

Estimation of potential lifetime cancer risks for trihalomethanes from consuming chlorinated drinking water in Taiwan.

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Abstract

Data on concentrations of trihalomethanes (THMs) in raw and chlorinated water collected from three water treatment plants in Taiwan and estimates of the lifetime cancer risk for THMs from drinking water, using age-adjusted factors and volatilization terms, are presented. Data on THM levels in drinking water were obtained from the annual reports of the Environmental Protection Administration (EPA) of Taiwan. The methodology for estimation of lifetime cancer risks was taken from the USEPA. Chloroform was the major species of THMs, especially in the water plant of south Taiwan. Chloroform contributed the majority of the lifetime cancer risks (range: 87.5-92.5%) of total risks from the three water supply areas. All lifetime cancer risks for CHCl_3 , CHBrCl_2 , CHBr_2Cl , and CHBr_3 from consuming tap water in the three water supply areas were higher than 10^{-6} . The sum of lifetime cancer risks for CHCl_3 , CHBrCl_2 , CHBr_2Cl , and CHBr_3 was highest (total risk for total THMs $< 1.94 \times 10^{-4}$) for tap water from south Taiwan.