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Synthesis of mesoporous silica with superior properties suitable for green tire

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Synthesis of mesoporous silica with superior properties suitable for green tire

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Abstract

In this article we report synthesis of mesoporous silica with superior properties for application in green tire (environmentally friendly tire) as filler. The synthesis was done using a newly innovated apparatus which produce mesoporous silica with superior properties. The desired superior properties are big pore size, optimum BET, large pore volume, uniform properties, and improved performance in real application as tire filler. Mesoporous silica was characterized by BET method and final product with a pore diameter of up to 37 nm was obtained without using surfactants. This is unprecedented step toward synthesis of silica that is suitable for tire industry.

Keywords

Innovative apparatus; Mesoporous silica; Sodium silicate; Green tire