

# **Balancing disinfection efficiency and THM formation during chlorination: theoretical considerations**

張怡怡

**Chiang PC;Chang EE;Ko YW and Lou JC**

摘要.

## **Abstract**

A mathematical model has been developed to predict disinfection efficiency and trihalomethane (THM) formation during water chlorination. The model incorporates chlorine dose, total organic carbon (TOC) concentration, contact time, and geometric configuration of the chlorination chamber. Results indicate that the disinfection efficiency can be better controlled by modifying the geometric configuration of the chlorine contactor. In contrast, geometric configuration plays an insignificant role in controlling THM formation. The application of chlorine at about 1.0 mg/L appears to be the most economic and logical dose for the control of THM formation and the disinfection efficiency of the Liu-Du water treatment plant under the operational conditions of conventional chlorination practices.