

Exemption of unnecessary ions from mineral waters, using them to be used for standards and use for medicinal purposes

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An important amount of the world's underground mineral and sheer drinking waters contain excess amounts of various harmful minerals, such as of Barium and Fluorine, the concentrations of which reach - of Barium 5-10 mg/l and Fluorine 5-15 mg/l, which is why the World Health Organization and sanitary organizations of states and correspondingly the country standards sharply limit the existence of these elements in sheer and mineral waters. The same problems persist in the mineral and sheer drinking waters existing in Georgia. According to standards, the Maximum Acceptable Concentrations (MACs) are overlooked in drinking waters, both sheer and mineral; Ba (barium) - 0,7 mg/l, F (fluorine) - 2 mg/l, in healing drinking mineral waters Fluorine is allowed 3 mg/l.

Since the excess of amounts of Barium and Fluorine in sheer and mineral drinking waters does not allow their use and capitalization, the existing multiple drinking and mineral waters in Georgia are either not used completely or if they are used, that is only with greater restrictions, or more importantly, with special, long-term conditions that not at all satisfy the requirements of domestic and foreign markets. The example of this is provided by the shutting down of the factory of mineral water "Zanavi" because of excess amounts of Fluorine; the inability to master the mineral waters "Gvara" and "Qobuleti" because of the containment of harmful ions in excess amount; the containment of excess amounts of Barium and Fluorine ions in the mineral water "Borjomi" and "Likani" questions the future perspective of the use of this unique drinking mineral waters.

The purpose of the project is: through the modification of naturally formed sorbents, the creation and /research of selective sorbents which will have high selectiveness towards the ions of Barium and Fluorine. The treatment of sportive technological process of extraction of Barium and Fluorine ions from sheer and mineral drinking waters until the Maximum Acceptable Concentration. To derive an experimental amount of selective sorbents and to create the appropriate device. To develop technological regulations of the regeneration of sorbents.