

**Olejniak, A., Nawrocki, J. Does Drinking Water Have to be Chemically Disinfected?**  
*Ochrona Srodowiska* 2013, Vol. 35, No. 4, pp. 3–8.

**Abstract:** Knowledge development in the field of water treatment enables preparation of water prior to its distribution in such a way that chemical disinfection is no longer required. Public water systems in Poland incurred huge expenses for changes in water treatment technology in order to fulfill increasing quality requirements regarding potable water. The basic aim of public water system is to provide microbially safe water for human consumption. This safety in large water supply networks is obtained thanks to chemical disinfection with chlorine, chlorine dioxide or chloramine. Presence of chemical disinfectants in water is often socially difficult to accept due to their negative organoleptic properties as well as formation of the so called byproducts of disinfection. Continuous progress in understanding of chemical and biological processes taking place during water treatment and its distribution enables modern technology to provide consumers with microbially safe drinking water, devoid of chemical disinfectant residues. This is how waterworks and distribution networks operate in Berlin, Zurich, Amsterdam, Rotterdam and other cities of Western Europe. The question asked in this paper referred to the conditions necessary to be fulfilled for chemical water disinfection not to be required. For this purpose, conditions ensuring high biological water stability, and as a result allowing chemical disinfection to be abandoned, were discussed.

**Keywords:** Water quality, natural organic matter, water treatment, biological stability, water distribution system.