

## **Fungal contaminants in drinking water – a topic of future concern?**

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Fresh water is, depending on geological features of the area, derived to the public either from groundwater or surface water. Production of clean drinking water in a modern society with increasing population and urbanisation often requires the use of different physico-chemical methods. Finally, water quality is controlled based on the parameters listed in Drinking Water Directive (98/83/CE). Fungi are not listed in the current directive and therefore not specifically monitored. However, their presence in fresh water is well documented - in the last 30 years scientists from 19 European countries isolated more than 400 different fungal species from surface, ground- and tap water intended for human consumption. While water cleaning procedures remove 8-90% of fungal propagules, the remaining ones form together with bacteria biofilms inside tap water systems, later affecting the taste and odor of water. Several water-related fungal species were recognised as opportunistic or emerging pathogens; among these fungi from the genera *Aspergillus*, *Candida*, *Exophiala*, *Fusarium*, *Penicillium* and *Stachybotrys* require special attention. Presence of opportunistic fungi in drinking water can pose a health risk to consumers due to daily contact with water via several exposure points, such as drinking, showering and use of household appliances operating with water. Case reports listing fungi as causative agents of allergies, opportunistic infections and intoxications are growing each year – 12 million people are at risk of invasive fungal mycoses, additional 12 million have allergic fungal sinusitis, 4.8 million patients suffer from allergic bronchopulmonary aspergillosis, and 6 million have fungal eye infections. A billion of people around the world suffer from skin, nail, and hair infections. With increasing transitory and serious immune alterations among patients also a need for monitoring of fungi increases, not only in drinking water, but also as a parametric value for biofilm formation on materials in contact with drinking water.