



Study of corrosion tendency of drinking water in the distribution system of Iasi City, Romania

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Abstract

The usefulness of water quality indices, such as Langelier saturation index (LSI), the Ryznar stability index (RSI), the Puckorius scaling index (PSI) and aggressiveness index (AI), has been studied, for 30 samples of tap water from drinking water distribution system of Iasi City, Romania. The values of these indices present contradictory results. The LSI values are negative or close to zero and range from -1.748 to +0.174, which means that 12 samples present tendency of corrosion and 18 samples are in equilibrium with the calcium carbonate. Ryznar stability index ranged between 7.25 and 10.89, while Puckorius scaling index ranged between 7.32 and 9.54. According to RSI and PSI indices, the results show that all the samples present moderate to significant corrosive tendency. The AI values indicate that 25 samples present a moderate aggressiveness and 5 samples are non-aggressive. The results of LSI index are reasonably comparable with the RSI values. These two indices (LSI and RSI) are known to offer more precise informations than the Puckorius index or aggressiveness index, in keeping track of corrosion and scaling potential of the water samples.

Keywords: corrosion potential, scaling tendency, aggressiveness index, water quality indices, Iasi, Romania.
