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The invention relates to a process and a device for potable water purification and may be used for water purification and disinfection in household conditions.

The process for potable water purification includes treatment thereof by consecutive passing through a layer of perlite mixture, modified by a layer of reduced silver, and activated coal, then the water is passed through a layer formed from a ferritized carbon-mineral sorbent and a magnetic charge of barium hexaferrite. As ferritized carbon-mineral sorbent is used expanded perlite and/or kieselguhr, obtained by means of carbonization thereof, which is carried out by annealing in nonoxidizing medium in isothermal conditions at the temperature of 400…480°C during 1…2 hours. The ferritization of its surface is carried out by impregnation with a mixture of 10…15% solutions of bivalent and trivalent iron acetate in the volume ratio of 1:2 and treatment with solution of caustic soda at the temperature of 70…90°C with the formation of a magnetite layer. As magnetic charge are used spherical particles of barium hexaferrite, magnetized to saturation, with a diameter of 3…4 mm, covered with a layer of inert material. Modification of perlite with a layer of reduced silver is carried out by treatment in a solution containing, g/L: silver nitrate 2,5, potassium hydroxide 2,5, ammonium hydroxide (solution of 25%) 8,0, glucose 2,2.

The device for potable water purification in household conditions includes a body, water inlet and outlet nodes and a filter. As body is used a standard glass jar provided with a demountable cover. The water inlet node is made in the form of a filter, the neck of which is mounted into the cover, and the lower part consists of two cartridges, the upper cartridge includes a mixture of perlite, modified with a layer of reduced silver, and activated coal, and the lower one - ferritized carbon-mineral sorbent and magnetic charge of barium hexaferrite. The water outlet mode includes a siphon drain and a pump system, containing a cylinder with hollow piston and a rod, made in the form of tube. The lower part of the cylinder is joined with a hose, in the place of their connection there is placed an inlet valve, and in the place of rod fixation to the piston there is installed an outlet valve. Onto the rod's part, situated above the cover, it is dressed a pressure spring. The siphon drain is joined with a clamping plate. Into the filter as activated coal is used coal of БАУ rank.

Claims: 7
Fig.: 1