

ABSTRACT

HIGH-PURITY SPHERICAL SILICA AND PROCESS FOR PRODUCING SAME

An emulsion containing an aqueous alkali silicate solution dispersed therein and an emulsion containing an aqueous mineral acid solution dispersed therein, both in the form of fine particles as dispersed phase, are mixed to produce a spherical silica gel. This spherical silica gel is treated with a mineral acid to obtain hydrous spherical silica, and this hydrous spherical silica is dehydrated and then calcined to obtain high-purity spherical silica. The content of radioactive substance is less than 1 ppb, the electrical conductivity of the extract of boiling lixiviation of silica is 10 μ S/cm or below, the content of the particles with a sphericity of 0.9 or above is 90% or more, and the ratio of the measured value of specific surface area by BET method to the theoretical value of specific surface area corresponding to particle size is 3 or less. By using an aqueous alkali silicate solution, there can be obtained high-purity spherical silica particles in which the content of impurities including radioactive substances is very low, and which have excellent surface smoothness and high sphericity and is suited for use as a filler in resin compositions for encapsulating advanced integrated circuits and associated electronic parts.