

DETERMINATION OF ANIONIC AND CATIONIC SURFACTANTS IN SOME RIVERS FROM REPUBLIC OF MOLDOVA AND ROMANIA

Silvia Racovita, PhD Student

Moldova State University, Moldova

Surfactants are compounds that lower the surface tension (or interfacial tension) between two liquids or between a liquid and a solid. Surfactants may act as detergents, wetting agents, emulsifiers, foaming agents, and dispersants.

Surfactants, especially anionic and cationic surfactants, which are now essential for our life, sometimes cause water pollution of water-supply source, such rivers and lakes. In this case, is necessary to know the contents of surfactants in lakes and rivers, and permanently to be monitored their presence.

The concentration of anionic and cationic surfactants has been determined using the spectrophotometer NOVA 60, which is equipped with reagents and kits (method number 14697 and 01764).

During the months from May - June in this year, in the rivers Răut, r. Botna, r. Ichel (Republic of Moldova) and r. Bistrita (Romania) has been determined the concentration of anionic and cationic surfactants.

The results obtained by measuring the anionic surfactants concentrations in water systems varies from 0.15 – 0.50 mg/l and for cationic surfactans varies from 0.10 – 0.19 mg/l.

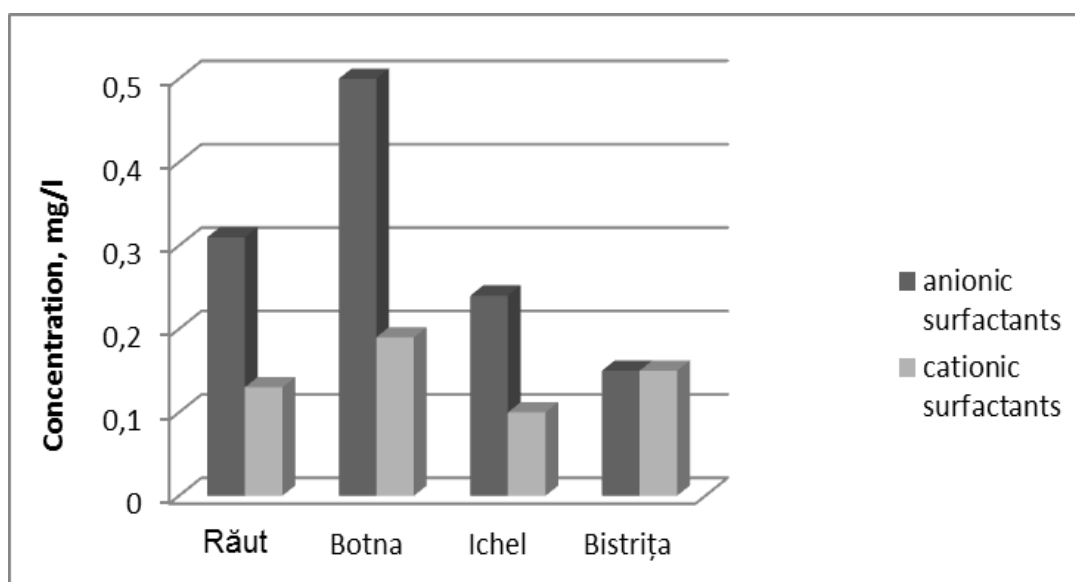


Fig. 1 Surfactants concentration in the rivers Raut, r. Botna, r. Ichel and r. Bistrita

As can be seen from Fig. 1, an increase the concentration of anionic and cationic surfactants is observed in the river Botna, followed by the rivers Raut and Ichel. Considering that all of these rivers are the tributaries of the Dniester, it follows that the Dniester is polluted with surfactants. This confirms that the water quality decrease and created the multiple environmental and economic consequences, is caused by of untreated wastewater from towns situated near the rivers.

References:

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