

Abstract

This bachelor thesis focuses on the characterization of parameter of specific UV absorbance SUVA, which has currently been used during water treatment to estimate the reactivity of natural organic matter (NOM) to form byproducts of water disinfection. First, it was used to assess the potential formation of trihalogenmethane (THM) and it has been used instead of complicated measurement (Edzwald et al., 1985). Since then, its use has amended several times and currently the SUVA ability to predict the formation of individual classes of DBPs (Disinfection By-Products) on hygiene of drinking water has been studied most. Most of the studies examine in particular the formation of THMs and HAAS (haloacetic acids) which are strictly regulated because of their harmful properties for the environment and human health. Its questionless advantage is a quick and easy setting directly in the water treatment plants. However, the existing studies provide quite contradictory conclusions regarding its practical benefits to really predict how the water reacts with disinfectant and forms DBPs during the treatment. Based on the evaluation of the available literature SUVA seems to be more suitable for humic nature water which is similar with its physical properties. Vice versa, using SUVA for water containing AOM is misleading because it doesn't involve the AOM basic components (proteins, carbohydrates) at a given wavelength. It would also be proper to study this parameter under different physical conditions (eg. pH, temperature and length of reaction time) and to realize whether these factors affect the value of SUVA or how.

Key words

Specific UV Absorbance (SUVA), Natural Organic Matter (NOM), Water treatment, Disinfection By-Products (DBPs)