



## Removal of polycyclic aromatic hydrocarbons from Ismailia Canal water by chlorine, chlorine dioxide and ozone

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### ABSTRACT

Survey and analysis for Ismailia Canal water indicated normal conditions for physicochemical parameters but high concentrations of organic compounds such as alkanes, aromatic hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), and chlorinated hydrocarbons. Different doses of chlorine (2, 4 mg/L), chlorine dioxide (0.5, 2 mg/L), and ozone (0.5, 2 mg/L) were applied for treatment of raw Ismailia Canal water. The oxidation step was followed by coagulation with 30 mg/L alum, flocculation, and sedimentation. The removal percents with each oxidant were detected and 0.5 mg/L ozone showed better results in removal of PAH than 0.5 mg/L chlorine dioxide or 4 mg/L chlorine.

*Keywords:* Ismailia Canal water; PAH; Chlorine; Chlorine dioxide; Ozone

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