Tohoku Univ. Technology

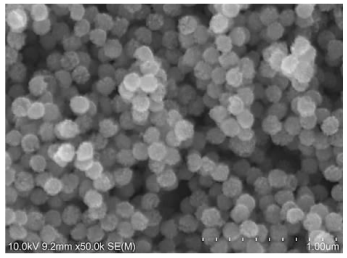
Method for producing spherical zinc oxide

Method for producing Monodispersed spherical zinc oxide having uniform particle diameter

Overview

Zinc oxide is used as an ultraviolet shielding agent in cosmetics such as sunscreens. However, in the conventional manufacturing technology, it was difficult to control the particle size of zinc oxide, and it was considered that the texture was bad. Furthermore, there is concern about the effects on the environment and the human body due to toxic exhaust gas caused by treatment at high temperature and the use of inert gas in the manufacturing process. The present invention relates to a method for producing spherical zinc oxide with uniform particle size and monodisperse, and spherical zinc oxide with a simple, low cost and low environmental impact. The spherical zinc oxide is expected to be used as a cosmetic with high ultraviolet shielding effect, excellent soft focusing property and excellent usability.

Features・Outstandings



It is possible to produce spherical zinc oxide in which particles with a primary particle diameter of 2~200 nm accumulate to form spheres of 20~5000 nm.

The left shows SEM images of spherical zinc oxide with an average particle size of 150 nm.

Material properties
・Single variance
・Spherical smooth feel
・Soft Focus (wrinkle hiding effect, optical properties)
・ Natural finish (skin feel)

Product Application

- Cosmetic raw materials (Sunscreen, eye shadow, foundation, etc.)

Related Works

[1] Long et al./ Journal of Nanoscience and Nanotechnology Vol. 10, 4619–4623, 2010
[2] T.H. Le 5054 et al. / Ceramics International 38 (2012) 5053–5059

IP Data

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