

# THE INFLUENCE OF ORGANIC MATTER QUALITY ON THE POTENTIAL OF VOLATILE ORGANIC WATER CHLORINATION PRODUCTS FORMATION

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**Abstract:** The paper presents the results of experiments on the influence of the organic matter's characteristics on the formation potential of water chlorination by-products – representatives of the following groups: trihalomethanes, haloacetonitriles, haloketones, chloral hydrate and chloropicrin.

The products of water fractionation (the hydrophobic and hydrophilic acids, hydrophobic and hydrophilic bases, and hydrophobic and hydrophilic neutral fractions) were chlorinated with sodium hypochlorite. Its dose was adjusted to obtain a residual free chlorine concentration between 3 and 5 mg/dm<sup>3</sup> after 24 h. After this time, the water chlorination by-products were analyzed with gas chromatography. The results' analysis has defined the fractions, which have the highest potential to form particular groups of volatile organic water chlorination by-products.