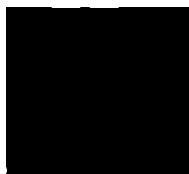


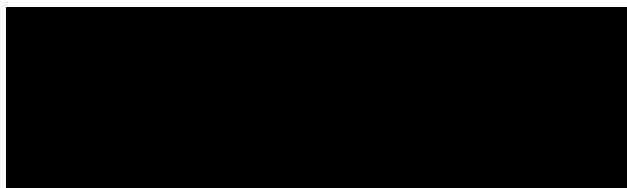
American Water Works Association

ANSI/AWWA B601-00

(Revision of ANSI/AWWA B601-93)



AWWA STANDARD
FOR
SODIUM METABISULFITE



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AMERICAN WATER WORKS ASSOCIATION

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*Alternate

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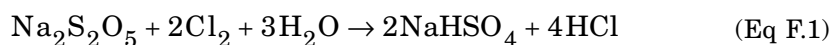
Foreword

This foreword is for information only and is not a part of AWWA B601.

I. Introduction.

I.A. *Background.* Sodium metabisulfite, also known as sodium pyrosulfite or anhydrous bisulfite of soda, is a manufactured product. It is one of several salts known collectively as the sulfur dioxide family. All members of this family have the ability to react with and thereby reduce chlorine. Sodium metabisulfite is a white powder that is readily soluble in water producing a mildly acidic reaction.

Sodium metabisulfite has been used as a dechlorinating agent for many years in the textile and pulp and paper industries. Its use in water treatment began in the early 1930s at a plant in Glencoe, Ill., which adopted superchlorination for taste and odor control and higher bacterial destruction. Sodium metabisulfite is usually added to the clearwell to prevent high chlorine residuals in water distributed to consumers. The reaction with chlorine can be represented by the following equation:



From this equation, the theoretical reducing ability is calculated as 1.34 mg/L of sodium metabisulfite for 1.00 mg/L of chlorine. Commercially available sodium metabisulfite tests greater than 98 percent in strength. Therefore, approximately 1.37 mg/L of sodium metabisulfite is required per 1.00 mg/L of chlorine in actual practice. The reaction is very rapid and complete.

The use of dry (gravimetric) feeders for sodium metabisulfite has become less common. Sodium metabisulfite tends to scavenge oxygen from the air and loses strength if exposed to air for long periods as is common in dry feeders. Smaller users purchase the solid form and use solutions which are fed with small metering pumps (positive displacement, such as diaphragm pumps). Larger users purchase the bulk solution (analogous to dry solid and liquid alums) and feed directly from storage with metering devices.

Sodium metabisulfite is a high-strength, dry form of sulfur dioxide (SO_2 equivalent of 66 percent). As such, it has application in plants where moderate