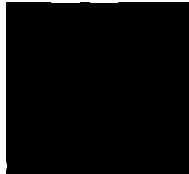


American Water Works Association

ANSI/AWWA B300-99

(Revision of ANSI/AWWA B300-92)



AWWA STANDARD
FOR
HYPOCHLORITES



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AMERICAN WATER WORKS ASSOCIATION

6666 West Quincy Avenue, Denver, Colorado 80235

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Committee Personnel

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

Robert D. Harriger, *Chair*

Consumer Members

B.S. Aptowicz, Philadelphia Water Department, Philadelphia, Pa.	(AWWA)
J.B. Breitenstein, Fort Lauderdale Utilities Department, Fort Lauderdale, Fla.	(AWWA)
H.F. Hanson, Consultant, Woodbridge, Va.	(AWWA)
J.T. Harvey, Little Rock Municipal Water Works, Little Rock, Ark.	(AWWA)
D.J. Hilmoie, Seattle Water Department, Seattle, Wash.	(AWWA)
J.C. Jenkins, Consultant, Adrian, Mich.	(AWWA)
A.A. Khan, Pepsico, Arlington, Texas	(AWWA)
W.E. Neuman, American Water Works Service Company, Voorhees, N.J.	(AWWA)
H.L. Plowman Jr., Philadelphia Suburban Water Company, Media, Pa.	(AWWA)
Stephen Poole, Aqualta, Edmonton, Alta.	(AWWA)
D.L. Saenz, Los Angeles Water & Power, Los Angeles, Calif.	(AWWA)
A.T. Segars, Miami-Dade Water & Sewer Department, Hialeah, Fla.	(AWWA)

General Interest Members

P.E. Cote, Whitman & Howard Inc., Cumberland Center, Maine	(AWWA)
J.E. Dyksen,* Council Liaison, Malcolm Pirnie, Mahwah, N.J.	(AWWA)
D.J. Gates, DG Consulting Inc., Citrus Heights, Calif.	(AWWA)
R.D. Harriger,* Eaglebrook Inc., Williamsburg, Va.	(AWWA)
H.E. Korab, Consultant, Silver Spring, Md.	(AWWA)
S.J. Posavec,* Standards Liaison, AWWA, Denver, Colo.	(AWWA)

Producer Members

W.B. Gower, General Aluminum & Chemical Corporation, Searsport, Maine	(AWWA)
David Hildebrand, Vulcan Chemicals, Wichita, Kan.	(CI)
W.B. Huebner, Wallace & Tiernan Inc., Belleville, N.J.	(AWWA)
P.A. Ross, Dow Chemical USA, Freeport, Texas	(AWWA)
G.F. Trojak, The Chlorine Institute Inc., Washington, D.C.	(CI)

* Liaison, nonvoting

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Foreword

This foreword is for information only and is not part of AWWA B300.

I. Introduction.

I.A. *Background.* *Hypochlorites* is used as an all-inclusive term for chlorinated lime, calcium hypochlorite, and sodium hypochlorite. A concise description of each chemical follows.

Chlorinated lime: 25% to 37% available chlorine. Other common names for chlorinated lime are bleaching powder and chloride of lime. Because it is an unstable material and is subject to deterioration from heat and moisture, it is not usually fed dry but as a 2% solution. Excess insolubles present in this solution must be separated by decantation before use. Storage in a cool, dry area, for no more than nine months, is advisable. Chlorinated lime is available in 100-lb (45.4-kg), 300-lb (136-kg), and 800-lb (363-kg) drums. Approximately 0.25 lb/gal (30 g/L) of water will produce a solution of approximately 1% available chlorine.

Calcium hypochlorite: 65% to 70% available chlorine. This material is unstable but more stable than the grade with 35% available chlorine. It is best fed as a solution. Its theoretical solubility is approximately 22 g/100 mL of water (18%) at room temperature; however, its practical solubility use is closer to 3%. Decantation is advisable before use because of the excess insolubles present. Storage in a cool, dry area is advisable, but storage periods should not exceed one year. Calcium hypochlorite can lose 3% to 10% available chlorine in one year. It is available in 3-lb to 5-lb (1.4-kg to 2.3-kg) cans, 2-lb to 9-lb (0.9-kg to 4.1-kg) plastic containers, and 100-lb (45.4-kg) steel drums and in granular powder, granule, and tablet form. Solubility tests that determine both rate and percentage should be conducted with particular emphasis on testing the tablets. Approximately $\frac{1}{8}$ lb/gal (15 g/L) of calcium hypochlorite to water produces a solution of approximately 1% available chlorine.

Sodium hypochlorite: 12% to 16% available chlorine. Other common names for sodium hypochlorite are bleach, liquor, chlorine water, and Javelle water. When available only as a liquor, it can lose one-half of its strength in 100 days, or 2% to 4% available chlorine per month at room temperature. Therefore, a limit of one week of storage is advisable.

Sodium hypochlorite is miscible in any proportion with water. It should be stored in a dark area where the temperature does not exceed 80°F (30°C). A 12% to 16% solution is still liquid at 0°F (-17.8°C) but is a slush at -20°F (-28.9°C). It is stored outdoors in the New England area. It is available in 5-gal and 13-gal (19-L and 49-L) carboys (glass or polyethylene), 30-gal (113.6-L) drums, and in 1,300-gal to 3,600-gal (4,920-L to 13,600-L) tank trucks. The available chlorine content is as indicated in Table F.1.

I.B. *History.* The original AWWA Standard for Hypochlorites, prepared for the AWWA Water Purification Division, was approved by the Executive Committee of the Water Purification Division and by the Water Works Practice Committee and received approval by the AWWA Board of Directors on June 2, 1953. It was designated AWWA B300-53T.

The initial document was reaffirmed without revision on June 17, 1955, and the designation was changed from AWWA B300-53T to AWWA B300-55. Subsequent revisions were adopted on June 5, 1964, Jan. 26, 1975, June 15, 1980, and June 14, 1987. This standard was revised by the AWWA Standards Committee on Disinfectants. This edition was approved by the AWWA Board of Directors on June 20, 1999.