

PREPARATION METHOD OF HIGH-PURITY, LOW-URANIUM, SUBMICRON-SIZED SPHERICAL SILICA MICROPOWDER

ABSTRACT OF THE DISCLOSURE

The present disclosure provides a preparation method of a high-purity, low-uranium, submicron-sized spherical silica micropowder. In the method, a raw material block is calcined, crushed, settled, and dried to obtain sand aggregates of no more than 1 mm; wet ball milling is conducted on the sand aggregates to obtain a slurry; a mixture composed of a hydrofluoric acid (HF) solution and a hydrochloric acid (HCl) solution is added to the slurry, and uranium is recovered by adding hydrogen peroxide; the slurry is filter-pressed, washed and dried to obtain a powder having a uranium (U) content of no greater than 1.0 ppb; finally, a submicron-sized spherical silica micropowder is prepared by flame spheroidization. The method provided by the present disclosure has low requirements for raw materials and is suitable for various industrial grade silicon sources, and the U content is low and stable in the prepared submicron-sized spherical silica micropowder.