

ANSI/AWWA **B502-23**
(Revision of ANSI/AWWA B502-17)

AWWA Standard

Sodium Polyphosphate, Glassy (Sodium Hexametaphosphate)

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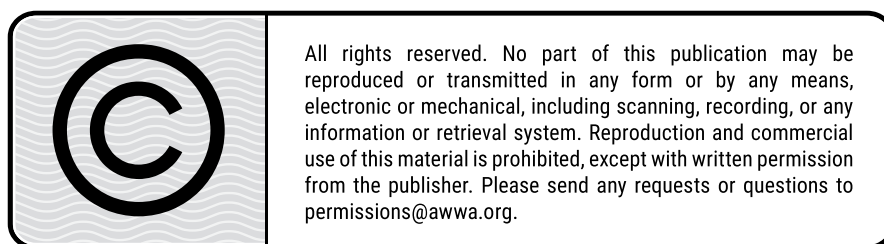
AWWA Standard

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA B502.*

I. Introduction.

I.A. *Background.* Sodium polyphosphate, glassy ($\text{Na}_{n+2} \text{P}_n \text{O}_{n+1}$, $n = 12\text{--}16$ or $18\text{--}21$), is a manufactured product obtained by combining comparatively pure chemicals—soda ash (Na_2CO_3) or caustic soda (NaOH)—with phosphoric acid. Although the resulting product is consistent in quality and content, each manufacturer may produce it in several different physical forms (Section 4). The density of crushed or granular material is approximately 80 lb/ft^3 (approximately $1,280 \text{ kg/m}^3$). A solution of 2 lb/gal (0.24 kg/L) has a specific gravity of approximately 1.2.

The uses of sodium polyphosphate, glassy, include use as a sequestering agent, scale prevention, iron and manganese stabilization, and sequestering of metallic ions. The chemical is available in a wide range of physical forms and sizes, allowing flexibility in the type of dissolving or feeding apparatus to be used.

I.B. *History.* The first edition of AWWA B502 was approved as tentative on January 23, 1966. It was approved as a standard on June 1, 1967, and published as AWWA B502-67. Subsequent revisions were approved by the AWWA Board of Directors as ANSI/AWWA B502-78, ANSI/AWWA B502-83, ANSI/AWWA B502-88, ANSI/AWWA B502-94, ANSI/AWWA B502-01, and ANSI/AWWA B502-05. The 2011 edition was prepared by the AWWA Standards Committee on Scale and Corrosion-Control Chemicals and was approved on Jan. 23, 2011. The 2017 edition was approved on June 11, 2017. This edition was approved on October 23, 2023.

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). 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

* 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.

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, NSF/ANSI/CAN 61, Drinking Water System Components—Health Effects, NSF/ANSI 372, Drinking Water System Components—Lead 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 jurisdiction. Accreditation of certification organizations may vary from jurisdiction to jurisdiction.

NSF/ANSI/CAN 600 (which formerly appeared in NSF/ANSI/CAN 60 and 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 B502 addresses additives requirements in Sec. 4.3 of the standard. The transfer of contaminants from chemicals to processed water or to residual solids is becoming a problem of greater concern. The language in Sec. 4.3.3 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 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.

[‡] NSF International, 789 North Dixboro Road, Ann Arbor, MI 48105.

[§] Standards Council of Canada, 55 Metcalfe Street, Suite 600, Ottawa, ON K1P 6L5 Canada.