

Method for producing carbon complex sorbent involves impregnating naturally occurring activated carbon with an iron-containing component, followed by heat treatment. A colloidal solution of iron (III) hydroxide with a concentration of 2-10% is used as the iron-containing component, with which activated carbon is mixed at a solid-to-liquid ratio ranging from 1:1 to 1:5 and allowed to stand for 30 min-2 hours. Heat treatment is performed in an air atmosphere using microwave radiation with a power of 500–1500 W for 10–20 s, resulting in a thermal shock at a temperature of ≈ 1000 °C. As a result, zero-valent iron and hydrated iron oxides are formed, which are located primarily on the surface of the carbon matrix and, to some extent, in the form of free micro- and nanocrystals. The resulting sorbent is cooled in the absence of air.