

Effects of bromide on the formation of THMs and HAAs

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摘要.

Abstract

The role of bromide in the formation and speciation of disinfection by-products (DBPs) during chlorination was investigated. The molar ratio of applied chlorine to bromide is an important factor in the formation and speciation of trihalomethanes (THMs) and halogenacetic acids (HAAs). A good relationship exists between the molar fractions of THMs and the bromide incorporation factor. The halogen substitution ability of HOBr and HOCl during the formation of THMs and HAAs can be determined based on probability theory. The formation of HAAs, and their respective concentrations, can also be estimated through use of the developed model.