
**Abstract:** AOX (adsorbable organically bound halogens) is a parameter determining the overall content of organohalogens, *i.e.* organic compounds bound with chlorine, bromine or iodine in different elements of the natural environment. In the study reported on in this paper, AOX concentrations were determined in samples of surface water and wastewater (both municipal and industrial), collected within the area of the Mazovian Voivodship. It has been found that the overall organohalogen content of the surface water samples did not exceed the value of 160 mgCl⁻/m³. According to the water quality classification that is in effect in Germany, riverine water at the measuring sites was characterized by significant or increased levels of pollution from organohalogens. The measured values of the AOX parameter ranged from 22 mgCl⁻/m³ to 262 mgCl⁻/m³ in domestic sewage and from 82 mgCl⁻/m³ to 167 mgCl⁻/m³ in industrial wastewater. These concentrations meet the requirements imposed in Poland on the quality of waste-waters being discharged into surface water, soil, or a sewer system.

**Keywords:** Organohalogens, AOX, adsorbable organically bound halogens.