ANSI/AWWA **B306-22**

*(Revision of ANSI/AWWA B306-15)*

AWWA Standard

# Aqua Ammonia (Liquid Ammonium Hydroxide)

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American Water Works Association

## AWWA Standard

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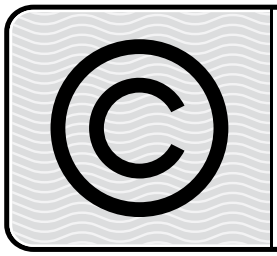



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# Committee Personnel

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# Contents

*All AWWA standards follow the general format indicated subsequently. Some variations from this format may be found in a particular standard.*

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# Foreword

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

## I. 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 the concentration of which 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. 24, 2007. The second edition was approved by the AWWA Board of Directors on Jan. 24, 2015. This edition was approved on Oct. 24, 2022.

I.C. *Acceptance.* In May 1985, the US Environmental Protection Agency (USEPA) entered into a cooperative agreement with a consortium led by NSF International (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 Water Research Foundation (formerly 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.[†] 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 four standards developed under the direction of NSF[‡]: NSF/ANSI/CAN[§] 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI/CAN 61, Drinking Water System Components—Health Effects, NSF/ANSI/CAN 372, Drinking Water System Components—Lead

* American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036.
† Persons outside the United States should contact the appropriate authority having jurisdiction.
‡ NSF International, 789 North Dixboro Road, Ann Arbor, MI 48105.
§ Standards Council of Canada, 55 Metcalfe Street, Suite 600, Ottawa, ON K1P 6L5 Canada.

Content, and NSF/ANSI/CAN 600, Health Effects Evaluation and Criteria for Chemicals in Drinking Water.

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

**NSF/ANSI/CAN 600 (which formerly appeared in NSF/ANSI/CAN 60 &61 as** Annex A, "Toxicology Review and Evaluation Procedures") 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 NSF/ANSI/CAN 600 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 to 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/CAN 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

1. Determine additives requirements, including applicable standards.
2. Determine the status of certifications by parties offering to certify products for contact with, or treatment of, drinking water.
3. Determine current information on product certification.

**II. Special Issues.** This standard has no applicable information for this section.

**III. 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.

III.A. *Purchaser Options and Alternatives*. The following information should be provided by the purchaser:

1. Standard used—that is, ANSI/AWWA B306, Aqua Ammonia, of latest revision.
2. Whether compliance with NSF/ANSI/CAN 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. Details of federal, state, provincial, territorial, and local requirements (Section 4).

5. Physical form(s) and quantity (Sec. 4.1).

6. Tolerances allowed for concentrations (Sec. 4.2).

7. Specific maximum impurity content limits, if required (Sec. 4.3).

8. Whether the purchaser will reject product from containers or packaging with missing or damaged seals. The purchaser may reject product from bulk containers or packages with missing or damaged seals unless the purchaser's tests of representative samples, conducted in accordance with Sec. 5.1 and Sec. 5.2, demonstrate that the product meets the standard. Failure to meet the standard or absence of, or irregularities in, seals may be sufficient cause to reject a shipment.

9. Whether alternative security measures have been adopted to replace or augment the security measures set out in Sec. 6.2.4 and 6.2.5.

10. An affidavit of compliance or certified analysis or both, if required (Sec. 6.3).

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

**IV. Major Revisions.** Major changes made to the standard in this revision include the following:

1. Minor boilerplate language updates in the following sections:
   - I.C. *Acceptance*
   - III. A. *Purchaser Options and Alternatives*
   - Section 2: References
   - Section 4: Requirements
   - 5.4 Notice of Nonconformance
   - 6.2.5.2 Chain of custody
   - 6.3 Affidavit of Compliance

**V. Comments.** If you have any comments or questions about this standard, please call AWWA Engineering and Technical Services at 303.794.7711, FAX at 303.795.7603; write to the department at 6666 West Quincy Avenue, Denver, CO 80235-3098; or email at standards@awwa.org.

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American Water Works Association

*Dedicated to the World's Most Important Resource®*

AWWA Standard

# Aqua Ammonia (Liquid Ammonium Hydroxide)

## SECTION 1: GENERAL

### Sec. 1.1 Scope

This standard describes aqua ammonia (liquid ammonium hydroxide) for use in the treatment of potable water, wastewater, or reclaimed water.

### Sec. 1.2 Purpose

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

### Sec. 1.3 Application

This standard can be referenced in documents 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 potable water, wastewater, or reclaimed water.