

Abstract

Chlorination byproduct occur during water disinfection. These by-product are formed by the reactions between disinfectants and natural organic matter. High concentration of natural organic matter require higher doses of oxidizing agent, which increases the formation of chlorination byproduct. Chlorination byproduct pose health risk so they must be eliminated. This work researches focuses on the occurrence of chlorination byproduct in several countries and evaluates the suitability of limits concentrations. The literary research has shown that there are currently not many studies about monitoring the occurrence of chlorination byproduct. If these studies exist, they are often old and therefore it is not possible to rationally assess the quality of drinking water in term of the occurrence of chlorination byproduct. Trichloroacetic acid, dichloroacetic acid and dibromoacetic acid are mainly important from the health point of view. They are identified as possible carcinogens. Higher concentrations of dichloroacetic acid and trichloroacetic acid were observed in most studies. The result of the studies show that the highest concentration of haloacetic acid were recorded in the cities of Cherepovets (Russia), Athens (Greece), Warsaw (Poland) and Finland. Concentrations of haloacetic acid did not exceed the limit of 60 µg/L set by the World Health Organization in other studies. However, attention should continue to be paid to the occurrence of haloacetic acid and the possibility of their removal.

Key words: haloacetic acid, drinking water treatment, disinfection byproduct, HAA5