncarcinogens) and risk characterization methodology (carcinogens). Use of Annex A procedures may not always be identical, depending on the certifier.

ANSI/AWWA B306 addresses additives requirements in Sec. 4.3.4 of the standard. The transfer of contaminants from chemicals to processed water or the residual solids is becoming a problem of great concern. The language in Sec. 4.3.4 is a recommendation only for direct additives used in the treatment of potable water to be certified by an accredited certification organization in accordance with NSF/ANSI 60, Drinking Water Treatment Chemicals—Health Effects. However, users of the standard may opt to make this certification a requirement for the product. Users of this standard should also consult the appropriate state or local agency having jurisdiction in order to

Determine additives requirements, including applicable standards.

Determine the status of certifications by parties offering to certify products for contact with, or treatment of, drinking water.

Determine current information on product certification.

**II. Use of This Standard.** It is the responsibility of the user of an AWWA standard to determine that the products described in that standard are suitable for use in the particular application being considered.

**II.A. Purchaser Options and Alternatives.** The following items should be covered by the purchaser:

1. Standard used, that is, ANSI/AWWA B306, Aqua Ammonia, of latest revision.
2. Whether compliance with NSF/ANSI 60, Drinking Water Treatment Chemicals—Health Effects is required.
3. Size and type of bulk storage container to be used, and details on transfer equipment available for receiving bulk shipments. If bulk storage is not used, state required container sizes.
4. Physical form(s) and quantity (Sec. 4.1).
5. Tolerances allowed for concentrations (Sec. 4.2).
6. Specific maximum impurity content limits, if required (Sec. 4.3).
7. An affidavit of compliance, certified analysis, or both, if required (Sec. 6.3).



II.B. *Modification to Standard.* Any modification to the provisions, definitions, or terminology in this standard must be provided by the purchaser.

**III. Major Revisions.** This is the first edition of this standard.

**IV. Comments.** If you have any comments or questions about this standard, please call the AWWA Volunteer and Technical Support Group at 303.794.7711, FAX at 303.795.7603, write to the group at 6666 West Quincy Avenue, Denver, CO 80235-3098, or e-mail [standards@awwa.org](mailto:standards@awwa.org).

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# **Aqua Ammonia (Liquid Ammonium Hydroxide)**

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## **SECTION 1: GENERAL**

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### **Sec. 1.1 Scope**

This standard describes aqua ammonia (liquid ammonium hydroxide) for use in the treatment of municipal and industrial water supplies.

### **Sec. 1.2 Purpose**

The purpose of this standard is to provide the minimum requirements for aqua ammonia, including physical, chemical, packaging, shipping, and testing requirements.

### **Sec. 1.3 Application**

This standard can be referenced in specifications for purchasing and receiving aqua ammonia and can be used as a guide for testing the physical and chemical properties of aqua ammonia samples. The stipulations of this standard apply when this document has been referenced and then only to aqua ammonia used in the treatment of municipal and industrial water supplies.