Turkish Journal

of

Chemistry

Keywords
Authors

chem@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Chemistry

Effects of Ozonation on Characteristics of Aquatic Fulvic Acid

Şermin GÜL
Çukurova University, Faculty of Arts & Sciences, Chemistry Department,
01330 Adana-TURKEY

Abstract: Aquatic fulvic acid (FA) treated with ozone was characterized by physical/chemical (dissolved organic carbon-DOC), spectroscopic (UV/VIS, IR, fluorescence), chromatographic (gel permeation chromatography-GPC) methods. The influence of ozonation on the subsequent water treatment process such as flocculation and chlorination was also examined. The DOC concentration of the 20 min ozonated FA samples was reduced only a small amount (5%) whereas the UV absorption reduced to a higher percent (40%). The IR spectra of ozonated samples showed a moderate attenuation of the double band and aromatic character of FA. Ozonation of the FA caused the fluorescence intensities to increase steadily with ozonation time, whereas it decreased when FA was flocculated after ozonation. Gel chromatographic characterization of FA showed that the high molecular weight (HMW) fractions were eliminated after flocculation followed by ozonation, while the apparent molecular weight (AMW) distribution of ozonated FA changed slightly. The formation potentials of trihalomethane (THMFP) and adsorbable organically bound halogen (AOXFP) were significantly decreased with the increasing ozonation time along with the flocculation process.

Turk. J. Chem., **26**, (2002), 287-294.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.26,iss.2.