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EMERGING CONTAMINANTS AND IMPECCABLE DRINKING WATER QUALITY

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ABSTRACT: In Europe drinking water quality has to fulfill the requirements as laid down in the EU Drinking Water Directive (98/83/EC). As a result of ongoing pollution and improving analytical techniques more and more emerging substances are found in drinking water sources, and incidentally in drinking water as well. Examples are pharmaceuticals, diglyme, 4,4-sulphonyldiphenol, benzotriazoles etc. Although the concentrations of these substances in drinking water usually do not have adverse health effects, their presence is still unwanted because of customer perception. To keep the customer's confidence it is therefore necessary to have a clear and consistent approach on how to handle these emerging substances. Current analytical techniques are that well that it will be impossible to demand complete absence of the substance. Nevertheless, boundaries are needed. Therefore target values for 'impeccable drinking water quality' have been derived in the Netherlands. These target values can be applied to all substances, are based on human toxicological principles and go beyond health-based regulatory requirements. The basis of these target values is formed by the Toxicological Threshold of Concern (TTC), as derived for food by ILSI (2005). Translation of the TTC-principle to drinking water results in a target value of 0.01 µg/l for genotoxic compounds and 0.1 µg/l for non-genotoxic compounds. Target values derived for the total of genotoxic and non-genotoxic compounds are 0.05 µg/l and 1 µg/l respectively.

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